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Tracking family businesses and their owners over time: panel attrition, manager departure and business demise

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Abstract

Analyses of business owners from whom data were gathered in 1997 and 2000 are used to predict two family business phenomena: the continued involvement by the owner-manager in the business and the continuation of the business. The most important factor in continuity is the respondent's assessment of the business as a success; successful businesses continue or are sold or gifted when the owner-manager leaves the business. Ceasing to be involved in a business should not be viewed as a business or a managerial failure. Some changes may be failures, but others should be viewed as ordinary business or family developments.

Keywords: Family businesses; Business owners; Panel attrition; Manager departure; Business demise

1. Executive summary

The primary purpose of this study is to predict two different, but related, family business phenomena: the continued involvement by the owner-manager in a family business over time and the continuation of the business itself over time. Secondary purposes are to assess the effects of panel attrition on the analyses and to relate stated reasons for discontinuing business

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post-stratification of the 2000 NFBS

involvement to characteristics of the business and the business manager. The purposes are accomplished through analysis of the 1997 National Family Business Survey (NFBS), a national sample of households in which someone owns and manages a family business, and the 2000 NFBS, consisting of data gathered 3 years later from the individuals who responded to the 1997 survey.

One of the most important conclusions of the analysis is that attrition has affected the representativeness of the sample, but in a way that can be corrected by including measures of business stability in future analyses. Age of the manager or of the business, number of employees and gross income are all variables that should be included in future analyses because those reinterviewed are in established businesses; those who could not be reinterviewed are younger with smaller, less established businesses.

A second conclusion is that some of the same variables predicting business continuity among start-up companies are important in the prediction of continuity among established businesses. As noted in previous research, gender of the business manager is an important factor in continuity. Businesses headed by females are more likely to close than those headed by males, and female business managers are less likely to be involved with the business over time than male managers. Previous research has suggested that women start a business for different reasons than men, a factor that may explain the impact of gender on business and manager continuity.

Based on the findings of this study, success of the business, measured both subjectively and objectively, is an important factor in predicting continuity. Successful businesses are likely to continue, either with the same manager or with a different one. The most important influence on business and manager continuity is the manager's view of business success. This variable is considerably stronger than gross business income, an objective measure of success, in predicting whether the business still exists and whether the owner-manager is still involved in the business. Although subjective and objective indicators of success measure different concepts, both are important in the systemic view of the continuing operation of a family business over time.

The analysis of the manager's reasons for leaving the business indicates that ceasing to be involved in a business as its manager, either because the business closes or is sold, should not be viewed as either a business failure or a managerial failure. Some closures *are* failures, of course, but many are not. The manager may have accomplished all that he or she wants to do in the business and simply wants to move on to something different. Else, other life course developments may dictate discontinuing involvement with the business. One of the conclusions of this study is that a change in language should be promoted when discussing business closure, from the value-laden "failure" to the more neutral "demise" or "discontinuation."

The analysis of the reasons for discontinuity suggests target populations for intervention efforts and support by educators, finance officers and others working with the business community. Prime candidates for intervention are young, unmarried managers with relatively young businesses. The kinds of information and skill building that are needed should focus on human resource issues and profitability, so that this group of business managers is able to enjoy long-term success and community contribution.

2. Introduction

Family businesses are the heart of the American economy, contributing to a major portion of the country's production, employment and income (Heck and Stafford, 2001). Not only are most of the businesses in the United States family owned and controlled, but such enterprises are also responsible for almost half of the nation's gross domestic product and total wages (Cox, 1998; Ibrahim and Ellis, 1994; International Family Business Program Association Task Force, 1995; Shankar and Astrachan, 1996; Ward, 1997).

According to the U.S. Small Business Administration (SBA) (2001), in 2000, 10.8% of all firms were new, and about 9.7% closed. As noted by the SBA, not all closures are failures; over half of the owners indicated that the business was successful at the time of closing. In spite of the statistics indicating that about equal numbers of small businesses close as start each year, there is a paucity of research on continuity in the family business that includes a broad range of family businesses.

The primary purpose of this study is to predict two different, but related, family business phenomena: the continued involvement by the owner-manager of a family business over time and the continuation of the business over time. Secondary purposes are to assess the effects of attrition in the panel on the analyses in this paper and to relate stated reasons for discontinuing business involvement to characteristics of the business and the business manager. The purposes are accomplished through analysis of the 1997 NFBS, a national sample of households in which someone owns and manages a family business, and the 2000 NFBS, consisting of data gathered 3 years later from the same individuals who responded to the 1997 survey.

The results of this study should prove useful for policy makers and practitioners who work directly with family businesses. Much has been written about the failure of family businesses (cf. Bates and Nucci, 1989; File and Prince, 1996; Goldberg, 1997; Haswell and Holmes, 1989; Hubler, 1998; Rosenblatt et al., 1985; Sorenson, 2000; Ward, 1997; Whyley, 1998), with little recognition that the demise of a business may not represent a "failure" but a relatively benign change that is a function of changes in manager and business characteristics. Similarly, little is known about differences between the business closure and the exit of an owner-manager from a business through sale or transfer. An understanding of the dynamics of business demise and manager exit will permit the development of policies and programs to support family business owners in achieving family and business goals while maintaining a strong business community (Heck and Stafford, 2001; Ward and Aronoff, 1996).

3. Theoretical framework

Some conceptual models have viewed the family business as a single system where the whole is greater than the sum of the parts (Danes et al., 1999; Hollander and Elman, 1988; Whiteside and Herz Brown, 1996; Wortman, 1994). Others have presented a dual-system model emphasizing the temporal, stages of the business system with little recognition of the effect of the family on that business system (Churchhill and Hatten, 1987; Davis and Stern, 1996). Davis and Tagiuri (1989) proposed the bivalent attribute model where key attributes derived from the interface of the systems are both strengths and weaknesses of the system.

This study is guided by a systems model, termed the Sustainable Family Business Model (Stafford et al., 1999). In the model, each system is recognized as a viable social entity by acknowledging both the concrete resources of each system and the interpersonal transactions that occur within each system. Entrepreneurship related to the business is located within the social context of the family (Aldrich and Zimmer, 1986; Cramton, 1993). The resources and interpersonal transactions of the family business can be a deterrent or a positive contribution to the systems' sustainability at various points in time. Any individual in either system may affect parts of both systems (Heck and Trent, 1999; Kepner, 1991).

Business sustainability results from a combination of family functionality and business success (Stafford et al., 1999), when the resources of the family and of the business come together in family business transactions. The overall system is viewed as purposive, geared toward the simultaneous achievement of business and family goals. The goal complex contains goals that would enhance the business and those that would foster the family, but these goals are viewed as congruent rather than conflicting (Danes et al., 1999; Foley and Powell, 1997).

Achievements in this model can be evaluated by both objective and subjective indicators, and there is recognition that different processes occur in each system during stability and change. Further, there is recognition that, at the interface of the family and business systems, each system responds to disruptions in regular patterns, often by transferring resources across systems.

The purpose of this study is to investigate factors that affect business and managerial continuity. A major premise of the Sustainable Family Business Model that achievements can be measured by both objective and subjective means is acknowledged as well. The analysis provides insight into the process of change within family businesses over time in a unique fashion, in that the two phenomena, whether the business still exists or whether the owner-manager is still affiliated with the family business, are viewed separately.

4. Previous research

Three different streams of research literature are reviewed in this section. The first stream of literature focuses on panel studies of family businesses. Of interest are factors associated with changes in business ownership and involvement over time. The second stream outlines the findings of research on determinants of business success. That stream concentrates on research about business performance, subjective measures of business success and requirements for change and renewal over time across generations. The third stream consists of research regarding attrition in panel studies in general. The review focuses on two different aspects of panel attrition: potential factors important in predicting whether the 1997 respondents could be located in 2000 and whether they would agree to be reinterviewed and testing for potential bias introduced through panel attrition.

4.1. Tracking family businesses over time

Studies of entry into and exit from a small business (Bates, 1995; Evans and Leighton, 1989; Gatewood et al., 1995), self-employment (Blau, 1987) and business continuity (Winter and Fitzgerald, 1993) suggest that *starting a business* can be a response to both positive and negative economic changes, as experienced at the level of the individual family. When there is a downturn in family fortunes (the main breadwinner has been laid off or the farm economy is in dire straits), the development of a family business may be a means of maintaining household income. Alternatively, when the family's finances are in good shape, a household may be able to afford to devote a portion of current income to achieve a lifelong dream of starting a business.

Factors associated with the demise of family businesses or a change in the ownership of a family business have not been examined with corresponding rigor. The succession literature, for example, is either theoretical or prescriptive (cf. Barnes and Hershon, 1976; Beckhard and Dyer, 1983; Bowman-Upton, 1989; Friedman, 1991; Handler, 1990; Harvey and Evans, 1994; Morris et al., 1997; Sonnenfeld and Spence, 1989) or based on cross-sectional rather than longitudinal data (cf. Barach and Gantisky, 1995; Dumas, 1989; Dumas et al., 1995; Fiegener et al., 1994; Lansberg and Astrachan, 1994; Malone, 1989; Seymour, 1993; (sc) Welsch, 1993).

With few exceptions (Kalleberg and Leicht, 1991; Winter and Fitzgerald, 1993), the literature on business continuity focuses on predicting the continuation of *newly formed* businesses by asking the business owner at a later date whether he or she still owns the business (Boden and Nucci, 2000; Carter et al., 1997; Stearns et al., 1995). Boden and Nucci analyze data from the U.S. Census Bureau's 1982 and 1987 Characteristics of Business Owners and the 4-year follow-up interview. The other two studies (Carter et al., 1997; Stearns et al., 1995) use a survey of new firms in Pennsylvania and Minnesota in 1986, with subsequent telephone interviews in 1991 and 1992. A weakness of the three studies is the fact that none addresses issues related to attrition over time. In addition, all three studies ask whether the individual still owns the business, so they are essentially studies of owner-manager continuity, not business continuity.

The impact of the gender of the business owner on continuity is clear: males owning new businesses are more likely to remain as owners of that business at a later date than are females (Boden and Nucci, 2000; Carter et al., 1997). Further, Stearns et al. (1995) found that the older the business at the time of initial data collection, the more likely it would be to be under the same ownership. Because their sample was limited to new firms, however, the maximum business age of the business was 6 years. They also found complex interactions between industry and location, with some industries continuing in rural areas and others surviving in urban areas.

Although there is much to be learned from studying the continuity of owners of new businesses, factors related to the continuity of established managers and businesses may be different from those associated with continuity in new business owners. Only two studies examined owner-manager continuity of businesses of all ages over time. Kalleberg and (sc) Leicht (1991) found no differences in earnings growth between businesses headed by men and women and that, regardless of the gender of the owner-operator, older companies are less likely to go out of business. In addition, business size is unrelated to firm survival.

Winter and Fitzgerald (1993) found that age and education of the home-based business owner, length of time in the home-based business and positive feelings by the business owner towards their work were all significant and positive predictors of being in business 3 years later. Net income was not a significant predictor of business survival nor were the variables assessing attitudes towards the income from the home-based business.

By asking whether the owner-manager still owns the business, the business continuity literature has focused exclusively on the *owner-manager* rather than on the *business*. The present study followed the business manager, ascertaining whether he or she was still involved in the business *and* whether the business was still in operation. Although there are surely similarities between the two processes (business closures would have occurred in a subset of the managers no longer involved in the business), the processes are conceptually different and should be treated as such. The demise of the business is more likely to be a function of the *business*, whereas the continuation of the business should be a function of characteristics of the *manager* and of the business. Distinguishing between the two phenomena would help in the development of policies and programs to support family businesses.

4.2. Determinants of business success

Literature on business success has concentrated on the characteristics of the business and those of the business owner. Outcomes of interest in business performance research have been quantifiable financial indicators, subjective success measures, survival over time and growth indicators (Bates, 1990; Cliff, 1997; Davidsson, 1991; Kalleberg and Leicht, 1991; Sharfman and Dean, 1991; Siegel et al., 1993). Businesses with less formal structures and those that are home based tend to have lower business income than those that are not home based and have formal structures (Devine, 1994; Olson, 1999; U.S. Department of Commerce, 1998). Very young firms are the least likely to survive (Bates, 1990).

Other literature has addressed the characteristics of the business owner (Bates, 1990; Fischer, 1992; Lumpkin and Dess, 1996). Female business owners tend to generate less business income than do male business owners (Devine, 1994; Loscocco and Leicht, 1993; Olson et al., 1995; Robinson and Sexton, 1994). Bates (1990) indicated that 45- to 54-year-olds are most likely to remain in business, while owners 55 and older are least likely to do so.

Findings from research using subjective measures of business success have yielded mixed results on whether the level of preparation for business or demographic characteristics of the business owner predict subjective success measures (Cooper and Artz, 1995; Cooper et al., 1988; Watson et al., 1995). The authors did suggest, however, that, if one understands how business owners view their success, there is the potential to understand better how they choose to invest their resources of time and money, whether they choose to stay in business or not, how they work with customers and employees and their ability to recognize and solve problems.

There is a difference between surviving (remaining in business over time) and thriving (being both financially healthy and developing employees for transitioning the business over time). Change, growth, renewal and strategic regeneration are required across generations if family businesses are going to survive and flourish (Davis and Stern, 1996; Poza, 1996; Ward, 1997). Entrepreneurship activity is vital in the early stages of a business, but Davis and Stern (1996) indicate that there needs to be a transition from an entrepreneurial to a professional management structure for the family business to thrive across generations. Poza (1996) calls it "interpreneurizing" when the family business organizes for and supports a revitalization of business prior to and during the tenure of the next generation. Ward (1997) indicates that, if strategic regeneration (altering the character of the business in some way) does not occur, surviving businesses may last but not necessarily prosper.

Recently, there has been more discussion in the literature (but no empirical testing) of the social relationships that can contribute to the success of a family business (Brokaw, 1996; Cramton, 1993; Donnelley, 1996; Kets De Vries, 1996; Whiteside, 1993). Whiteside and Herz Brown (1996) called for more theory and research on what constitutes a healthy family business, both on subsystem and on whole system levels. This study contributes to that call for research with a panel study of family businesses that has followed both the business and the business manager.

4.3. Attrition in panel studies

Panel studies, defined as gathering data from the same individuals at different points in time, are among the most fruitful when attempting to understand factors that influence characteristics and behaviors. The success of a panel study depends on the continual participation of initial panel members (Boruch and Pearson, 1988), because population inference based on information from those still in the sample may be problematic if the sample characteristics of those present in the second and subsequent waves differ significantly from the original sample (Duncan, 2000; Winkels and Withers, 2000).

The magnitude of panel attrition over time may be large in long-term panels. For example, the Panel Study of Income Dynamics (PSID) families, first interviewed in 1968, have been interviewed annually ever since. Fitzgerald et al. (1998) report that only 49% of original samples were still being interviewed after 22 waves. Branden et al. (1995) indicate that only 74.5% of the original sample of the National Longitudinal Survey on Youth participated in every wave between 1979 and 1992.

Duncan (2000) points out the importance of the nature of attrition rather than the amount. He distinguishes two types of attrition, truly random attrition and attrition occurring in a nonrandom manner. If panel attrition is truly random, a large amount of attrition may be acceptable. Even if the attrition rate is very small but is in a nonrandom manner or of a selective nature, it may cause harmful bias to inferences drawn from panel analyses.

One method to examine the nature of panel attrition is to use demographic and socioeconomic data from the initial wave to compare characteristics of those remaining with those who do not (Duncan, 2000). Another way is to estimate models based on information drawn from the initial wave and to test the difference in parameter estimates in a targeted wave between those remaining and those who have left.

In their study testing selectivity in nonresponse, Winkels and Withers (2000) point out that household composition change is commonly related to panel attrition because of its association with residential mobility. They found that the association between nonresponse and household composition change was significant, but the magnitude only becomes serious for residential mobility, biasing the panel in favor of those who are residentially stable.

Fitzgerald et al. (1998) found that attrition in the PSID over 22 years of annual data collection was concentrated among individuals with unstable earnings and marriages and long migration histories. They concluded, however, that there was no strong evidence of serious distortion of the representativeness of the PSID through 1989.

One of the purposes of this paper is to establish the parameters of sample bias because of attrition between 1997 and 2000. If characteristics of the 2000 sample differ significantly from the 1997 sample, the analyses should provide data that will indicate variables to be included in future analyses of the 2000 data set, permitting researchers to correct for sample biases.

5. Hypotheses

Based on the literature review, variables representing manager characteristics, business characteristics and manager attitudes were selected to be used as independent variables for the dependent variables in the study. The dependent variables are the probabilities of (1) the business manager being reinterviewed 3 years after an initial interview, (2) the business manager still being involved in the business 3 years later and (3) whether the business is still in operation 3 years later. Eight hypotheses are identified using these dependent variables:

Hypothesis 1: There will be differences in manager characteristics for those business managers reinterviewed 3 years after an initial interview compared with those not reinterviewed.

Hypothesis 2: There will be differences in manager characteristics for those business managers still involved in the business 3 years after an initial interview compared with those not still involved.

Hypothesis 3: There will be differences in business characteristics of the businesses owned by managers reinterviewed 3 years after an initial interview compared with those not reinterviewed.

Hypothesis 4: There will be differences in business characteristics of the businesses owned by those managers still involved in the business 3 years after an initial interview compared with those not still involved.

Hypothesis 5: For those business managers no longer involved in the business, the reasons will differ by business manager characteristics and business characteristics.

Hypothesis 6: Manager characteristics, business characteristics and manager attitudes will influence the probability that the business manager will be reinterviewed 3 years after the first interview.

Hypothesis 7: Manager characteristics, business characteristics and manager attitudes will influence the probability that the business manager will still be involved in the family business 3 years after the first interview.

Hypothesis 8: Manager characteristics, business characteristics and manager attitudes will influence the probability that the family business will still be in operation 3 years after the first interview of the business manager.

6. Methods

6.1. Data

The data for this study are from the 1997 NFBS (Winter et al., 1998) and its follow-up, 2000 NFBS, both multistate research efforts supported by the Cooperative States Research, Education, and Extension Service (CSREES) of the U.S. Department of Agriculture, the Agriculture Experiment Stations at 17 different universities and the Social Sciences and Humanities Research Council of Canada for the University of Manitoba. Unlike other studies of family businesses (cf. Astrachan and Kolenko, 1994; Covin, 1994; Gundry and Welsch, 1994; Loscocco and Leicht, 1993; Mass Mutual, 1995), the sampling frame for the 1997 NFBS consisted of households rather than businesses. Using a probability sample of all 50 states, purchased from Survey Sampling, interviewers at the Iowa State University (ISU) Statistical Laboratory screened more than 14,000 household telephone numbers in 1997 to ascertain whether someone in the household was either the owner of a family business who was involved in the day-to-day operations of that business or the manager of a family business that he or she expected to inherit. (The qualifying individual is termed the *business manager* for the remainder of the paper.) A total of 1536 households included someone who met the criteria.

Because the focus of the 1997 project was the interaction of the business and the family in a family business setting, further restrictions were placed on the sample. To qualify for the study, the business manager had to have been in business at least a year, had to spend at least 6 h/week (or a minimum of 312 h annually) working in the business and had to live in a household with a least two members. More than 1100 households met the restrictive criteria.

Qualifying families were administered two different 30-min telephone interviews, one for the business manager and one for the family manager, identified by the screen respondent as the "person who actually manages the household, that is, the one who takes care of most of the meal preparation, laundry, cleaning and scheduling family activities and oversees child care." Although, in theory, there could be families whose members have equal responsibilities across domains, in practice, none of the respondents had difficulty deciding who was the

Note

family manager. When the family manager and the business manager were the same individual, a 45-min combined interview was administered. Interviewing began in the summer of 1997 and was completed early in 1998. A total of 794 families were administered at least one of the interviews. In 35 families, only the business manager was interviewed, and only the family manager completed the interview in 86 families.

To provide data about family businesses over time, researchers decided to reinterview the 1997 NSFB sample 3 years later. In households in which two different people were interviewed, an attempt was made to interview each individual again. When only one individual in a household was interviewed in 1997, only that individual would be reinterviewed in 2000. Because of the interest in tracking the family business over time, the 86 households in which the business manager was not interviewed in 1997 were omitted from the sample in 2000, making the initial sample size 708 instead of 794.

To enhance the possibility that the 1997 individuals could be located in 2000, every 6 months between the surveys, the research group mailed a one-page summary of research results to each household interviewed in 1997. Address correction by the U.S. Postal Service was requested, and the database was updated. Only 61 of the 708 households could not be located, 93 households refused to be interviewed and 1 respondent died before the 2000 interview. Data were gathered in 2000 from 553 households, more than three-fourths of the households surveyed in 1997.

6.2. Variables

The dependent variables are a series of binary variables assessing whether the business manager was located, whether he or she was reinterviewed, whether the manager was still involved with the business and whether the business was still open. All dependent variables were assessed in 2000; all independent variables were measured in 1997.

6.2.1. Characteristics of the business manager

Included in Table 1 are the characteristics of the business manager and his or her attitudes toward the business. The three columns headed "1997 sample" are the 1997 characteristics and attitudes of the 708 business managers from whom data were gathered in 1997. The three columns headed "2000 subsample" are the 1997 characteristics of the 553 business managers who were reinterviewed in 2000. The frequency distributions and means are very similar in the two groups because, of course, the 2000 sample is, in reality, a subsample of the 1997 sample.

Almost half of the business managers were under 45 in 1997. Because age of the business manager is his or her age in 1997 and not in 2000, the fact that the mean age in the 2000 sample is slightly higher (0.64 years) than that of the 1997 sample indicates that a higher percentage of younger managers than older managers were not reinterviewed in 2000. Almost three-fourths of the business managers were male in the 1997 sample; the percentage male in the 2000 subsample is 1 percentage point higher, from 73% male in the 1997 sample to 74% male in the 2000 sample (Table 1). A similar pattern is found in the percentage of the sample married, with 92% married in the sample of 708 and 94% married in 1997 in the sample of

Table 1
Frequency distributions of the 1997 manager and family characteristics for the 1997 sample ($n = 708$) and the 2000 subsample ($n = 553$)

Variable	1997 Sample			2000 Subsample		
	Percent	Mean	S.D.	Percent	Mean	S.D.
Age of business manager		46.10	11.27		46.74	11.26
Under 45	49			46		
45 and over	51			54		
Sex of the business manager		0.27	0.44		0.26	0.11
Female	27			26		
Male	73			74		
Business manager married?		0.92	0.27		0.94	0.24
No	8			6		
Yes	92			94		
Education of the business manager		14.16	2.38		14.22	2.36
High school graduate or less	34			33		
Some post high school	66			67		
Assessment of business success		4.00	0.79		4.02	0.79
Business as a way to earn income		2.58	1.28		2.61	1.29
Family first		3.64	1.17		3.64	1.15

553. Two-thirds of all business managers have some education beyond high school, with a higher mean among the 2000 subsample than in the original sample.

6.2.2. Attitudes toward the business

Three attitude variables were used in the equations predicting whether the business manager was still involved with the business and whether the business was still open. First, the business manager was asked, "Overall, how successful is your business to date?" Responses were coded 1 = *very unsuccessful* to 5 = *very successful*. Business managers saw their business as fairly successful, with a mean of 4 on the five-point scale (Table 1). The second question was based on the work by Salamon (Davis-Brown and Salamon, 1987; Salamon, 1992) during the farm crisis of the 1980s. She characterized farmers as "yeoman" or "entrepreneurs," with the yeoman farmers viewing farming as a way of life and the entrepreneurs seeing farming as a way to earn a living. She characterized the two groups as having different goals for the farm. Following Salamon, business managers were asked to "Think of a scale from 1 to 5, where 1 means that for you the business is a way of life and 5 means that for you the business is only a way to earn income. Which number from 1 to 5 best describes you?" The means of 2.58 and 2.61 on a five-point scale indicate that respondents saw their business more as a way to earn income than as a way of life.

The third question asked the business manager to "Think of that scale again, but this time the 1 means that business needs come first and the 5 means that family needs come first. Which number from 1 to 5 best describes you?" In response to that question, business managers indicated that their family needs would come first (Table 1). There are virtually no differences between the means or standard deviations for the whole sample and the subsample reinterviewed.

6.2.3. Characteristics of the business

Four business characteristics served as independent variables in the analyses: age of the business, number of employees, gross business income in 1996 and whether the business was home based. Gross income was selected as a measure rather than net profit because of the desire to have an indication of the size of the business. Striking in Table 2 are the differences in the means of age of the business and gross income in thousands of dollars between the 1997 sample and the 2000 subsample. Those who were reinterviewed are in older businesses (19.2 vs. 17.6 years) and more prosperous businesses (a mean of more than US$1 million compared with a mean of US$900,000). In both the sample and the subsample, more than half are small businesses, with at most one employee, and just over half are home based in both the original sample and the 2000 subsample.

6.2.4. Reasons for leaving the business

When the 1997 manager was no longer involved in the business, he or she was asked an open-ended question, "What is the main reason you are no longer involved with the business?" The reasons given in 2000 by the 132 respondents no longer involved were coded by the ISU Statistical Laboratory into 13 categories, which were combined into five categories. "Wanted a change" included "taking another job," "doing a different kind of work" and "did not want to do it any more." "Resource issues" included "no help," "too expensive to operate the business," "not enough business to make a profit" and "took too much time." "Retired or sold" included "retired" and "bought out by another company." "Health problems" included "husband (or wife) in poor health," "taking care of parents"

Table 2
Frequency distributions of the 1997 business characteristics for the 1997 sample ($n=708$) and the 2000 subsample ($n=553$)

Variable	1997 sample			2000 subsample		
	Percent	Mean	S.D.	Percent	Mean	S.D.
Age of the business		17.60	19.86		19.16	21.26
Less than 10 years	47			44		
10 years and over	53			56		
Number of employees		0.51	0.50		0.53	0.50
0–1	49			47		
2 or more	51			53		
Business gross income		919.17	5134.08		1048.43	5716.02
Under US$20,000	23			23		
US$20,000–124,999	37			34		
US$125,000 or more	40			43		
Business is home based?		0.56	0.50		0.55	0.50
No	44			45		
Yes	56			55		

and "poor health (of manager)." "Other" included "hassles with various levels of government," "stress due to partner's dishonesty" and "primary job moved to another state."

6.3. Analyses

Preliminary analyses revealed that three of the four business variables were not normally distributed: age of the business, number of employees and gross business income. Using a natural log transformation for age of the business and gross income yielded acceptable distributions for inclusion in regression equations. The distribution of the number of employees was extreme, however, with more than 50% having 0 or 1 employees and a handful (less than 10 respondents) reporting more than 200 employees. It was decided to use number of employees as a binary variable, with 1 representing two or more employees. Preliminary cross-tabulations showed a curvilinear relationship between the age of the business manager and the dependent variables; therefore, age squared was included in regression equations.

Examination of the correlation coefficients revealed that, although none of the correlation coefficients was above .5, several variables were correlated at .30–.45. As could be expected, age of the business manager and age of the business have a correlation coefficient in this range as does the number of employees and gross income, being home based and the number of employees and being home based and gross income. Because all coefficients were below .5, multicollinearity was not deemed to be a problem.

The next step was to compare various subsets of the original sample of 708 according to the characteristics of the manager and the business: those who were reinterviewed with those not reinterviewed, those who refused to be reinterviewed with those who could not be located and those still involved in the business with those who were no longer involved, for example. χ^2 and γ statistics were used to test whether the relationships between the independent variables and the dependent variables were significant at $P < .05$.

Because the dependent variables are binary, logistic regression was used to examine the effects of sample attrition on the 2000 subsample. The general hypotheses regarding the involvement of the business manager in the business and whether the business was still in operation also were tested with logistic regression analyses.

7. Findings and discussion

7.1. Paired comparisons

The top two sections of Tables 3 and 4 consist of paired percentages, which add up to 100%. Each set is the percentage of the number immediately preceding the pair in the table. Of the 708 people interviewed in 1997, 553 were reinterviewed in 2000 and 155 were not. Comparing those reinterviewed with those not reinterviewed (the first two rows of percentages), those reinterviewed are significantly older and more likely to be married than

Table 3
Comparisons of the 1997 business manager characteristics of those reinterviewed with those not reinterviewed and those still involved in the business with those no longer involved

Status	Age (years)		Sex		Married?		Education (years)	
	<45 (%)	45+ (%)	Female (%)	Male (%)	No (%)	Yes (%)	12 (%)	>12 (%)
Interviewed in 1997 (n = 708)								
Interviewed in 2000 (n = 553)	74 *	82	76	79	63 *	79	77	79
Not interviewed in 2000 (n = 155)	26	18	24	21	37	21	23	21
Refused or deceased (n = 94)	49**	77	58	61	45	63	60	61
Not located (n = 61)	51	23	42	39	55	37	40	39
Interviewed in 2000 (n = 553)								
Still involved (n = 421)	77	75	67***	79	71	76	78	75
Not involved (n = 132)	23	25	33	21	29	24	22	25
Business in operation (n = 33)	24	26	19	28	30	25	17	29
Not in operation (n = 99)	76	74	81	72	70	75	83	71
Reason not involved (n = 132)								
Wanted a change	32	8	26	15	60	15	10	23
Resource issues	38	22	36	26	20	31	23	32
Retired or sold	9	47	13	40	10	32	36	27
Health problems	9	17	19	10	10	13	23	9
Other	12	6	6	10	0	9	8	9

* Difference between those interviewed in 2000 and those not interviewed, significant at $P < .05$.

** Difference between those refused and those not located, significant at $P < .05$.

*** Difference between those still involved and those not involved, significant at $P < .05$.

those not reinterviewed. Comparing those who refused the interview with those who could not be located (Lines 3 and 4 of Table 3), those who could not be located were significantly younger than those who were located but refused. There was partial support for Hypothesis 1 that there would be differences between those business managers reinterviewed and those who were not.

Using all of those who were interviewed as the base (n = 553), those who were still the owner-manager of the 1997 business in 2000 were more likely to be male than those no longer serving as manager of the 1997 business. None of the manager's characteristics were related to whether the business was still in operation even though the manager was no longer involved. Partial support was found for Hypothesis 2 that differences would be found based on involvement status of the business manager.

An examination of the relationship between the characteristics of the business and the changes between 1997 and 2000 (Table 4) indicates that business managers from established firms (in existence 10 years or more in 1997) were more likely to be interviewed in 2000 than those managing firms less than 10 years old and that firms with an annual gross income between US$20,000 and US$124,999 were the least likely to be reinterviewed (72% as compared with 78% and 84%). Among those not reinterviewed,

Table 4
Comparisons of the 1997 business characteristics of those reinterviewed with those not reinterviewed and those still involved with those no longer involved

Status	Number of employees		Firm age (years)		Gross annual income (US$000)			Home-based?	
	0–1 (%)	2+ (%)	<10 (%)	10+ (%)	<20 (%)	20–124 (%)	125+ (%)	No (%)	Yes (%)
Interviewed in 1997 (n = 708)									
Interviewed in 2000 (n = 553)	75	81	74*	81	78*	72	84	79	78
Not interviewed in 2000 (n = 155)	25	19	26	19	22	28	16	21	22
Refused or deceased (n = 94)	62	58	48**	76	60	60	62	58	62
Not located (n = 61)	38	42	52	24	40	40	38	42	38
Interviewed in 2000 (n = 553)									
Still involved (n = 421)	73	78	69***	82	63***	80	80	77	75
Not involved (n = 132)	27	22	31	18	37	20	20	23	25
Business in operation (n = 33)	15****	37	17****	35	4****	29	43	38****	16
Not in operation (n = 99)	85	63	83	65	96	71	57	62	84
Reason not involved (n = 132)									
Wanted a change	18	19	18	20	15	26	16	11	24
Resource issues	32	26	42	13	39	26	22	28	31
Retired or sold	24	37	19	44	17	29	44	47	19
Health problems	18	8	11	16	22	11	7	7	17
Other	8	10	10	7	7	8	11	7	9

* Difference between those interviewed in 2000 and those not interviewed, significant at $P < .05$.
** Difference between those refused and those not located, significant at $P < .05$.
*** Difference between those still involved and those not involved, significant at $P < .05$.
**** Difference between business in operation and business not in operation, significant at $P < .05$.

those from younger businesses were more likely to be impossible to locate than those from established businesses. Partial support was found for Hypothesis 3; some differences were found in business characteristics of those business managers reinterviewed versus those not reinterviewed.

When compared with those not involved, managers still involved with the business were more likely to be managing older businesses and to be from businesses grossing over US$20,000 annually. Businesses still in operation in 2000, even though the 1997 manager is no longer involved, were larger (two or more employees), older (10 years or more in existence), more successful in terms of gross annual income (US$125,000 or more) and less likely to be home based than businesses that closed when the 1997 manager left the business. In support of the second hypothesis, stable, lucrative businesses are either sold or passed on to the next generation when the owner-manager decides it is time to get out of the business. Hypothesis 4 received partial support; there were some differences discovered based on business characteristics of those businesses managers still involved in the business.

7.2. Reasons for leaving the business

In the bottom sections of Tables 3 and 4, the most important reason given by those no longer involved with the business is cross tabulated with characteristics of the manager and of the business. There is a clear-cut division according to age of the manager, with those under 45 "wanting a change" or citing resource issues and those 45 and over citing retirement, selling the business and health problems. Similar patterns are found according to gender and marital status, with men more likely to give "retired or sold" and women more likely to cite "resource issues." Managers not married in 1997 left the business because they "wanted a change."

Patterns noted in the reasons for no longer being involved with the business and the manager's characteristics are emphasized when characteristics of the business are cross tabulated with the manager's reasons for dropping his or her business involvement. Resource issues are the main reasons given for young or small businesses, whereas retirement is the manager's primary reason for leaving an older business. Resource issues also are prominent among business managers whose businesses grossed less than US$20,000 in 1996; retirement or selling the business is prominent for managers of businesses grossing US$125,000 in 1996 and for nonhome-based businesses. The manager of an established, successful business retires or sells; the manager of a relatively new, less prosperous business closes the business, because it is simply not worth his or her time to remain open. Support was found for Hypothesis 5; reasons differed by business and manager characteristics for those managers no longer involved in the business.

7.3. The effects of sample attrition

To examine the effects of attrition, a logistic regression was completed with whether the business manager was interviewed in 2000 as the dependent variable. Independent variables included characteristics of the manager and of the business measured as continuous variables, except as noted previously. If sample attrition has no effect on the remaining sample, it could be expected that the overall model would not be significant nor would any of the individual variables within the model be significant.

The results of the logistic regression are presented in Table 5. The model χ^2 is significant at $P<.01$, indicating that including the independent variables is superior in the prediction of the probability that the business manager was reinterviewed. The strength of the model is assessed through the calculation of a pseudo R^2, figured by dividing the model χ^2 by

Table 5
Logistic regression analysis of whether the business manager was interviewed in 2000 on 1997 characteristics of the business, the business manager and his or her attitudes toward the business ($n = 708$)

	Interviewed in 2000		
	B[a]	S.E.[b]	OR[c]
Constant	−2.70	1.04	
Manager's characteristics			
Age	0.01	0.01	1.02
Sex (female = 1)	0.03	0.21	1.03
Marital status (married = 1)	0.84 *	0.31	2.31
Years of education	0.06	0.04	1.05
Business characteristics			
Two or more employees	0.17	0.22	1.19
Age of business in years (ln)[d]	0.30 *	0.11	1.35
Business gross income (ln)[d]	0.01	0.04	1.01
Home-based business	0.15	0.22	1.16
Manager attitudes			
Assessment of success of business	0.13	0.13	1.14
Business is way to earn income	0.08	0.08	1.08
Family needs first	0.03	0.08	1.03
−2 log likelihood	714.436		
Model χ^2	29.737		
Pseudo R^2	0.042		

[a] Parameter estimate.
[b] Standard error.
[c] Odds ratio.
[d] Logarithmic transformation used.
* $P < .05$.

the overall −2 log likelihood. This statistic is one of the most straightforward of the various pseudo R^2 statistics proposed for assessing logistic regression models (DeMaris, 1995). The pseudo R^2 gives a rough measure of goodness of fit that can be compared across models.

The pseudo R^2 is small, at .042, indicating that the model is not particularly strong. Two variables are significant in the model: the 1997 marital status of the business manager and the log of age of the business. Married managers were more than two times more likely to be reinterviewed than managers who were not married in 1997, and managers of older businesses were one and one-third times more likely to be reinterviewed than those of younger businesses.

Partial support was found for Hypothesis 6; manager and business characteristics influenced the probability that the business manager was reinterviewed. The effects of attrition on the sample are to remove more tenuous managers and businesses from the sample, leaving a stable business sample. Thus, analysis of younger businesses will err on the conservative side because they are underrepresented in the remaining sample. One way to compensate for the effects of attrition is to include age of the business and marital status in all subsequent analyses.

Equally important is an examination of the variables that were not significant in the model. Measures of human capital were not significant nor were measures of business size; subsequent analyses should reflect accurately issues related to human capital and business size without the introduction of control variables.

7.4. Continued involvement of the manager and continuation of the business

Included in Table 6 are two different analyses that are related. The dependent variable in the analysis reported in the first three columns is whether the individual is still involved as owner-manager of the 1997 business; 132 of the 553 respondents are no longer involved. The dependent variable in the second set of three columns is whether the business is still in operation, even though the 1997 owner-manager is no longer involved; 99 businesses were no longer in operation. The first analysis tracks the individual, whereas the second tracks the business, with the second dependent variable a subset of the first.

7.5. Tracking the manager

The first model in Table 6 is significant at $P < .01$, although the pseudo R^2 is small, at .12. Both age and age squared are significant in the equation, with age having a positive sign and age squared a negative sign. The interpretation of the age variables is that, up to a point, the older the manager, the more likely he or she is to be the business manager in 2000; after the point of inflection, the older the manager, the less likely he or she is to be involved. The inflection point is 42, calculated from the formula, $\beta_1/2\beta_2$. Under age 42, the older managers are 1.20 times as likely as younger managers to continue with the business; above age 42, the slope is flat, as indicated by an odds ratio of 1.00.

The negative sign and the odds ratio of 0.50 means that female managers are 50% less likely to be involved with the business in 2000 than their male counterparts. Marital status, which differentiated those reinterviewed from those not reinterviewed, is not significant in this model, but, as noted earlier, the variable's inclusion in the model is essential to control for the effects of sample attrition. Managers with older businesses are likely to be involved at the end of 3 years, and those viewing their business as successful in 1997 are almost twice as likely to be involved with that business 3 years later than those reporting less successful businesses in 1997. That the manager's *report* of business success is significant but gross business income is not significant mirrors findings of Winter and Fitzgerald (1993), in which the manager's subjective view of the situation was more important in predicting continuation of the business than income from the home-based business. Support was found for Hypothesis 7; manager characteristics, business characteristics and manager attitudes influenced the probability that the business manager was still involved in the family business.

Table 6
Logistic regression analyses of business involvement and business still open on characteristics of the business, the business manager and his or her attitudes toward the business ($n = 553$)

	Dependent variables					
	Involved with business in 2000			Business is still in operation in 2000		
	B[a]	S.E.[b]	OR[c]	B[a]	S.E.[b]	OR[c]
Constant	−5.45	.184		−5.20	2.05	
Manager's characteristics						
Age	0.18**	0.06	1.20	0.14*	0.07	1.15
Age squared	−0.01**	0.01	1.00	−0.01*	0.01	1.00
Sex (female = 1)	−0.75**	0.24	0.50	−0.72**	0.27	0.50
Marital status (married = 1)	0.27	0.43	1.31	0.16	0.50	1.17
Years of education	0.05	0.05	1.05	0.06	0.05	1.06
Business characteristics						
Two or more employees	−0.17	0.25	0.85	−0.04	0.28	0.95
Age of business in years (ln)[d]	0.27**	0.12	1.31	0.38**	0.14	1.46
Business gross income (ln)[d]	0.03	0.05	1.03	0.10*	0.05	1.10
Home-based business	0.22	0.25	1.24	0.06	0.28	1.07
Manager attitudes						
Assessment of business success	0.54**	0.14	1.72	0.60**	0.16	1.82
Business is way of life (1) versus way to earn income (5)	−0.12	0.08	0.89	−0.20**	0.10	0.82
Business needs first (1) versus family needs first (5)	−0.13	0.10	0.88	−0.08	0.11	0.92
−2 log likelihood	543.69			444.74		
Model χ^2	64.14**			74.99**		
Pseudo R^2	0.12			0.17		

[a] Parameter estimate.
[b] Standard error.
[c] Odds ratio.
[d] Logarithmic transformation used.
* $P < .10$.
** $P < .05$.

7.6. Tracking the business

All of the variables significant in the equation predicting continuation *in* the business remain in the equation predicting continuation *of* the business (Table 6). The variables have the same signs and the odds ratios are of about the same magnitude. The inflection point for the manager's age, 40, is slightly younger than in the previous model, but the interpretation is the same. Predicting business continuity differs from predicting manager continuity in that the overall equation is stronger, with a pseudo R^2 of .17, and two additional variables, business gross income and manager's attitude toward the family business, are significant in the model.

Prosperous businesses are likely to continue because the business was either sold or passed to the next generation. Businesses whose managers reported that the business is a way to earn income are less likely to report that the business has continued after their exit than those who report seeing the business as a way of life. The interpretation of the latter finding is that managers in business primarily for the money quit the business when it is not profitable, and of course, a business that is not profitable would be less attractive to a buyer or successor. Hypothesis 8 received support; manager characteristics, business characteristics and manager attitudes influenced the probability that the family business would still be in operation.

8. Conclusions and implications

One of the most important conclusions is that attrition has affected the representativeness of the sample but in a way that can be corrected by including measures of stability in future analyses (Duncan, 2000). Age of the manager or the business and marital status are variables that should be included in future analyses because those who remained in the sample are established in business and in life.

A second conclusion is that some of the same variables predicting business continuity among start-up companies are important in the prediction of continuity among established businesses as well. As noted in previous research, gender of the business manager is an important factor, with businesses headed by females more likely to close than businesses headed by males and female business managers less likely to be involved with the business over time than males.

Based on the findings of this study, success of the business, measured both subjectively and objectively, is a factor in continuity. These findings provide support for a major premise of the Sustainable Family Business Model, that achievements of the family business can be measured by both objective and subjective indicators (Stafford et al., 1999). The findings further indicate that successful businesses are likely to continue, either with the same manager or with a different one. In fact, the most important influence on business and manager continuity is the manager's view of business success. This variable is considerably stronger than gross business income, an objective measure of success. Although subjective and objective indicators of business success measure different concepts (Cooper and Artz, 1995), both are important in understanding a systemic view of the continuing operation of a family business over time.

Business managers in this study were asked how they viewed their family business on a scale from a way of life to a way to earn income. This variable had a statistically significant influence on the probability of the business remaining in operation over time. Those business managers who viewed their family businesses as a way of life were more likely to continue to operate than those viewing the business primarily as a way to make money. A potential interpretation of this finding using Dyer's (1996) framework for culture and continuity is that family businesses that assume this orientation within their culture create artifacts, perspectives and values that encourage continuity. Although this interpretation stretches the findings of the study, pursuing issues related to culture could prove fruitful in further research.

The analysis of the manager's reasons for leaving the business indicate that, like the findings of the SBA (2001), ceasing to be involved in a business as its manager should not be viewed as either a business failure or a managerial failure. Some closures *are* failures, of course, but many are not. The manager may have accomplished all that he or she wants to do in the business and simply wants to move on or to do something different. Else, other life course developments may dictate discontinuing involvement with the business. Based on this study, change in language should be promoted when discussing business closure from the value-laden "failure" to the more neutral "demise."

Further, analyses of the reasons for discontinuity suggest target populations for pursuing interventions by educators, finance officers and others working with the business community. Prime candidates for intervention are young, unmarried managers with young businesses. The kinds of information and skill building needed should focus on human resource issues and profitability, so this group of business managers is able to enjoy long-term success.

This study is one of the first to investigate both the continued involvement by the owner-manager of the family business and the continuation of the business itself using a nationally representative sample of family businesses. The Sustainable Family Business Model is a flexible one that allows investigation of issues that are a part of either the business or the family system and can address issues that transcend the boundaries of each system (Stafford et al., 1999).

This study has contributed to the understanding of the dynamics of business demise and manager departure. Additional research should focus on further clarification of the process of business demise that will permit the development of appropriate policies and programs to support family business owners.

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