

Survival in Rural Franchise: A Study of Information Kiosks in India

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Abstract

Franchising as a means to deliver 'public services' in rural areas has gained significant policy attention in recent years. This paper explores the factors that influence franchisee survival, based on a sample of 150 'information kiosks', observed over two years in rural South India. 'Information kiosks' refer to firms that provide IT-based services to the local village and town populations. The determinants of survival considered include the characteristics of the entrepreneur, important business decisions, and aspects of the local context, such as market competition and government involvement. The study finds that franchisees who own another business, and those who use the assistance of family in the kiosk business, have better chances of survival. Competition matters, with 'optimal distances' between firms leading to better survival outcomes. There is evidence to suggest that entrepreneurs who enter the business based on information acquired from local government sources are less likely to survive. The study also finds weak evidence that kiosks located in government offices have shorter life-spans.

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I. Introduction

The idea that small enterprises can serve as a means to facilitate greater and more equitable economic development has found favor with multilateral organizations and national governments of developing countries for nearly half a century. The basic rationale is that these enterprises can generate significant employment with a fairly small capital base and are therefore especially well suited for low income rural areas. The sector is also argued to play an important role in the rural economy as it shares a relationship of “virtuous inter-dependence” with growth in the agricultural sector (Mazumdar 2001). A sub-group of the small business sector – known as very small or micro enterprises – has received particular policy attention in recent years. Not surprisingly, much of this has been within the context of lending programs that aim to promote entrepreneurship as a means to better economic conditionsⁱ. Despite the substantial interest in small enterprises for decades, however, little is known about the sector in developing countries even today (Hall and Wahab 2007).

Of interest to researchers, policy makers and practitioners is the fundamental question of what makes for a successful small or micro enterprise. This paper explores the possible impact of entrepreneurial characteristics, business decisions and local contextual influences – pertaining to the government and market - on the survival of firms in rural South India. The study is based on 150 rural franchisees that belong to a particular franchising organization, n-Logue Communications, headquartered in the city of Chennai, in the southern state of Tamil Nadu in India. Each franchisee provides IT-based services to the local village and town populations, and is also referred to as an ‘information kiosk’ or telecentre. Given that the enterprises in the study operate within the parameters of the same business model, there is an opportunity to isolate the impact of individual entrepreneurial characteristics on firm survival, while also exploring the influence of varying local conditions.

This study is important for many reasons. In India, as in many other countries, micro enterprises are viewed as central to a strategy for more rapid rural developmentⁱⁱ and yet empirical evidence on the performance in this sector – particularly from a longitudinal perspective – is scarce. The study is also novel in that it could provide insights into the use of franchising as a strategy for enterprise creation within a development context. There are arguably several potential benefits associated with the use of such a strategy. Franchising serves as a means to extend the availability of a wider range of goods and services of fairly uniform quality to areas where these might not otherwise be available. It simultaneously leads to the creation of local enterprises that have the benefit of business support provided by the franchisor and the local market knowledge of the franchisee.

Rural franchising also has immediate and specific policy relevance in the Indian context. In September 2006, the Government of India announced a program to set up 100, 000 ‘Common Service Centers’ (CSCs) to deliver the services of the Government, the business sector and NGOs in an integrated manner to rural areas using a franchise modelⁱⁱⁱ. The CSCs will provide both IT and non-IT based services, and the scheme has been explicitly conceptualized as a modified version of the basic kiosk model. The empirical findings of the present study are therefore worthy of policy reflection.

The paper is organized as follows: Section II explores the literature in the area of small and micro business dynamics in developing countries; Section III provides a background on the specific context of the present study in India; Section IV presents a summary of the dataset and the specific hypotheses that will be tested.; Section V details the analysis; Section VI offers a comparative discussion of the results with other studies and Section VII summarizes the study and concludes the paper.

II. Influences on Small Business Survival

As a background to the present analysis, this section briefly explores the past empirical literature on small business to understand the influences on firm survival.

Liedholm and Mead (1999) posit that economic theories of the firm thus far leave us ill equipped to understand the dynamics of small and micro enterprises in developing countries as they do not provide a framework to

understand “patterns of change at the level of the individual firm”. Instead the authors believe that we must turn to empirical findings to better our understanding of the various influences on performance.

While there has long been interest in the relationship between entrepreneurial characteristics and firm performance in developing nations, the main limitation of the early work in this area is that there was no information on closed firms or time series data to validate these relationships in a dynamic context (Liedholm and Mead 1999) . The most comprehensive body of literature in the latter regard can be found in a synthesis of 12 country studies by Liedholm and Mead (1999)^{iv}. These studies involve nationally representative samples of small and micro firms in five countries in Africa - Botswana, Kenya, Malawi, Swaziland, and Zimbabwe - and in the Dominican Republic in Latin America. The studies on Guinea, South Africa, Lesotho, Niger, Nigeria and Jamaica are based on less comprehensive data.

Based on a review of previous empirical literature, including from developed countries, the authors offer a summary of the key variables that merit investigation in terms of their potential influence on firm growth and survival. Broadly, the variables are considered at the macro, firm and individual levels. Macro level variables are used to indicate changes in the aggregate level of economic activity, and within a rural context, this would pertain to changes in the level of agricultural production per capita. The authors note that these have not been investigated in the literature on developing countries thus far. Other important variables cited that are external to the firm are sector and location. Sectors that are rapidly growing and those that are not heavily concentrated are likely to have better firm survival rates compared to sectors that are growing more slowly and those that are more saturated. In terms of location, firms operating in commercial areas are expected to have better survival rates, as these localities are expected to be larger and more visible.

The most important determinants cited in the literature with respect to firm-level variables are the size and age of the firms. The authors find evidence that closure rates are higher among smaller firms, and observe a strong inverse relationship between the age of the firm and the failure rate of enterprises in most studies. They note that these empirical findings are consistent with the predictions of the theoretical model of entrepreneurial “learning” (Jovanovic 1982). In a simple sense, the model proposes that entrepreneurs learn about their own managerial abilities over time and expand or contract the size of their business based on their self-estimations.

The review finds that the individual-level variables or entrepreneurial characteristics that have been explored to the greatest extent are gender and human capital. Studies that focus on gender and entrepreneurial outcomes have in fact emerged as a separate stream. Women entrepreneurs with concerns for greater economic security are found to be relatively more risk averse with respect to firm expansion and might choose to diversify instead (Downing 1991). A combination of household and business responsibilities is argued to sometimes weigh heavily on women, hampering the growth of the firm or increasing the need for profits from the business to maintain household consumption (Berger 1989). The review by the authors finds that human capital is typically introduced in studies in the form of variables that capture the level of formal education of the entrepreneur, previous business experience and training. The evidence in developing countries with regard to the impact of formal education on firm performance has usually been positive, although, the authors point out that there has sometimes been a “surprising” negative relationship found. Similarly business experience and training are also found to usually have a significant positive influence on firm growth and survival.

The following section will outline the nature of the firms in the present study.

III. A Description of the Firms in this Study

This study will consider a network of rural firms in India, where each is a franchise of n-Logue Communications, a company headquartered in the city of Chennai in the southern state of Tamil Nadu in India. The franchisees provide IT services to the local population, and are also known as ‘telecentres’ or ‘information kiosks’. A ‘kiosk’ is essentially a point of public access to computers and the Internet and the organization is normally linked with development goals, providing IT-based services in the areas of health, education, governance, income generation and the like. The firms are expected to operate on a for-profit basis while also providing socially relevant services, and have therefore also been referred to as ‘social franchisees’ (Kendall and Singh 2006).

The vision of the franchising organization is to set up one kiosk in every village in India, in order to bridge inequities in access to information-services that exist between rural and urban areas. Such intervention was perceived as necessary, particularly at the time when the organization began operations, in April 2000, since mainstream Internet Service Providers (ISPs) did not extend their operations to rural areas. This was both due to an absence of the requisite technological infrastructure on the supply side and the low incomes in these areas, making them unprofitable markets.

The franchisor provides the financial assistance required to meet the initial costs to set up the kiosk, by helping the franchisee secure a bank loan for the purpose. The loan is intended to cover eighty percent of the total cost of setting up the business, which is approximately INR 53, 500 (USD 1200)^v. The remaining twenty percent must be invested by the entrepreneur. The company also facilitates the acquisition of the physical infrastructure required to set up the business, which includes a computer, printer and digital camera, the requisite equipment to enable Internet connectivity and both English and local language software. Introductory training^{vi} and a marketing toolkit are also provided.

Ongoing assistance is available to the franchisees in the form of marketing and technical support for a franchise fee. Given the wide geographical spread of the franchisees, these services are provided within each district in a decentralized manner by a partner of the franchisor, known as the Local Service Partner (LSP). Other functions of the LSP include the recruitment of new franchisees from within the district, assisting the franchisor in processing bank loans, and coordinating the delivery of equipment to the franchisee to set up the business. The LSP is typically an entrepreneur from within the district who co-invests in setting up the technological infrastructure at the district headquarters that provides wireless connectivity to the network of kiosks within the district.

Once in operation, each franchisee can renew Internet connectivity from the franchisor on the basis of several possible 'packages'^{vii}. The operator can also access a range of IT-based services offered by the franchisor, either alone or in partnership with other organizations. These include computer education programs, adult literacy programs, consultancy for farmers with agricultural experts located in cities, health services such as remote consulting with city-based doctors, e-Government services, digital photography, Desk Top Publishing and the like. Besides these, the kiosk also functions in the manner of a typical 'cyber café', offering Internet browsing, email and access to various forms of online entertainment (games, music, movies etc). In practice a franchisee might choose to focus on some combination of these services, and can also introduce other services independently. Some might choose to invest in additional types of technologies such as fax machines, photocopying machines, lamination machines, etc such that the kiosk evolves into a broader technology centre.

IV. The Dataset & Specific Hypotheses

The data in this study pertains to 150 kiosk franchisees located in villages and small towns across 7 districts in the southern states of Tamil Nadu and Karnataka in India. This is not a random sample, but the firms were selected by the franchisor based partially on the criterion of homogeneity with respect to the age of the firms (82% of the sample was under a year old at the time of the baseline survey), in order to allow for a 'cohort' interpretation over time. The firms were also chosen from districts that conformed to reasonable standards of performance in the baseline period.

Baseline information on the sample was collected in November, 2004, on aspects pertaining to the socio-demographic background of the entrepreneurs, business strategies employed, and aspects of local economic context such as market size, degree of competition etc. Subsequent to the baseline survey, the kiosks were monitored for nearly two years^{viii}. During this time, approximately half of the original sample of firms in the study (74 out of a total of 150) was found to have discontinued the renewal of Internet connectivity from the franchisor, which forms the core of the franchising business. 'Discontinuity' in this study is defined as the non-renewal of Internet connectivity consistently for a period of six months from the franchisor^{ix}. Kiosks that were found to be still functional at the end of the study period by this definition are regarded as 'survivors'. The objective of this paper is to identify baseline entrepreneur and local contextual characteristics that distinguish the group of kiosks that survived vis-à-vis the group that did not in order to understand the possible influences on survival. Given the high rate of attrition in the study – of nearly half the sample - a second part of the analysis

will examine the possible influences on the duration of survival of firms, based on the same set of predictor variables.

Several baseline independent variables pertaining to the entrepreneur and the local context are considered in the study. Among the independent baseline variables, the age of the kiosk is particularly important. The majority of the kiosks (82%) in the sample were under a year old at the baseline period, and therefore this sub-sample can be thought of as belonging to the same cohort of 'young firms'. However, for the kiosks that were above a year old, the age variable could have had a significant impact on the other baseline variables considered. In particular, reported investment levels in terms of labor and financial resources in the baseline survey cannot be assumed to represent 'initial investment levels', as these entrepreneurs might have chosen to invest at a later stage in response to demand conditions. Given this limitation associated with the age composition of the total sample, the analysis has been carried out separately both for the entire sample of 150 kiosks and for the sub-set of kiosks that were less than a year old at the time of the baseline survey (123). Even within the smaller sample, however, varying demand conditions in the early stages might have prompted some firms to make different investment choices than others. The number of regular customers reported for each firm in the baseline survey has been introduced as an independent variable representing initial demand conditions, in order to control for the possible influence of the latter on the investment variables.

The baseline variables in the study have been classified into three broad categories: (A) entrepreneurial background (B) entrepreneurial decisions and (C) local contextual characteristics. The specific hypotheses associated with each independent variable within these categories are discussed below. The section includes a discussion of the dataset in terms of the summary statistics and t values corresponding to each predictor variable. These are presented in Table 1. The t values provide a cursory indication of the significance of the differences between the two groups (survivors and non-survivors) in terms of the mean values of the predictor variables.

(Insert Table 1 here)

A. Entrepreneurial Background

1. Personal and Family Characteristics

Information on the gender and age of the kiosk operator is collected as part of the standard demographic profiling of prospective franchisees. The potential influence of gender and age on the successful operation of a kiosk is therefore of practical interest. The gender composition of the total sample is exactly two-third men and the mean age of the kiosk operator in the sample is just below 30 years.

The education variable tests whether a greater level of formal educational attainment of the entrepreneurs is associated with a better chance of business success^x. While the minimum requirement for recruitment as a kiosk franchisee is education up to the 10th grade level, the majority of the entrepreneurs (63%) in the sample had completed some form of education beyond high-school. Greater levels of education could lead to better overall learning ability and consequently better business performance and survival. However it is also possible that those with greater levels of education have a higher opportunity cost of time, and would be likely to exit sooner if dissatisfied with the business. Therefore the effect of this variable is uncertain a priori.

Nearly 40% of the sample owned another business. The ownership of a second business is likely to lead to a greater likelihood of success as it indicates that the entrepreneur has previous business experience. Further, the 'other business' forms an additional source of income and might serve to cross-subsidize the kiosk business in the initial stages. A positive direction of impact can therefore be expected. A significantly larger proportion of entrepreneurs in the survivor group are found to have previous business experience compared to the discontinued group, based on the t-statistics in Table 1.

The household size of the entrepreneur might be interpreted as the potential ability of the family to assist in the running of the business, and could therefore be expected to better the chances of survival^{xi}. In addition, actual reported 'family assistance' is used as a dummy explanatory variable. Such assistance typically takes the form of marketing support and assistance in the day to day running of the kiosk. This variable can therefore be

expected to have a positive impact on survival. Approximately a third of the sample reported the use of family assistance in the business.

2. Motive to Enter into the Business

The kiosks in this study are franchisees that are expected to operate on a for-profit basis. Yet, the focus has been on the provision of services that have a certain social relevance or benefit, in the fields of education, health, governance, income-generation etc. In fact it is this latter aspect that distinguishes 'information kiosks' in a definitional sense from browsing centres or cyber-cafes. In practice, entrepreneurs entering into the business might attach varying weights to these disparate goals, with pure profit and pure social motives at the two extremes. Most kiosk operators in the sample chose to enter the business for a combination of profit and socially-motivated reasons (68%), whereas 14% declared pure profit motives and 15% had only social goals. Given the initial challenges in establishing and running the business it might be expected that those who entered the business purely with a social motive are more likely to remain in the business relative to those that entered the business either with a purely profit motive or for a combination of reasons^{xii}. Table 1 indicates that the share of those that declared purely social motives is in fact twice as high in the survivor category.

3. Satisfaction with the Franchising Arrangement

Although owners of franchised outlets are often referred to as entrepreneurs, as in the present paper, the latter term in the strict sense refers to owners of independent businesses. The distinction is less significant in the case of franchising arrangements that grant a considerable degree of autonomy to the franchisees. This tends to be the case when the franchisor attaches a high value to adapting the business to suit the tastes and conditions of local markets, as in the present study. Nevertheless, the satisfaction of the franchisee with various aspects of the franchising arrangement is likely to remain an important influence on success (Frazer and Winzar 2005).

A variable is introduced to capture whether or not the franchisees were satisfied with the specific configuration of the 'kiosk package' at the outset in order to explore the consequent impact on survival^{xiii}. A quarter of kiosk operators in the sample responded that they would have preferred an alternate arrangement. Dissatisfied franchisees might be expected to have a greater likelihood of exit. Table 1 indicates that the proportion of operators who expressed that they would have preferred an alternative arrangement is in fact higher (29%) in the category that did not survive versus the group that survived (20%).

B. Entrepreneurial Decisions

1. Additional Investment and Expenditure

In the business model of the present study, the franchisor assists the kiosk operator in acquiring the requisite funds to set up a kiosk by facilitating the process of securing a bank loan and acting as the guarantor. This is particularly important in a rural context where the entrepreneurs are unlikely to be eligible for independent loans. However, some franchisees in the study (10% in the sample) chose to invest additionally by borrowing directly from commercial banks or from money lenders, including relatives and shop creditors. One might expect that those who borrowed from multiple sources and invested over the standard amount recommended as per the franchising contract would face greater pressure to recover their investments than those who borrowed from the franchisor alone. Therefore such 'over-investment' could lead to a greater likelihood of exit. Alternatively, however, the volume of additional expenditure made by the entrepreneur can be viewed as a demonstration of higher levels of commitment to the business, and these entrepreneurs might be more likely to survive. Therefore the direction of impact of this variable a priori is not known.

In addition to the number of sources of borrowing, the actual volume of additional expenditure made by the entrepreneur is also included. As with the other borrowing variable, the direction of impact is uncertain, as a larger volume of investment might have an adverse impact of too much pressure to recover the money or a greater commitment to the business. In the study, additional expenditure takes a variety of forms, including the

purchase of furniture and electrical fittings, painting of the premises, initial marketing costs, and in a small number of cases (8 kiosks), the purchase of additional forms of ICT – specifically, more computers, photocopying machines and scanners.

2. Opening Hours of the Kiosk

This is a basic indicator of personal effort and can be expected to lead to higher chances of attracting a greater number of customers, and thereby survival. The strategy of staying open for long hours might be particularly effective in the case of younger kiosks, where there are no known or established visiting patterns by customers. The average number of hours of operation in the sample is over 12 hours on weekdays.

3. Location

Kiosks that are located within commercial complexes are compared with those that are located within the homes of the entrepreneurs, within government offices and those that are located in 'other locations', which are typically independent rented rooms in other village locations. The purpose is to assess the relative merit of being positioned as an enterprise in a commercial area vis-à-vis a home-based or government-affiliated organization. The majority of the kiosks are located in commercial sites (68%), 17% are based out of homes, 11% are located in 'other' locations and 5% are housed within government offices.

C. Local Contextual Variables

1. Source of Initial Information about the Business

Those who entered into the franchising agreement to start a kiosk business might have come upon the opportunity through a variety of local sources. Approximately half the sample reported hearing about it through posters and advertisements, 21% through existing kiosk operators, 18% through 'other sources' such as friends or family, 9% through local government officials and 6% directly from the franchisor. One might expect that those who chose to enter the business after hearing about it through a kiosk operator would be better informed about the business and might also benefit from subsequent mentorship or advice. These kiosks would therefore be expected to have a greater likelihood of survival relative to the others.

2. Competition and Market Knowledge

Kiosk operators in the baseline period were asked to report the distance to the nearest known other kiosk. It might be expected that the presence of another kiosk within a very close radius (defined as 'Below 2 kilometers' in the present study) indicates a high level of competition and reduces the prospects of survival. On the other hand, the presence of another kiosk at a greater distance (defined as 'Between 2 to 4 kilometers' and 'Above 4 kilometers' in the study) indicates that there is in fact a market for kiosk services in neighboring areas about which the entrepreneur is aware, without the associated high competition effect. This could therefore increase the likelihood of survival. In instances where the kiosk operator is unable to identify a known kiosk at any distance, it can be assumed that the entrepreneur lacks market knowledge, either on account of a lack of information on his or her part or because there is an actual absence of another kiosk at any reasonable distance. The lower level of market knowledge can be expected to lead to a reduced likelihood of survival. The majority (59%) in the sample report competition within a 2 kilometer radius, 14% at a distance of between 2 and 4 kilometers, and 28% at over a 4 kilometer distance. A smaller share (7%) was unable to identify competitors at any distance.

3. Village Population Size

The kiosks in the sample are located in population clusters that have been classified as 'Below 2500 people' (29%), 'Between 2500 to 5000 people' (28%) and 'Above 5000 people' (41%). Larger populations would tend to be associated with a larger potential market and therefore a greater likelihood of survival of the kiosk. A notably larger share of discontinued kiosks relative to survivors is found in the smallest population group.

4. Levels of Awareness and Use of the Kiosk in the Village

The level of awareness about the kiosk within the village at the time of the baseline survey, as reported by the kiosk operator, is also included in the study although the interpretation of this variable is not straightforward. If the estimation of the kiosk operator is in fact accurate, then one might expect that lower levels of awareness would indicate a significantly larger level of effort and cost required of the entrepreneur to market the kiosk and a lower chance of survival. Alternatively, this estimation of the level of awareness could be largely reflective of the kiosk operator's personal optimism. In the latter case, those who are more optimistic and report greater levels of awareness of the kiosk within the village are more likely to put in greater effort and survive. Therefore, this variable can be expected to have a positive impact on survival. The t-statistics indicate that there is a significant difference between the groups of survivors and non-survivors with respect to this variable, in the hypothesized direction.

The level of use of the kiosk is captured by the number of regular customers reported by the kiosk operators. The variable is employed as a control, given that differing initial conditions of demand might have dictated different initial investment choices by the entrepreneurs.

5. District Level Dummy Variables

District level dummy variables have been introduced in order to ensure that the estimates of the model reflect the within-district effects of each of the explanatory variables on the outcome variable of interest.

V. Analysis

The analysis in this paper consists of two parts.

In the first part, a probit estimation (with marginal effects) is used to assess the impact of the above independent variables on the binary dependent variable, 'survival'^{xiv}. Column 1 in Table 2 presents the results of the probit estimation for the entire sample, and Column 2 presents the results for the smaller sample of 100 firms that were less than a year old at the time of the baseline survey. The second part of the analysis looks at the influence of the same set of baseline variables on the duration of survival of firms, measured in terms of the age (in months) up to which the firms survived. A two-limit tobit or censored regression model is used, and the results are presented in Columns 3 and 4 of Table 2, corresponding to the total sample estimates and the young cohort sample estimates respectively.

The discussion of the results in both parts of the analysis refers to the total sample estimates, but the interpretations hold for the cohort of young firms, since the results are found to be largely consistent across both the sample groups.

(Insert Table 2 here)

V.I: Influences on Kiosk Survival (Probit Estimation Results)

This section presents a discussion of the results of the probit estimation in terms of the marginal effects of the explanatory variables of interest on the binary 'survival' outcome.

None of the basic demographic characteristics of the entrepreneur considered in the present study – age, education and gender – emerge as notably significant. However, younger entrepreneurs and those with higher levels of education appear more likely to survive. The gender variable suggests a higher likelihood of survival among women. This latter result might not be surprising when viewed against the socio-cultural environment in villages, where men are typically the main income earners in the family. Therefore a woman might feel less pressure to make immediate profits to meet the consumption needs of her household than a man. Equally, women who self-select into entrepreneurial ventures in a village context might have higher than average levels of motivation. This could be particularly true in the case of women who choose to enter an IT-related business, which tends to be male-dominated even in the urban context.

Assistance in the kiosk business from members of the family also appears to better the chances of survival. Those kiosk operators with family assistance in running the business have a 43% higher likelihood of survival than those who do not, holding all other variables constant at their mean values. As expected, the ownership of another business is also strongly related to survival in the new business. Specifically, those who own another business are found to be 53% more likely to survive compared to those that do not, computed at the mean values of the remaining variables.

The source of first acquiring information about the kiosk business appears to have a significant association with the subsequent likelihood of survival. Specifically, entrepreneurs who first heard about the business through a government official had a 63% greater likelihood of exit relative to the control group of those who heard about the business through another operator. A likely reason is that those who heard about the business from a government official might have expected a greater number of government-related services to be provided at the kiosk. While there has been excitement and expectation associated with the possibility of interfacing with government officials online at the kiosk, as well as the ability to access several important government documents, such as birth certificates, death certificates, nativity certificates, land records etc via the Internet, little has happened by way of implementation of these services thus far except in very few areas^{xv}. This could therefore have been a possible source of disappointment that increased the likelihood of exit. Another reason could be that these kiosk operators had an expectation of support from the government in running the business, which they did not later receive.

The motives of the entrepreneurs for entering the business are not significant, although they have the expected direction of impact on survival. Those with profit motives alone, or a combination of profit and social motives, have a lower chance of survival compared to those with purely social motives.

The initial level of satisfaction of the franchisees with the basic kiosk configuration also has the expected direction of impact on survival, although insignificant: Those who expressed that they would have preferred a different configuration of equipment to start the business are found to have a lower likelihood of survival compared to those who did not express such a preference.

All of the decisional variables in the model appear relevant in terms of their influence on firm survival: Investment decisions are important, with those who 'over invested' by borrowing from any other source in addition to the franchisor, having a higher likelihood of exit by 54% compared to those who borrowed from the franchisor alone, computed at the mean values of all the other variables. The number of hours that a kiosk remains open also has a very significant impact, with an infinitesimal change in the total number of hours that the kiosk is open resulting in an 8% increase in the likelihood of survival, similarly computed at the mean values of the remaining variables.

The location variables indicate that kiosks located in non-commercial sites within the village do not have a significantly different likelihood of survival compared to those located in commercial sites, except in the case of kiosks that are housed within government offices. The likelihood of survival in the latter case is approximately 50% lower than in commercial sites, holding all other variables constant at their mean values. Additional probing would be required to fully understand why government locations are less favorable to kiosk survival.

The level of awareness about the kiosk within the village, as perceived by the entrepreneur, also appears to be strongly related to the future likelihood of survival, with every infinitesimal increase in the perceived level of awareness on the part of the entrepreneur associated with a 75% increase in the likelihood of survival. The precise interpretation of this variable is difficult, as it could be regarded as an approximation for the actual levels of awareness within the village or merely the optimism of the entrepreneur.

Population size does not appear to be significant in this model in predicting the likelihood of survival, although larger populations correspond to an increased likelihood of survival. The competition variable is significant, with lower levels of competition associated with a significantly higher likelihood of survival. Specifically, those with a competitor at a distance of between 2-4 kilometers have a 47% greater chance of survival compared to those with a competitor at a distance of below 2 kilometers, holding all other variables constant at their mean values. Market knowledge also plays a very important role in this model: Operators who were unable to identify another

kiosk at any distance are 55% less likely to survive when compared to the group facing the most acute competition, with all other variables held constant at their mean values.

V.II: Influences on the Duration of Survival of Kiosks (Tobit Estimation Results)

This section explores the possible impact of the same explanatory variables on the duration of survival of firms, in terms of the age (in months) up to which the firms survived. The purpose is to identify the factors that could have led some firms to survive for longer periods than others. Such an analysis might be particularly important when viewed against the fairly high rate of attrition in the sample.

A two-limit tobit or censored regression model is used because the data pertaining to the age at exit is censored both to the left and right. With regard to the left-censoring, the minimum age at exit in the study is necessarily bounded at 12 months. This is because all firms are guaranteed Internet connectivity, by virtue of the terms of the contract, for the first six months of operation and the criterion for discontinuity used in this study implies a further six-month period of consistent non-renewal. Therefore, even for the youngest firms in the baseline period (aged zero months), which exited at the earliest possible instance, the age at exit cannot fall below twelve months. For the firms that survived, the age at exit assumes the value of the age of the firm at the end of the study period, in the absence of any subsequent information. Therefore the data is right-censored at a maximum possible value corresponding to the age of the oldest firm at the baseline period (23 months) plus the duration of the study (21 months), or 44 months. Column 3 in Table 2 presents the results of the tobit regression for the entire sample and Column 4 presents the same results for the smaller sample of young firms.

The results of the tobit model, in terms of the important predictors of the duration of survival of the firms, are largely similar to the results of the probit model, which addressed the binary survival outcome^{xvi}. In terms of entrepreneurial background, those with family assistance are likely to survive for nearly 3 months longer than those without such assistance, and the ownership of another business is associated with an increased firm life of nearly two months. Entrepreneurs who first heard about the kiosk business through a government official are likely to exit 8 months sooner than the control group of those who heard about it through another telecentre operator.

In terms of the decisional variables, location and hours of operation are both significantly associated with the duration of survival. Specifically, kiosks located in government offices are likely to have shorter life-spans by nearly 7 months compared to the control group of those located in commercial areas. Firms that maintained longer hours of operation are also found to survive longer, with every additional hour of operation associated with an increased firm life of 0.6 months. Finally, the local contextual variables pertaining to competition and market knowledge are both important determinants of the longevity of firms. A lower level of competition (or competition at a distance of 2-4 kilometers) increases the life of a firm by 2.6 months compared to firms that face competition at a closer distance. The absence of any market knowledge on the part of the entrepreneur reduces the life of the business by nearly five months compared to the control group comprising firms that face the greatest degree of competition.

VI. A Comparison of the Findings with Past Studies

This section will present the findings of this study against past empirical literature on small business and franchising.

Overall, the findings of this study with regard to the relationship between individual characteristics and firm survival resonate with much of the existing literature in the area of small business, franchising and information kiosks in particular: Existing research shows only a weak impact of formal education on small business outcomes in developing countries (Hall and Wahab 2007), consistent with the present study. Similarly, the influence of gender, age and household size do not emerge as significant in past studies on information kiosks, which have investigated the influence of these variables on total revenues (Kendall and Singh 2007). The finding with regard to the positive influence of entrepreneurial experience is also noted in several studies on small business, including in the area of franchising in particular (Jambulingam and Nevin 1999).

Although not significant, the present study finds that the attitudes of the franchisor, in terms of the motivation to enter the business, and the satisfaction levels at the start of the business, have the hypothesized direction of impact on survival. These aspects have been emphasized in the literature on franchisee performance (Frazer and Winzar 2005). However, this study is novel in that it points out to the importance of the source through which franchisees first acquire information regarding the business. Specifically, there is evidence to suggest that those who learnt about the business through government officials have a greater likelihood of exit, whereas those who learnt about it through fellow franchisees are more likely to survive.

Franchisors commonly assert that the level of independent effort by the franchisee is an important determinant of business success (Jambulingam and Nevin 1999). This study provides empirical support for this view. The finding with regard to the negative impact of over-investment by the entrepreneur at the outset is also interesting to consider, as there has been little consensus on the direction of influence of this variable in the literature (Bates 1990). Proponents argue that there is a positive influence of such investment due to economies of scale, which tends to increase the viability of the firm. The opposing theory suggests a heightened risk of failure associated with the need to generate earnings sufficient to cover the borrowings. Our findings favor the latter view.

Consistent with this study, Kendall and Singh (2007) note the insignificance of population size in determining the success of information kiosks. This finding has important implications in the spatial planning of future kiosk deployments, since population size does not appear to be the most relevant criterion to consider. For example, the CSC scheme aims to set up one centre for each cluster of six villages, with a view to pool the demand in a particular area. Instead, the present analysis makes the important point that local competition might in fact be a more important aspect to consider.

Finally, the importance of location has been emphasized heavily in the business literature (Hall and Wahab 2007; Kendall and Singh 2007) in determining success. The present study notes the relative disadvantage of choosing a government location to set up the kiosk business in this regard. The specific reasons for this, however, would require further probing.

VII. Summary and Policy Implications

This paper explores the possible determinants of the survival of rural 'information kiosks' in South India, based on a dataset of 150 kiosks observed over a period of nearly two-years. It considers the influence of entrepreneurial characteristics, decisions, and certain relevant aspects of the context in which the firms operate, such as local government intervention and the degree of competition. The key findings of the study are summarized below.

Among the entrepreneurial variables considered, the ownership of another business, and the use of family assistance within the business, is found to be associated with a greater likelihood of survival. In terms of the decisional variables, the location of the kiosk within the village appears to matter. Specifically, there is evidence to suggest that kiosks located in government offices tend to have shorter life-spans relative to those based in all other locations. Borrowing by the franchisee from outside sources at the outset, in addition to the standard investment amount facilitated by the franchisor, is associated with a lower likelihood of survival. The study also finds that the number of hours that the kiosk remains open on weekdays has a positive impact on survival. The influence of local contextual factors such as government intervention and competition are significant. Firms that had acquired information about the kiosk business through local government sources, albeit a small number, were significantly more likely to subsequently exit the business. Competition at an "optimal" distance (defined in the study as between 2 and 4 kilometers) is found to increase the likelihood of survival relative to competition at a very close distance (below 2 kilometers). The extreme case of the absence of any known competition, although less common, is found to impair chances of success.

The findings presented are based on a fairly unique dataset that provides longitudinal evidence in an area where little exists thus far. With due caution on generalizability, the insights on the influences on franchisee survival are worthy of debate and practical consideration. The nationwide Common Service Centres (CSC)

scheme of the Government of India, which has been conceptualized explicitly on the basis of the kiosk model, highlights the policy relevance of the research.

Among the important policy recommendations that follow from the study is the need for closer monitoring of franchisees to ensure a high level of effort, which appears to have an important bearing on survival. The findings also suggest that franchisees might benefit from guidance on key business decisions such as the location of the kiosk and the levels of additional investment made, if any. The need for monitoring and guidance further alludes to the crucial role played by the Local Service Partner (LSP) in a decentralized rural franchise model. Finally, the insignificance of population size, and the importance of local competition in determining survival, points to the necessity to consider the latter aspect in the spatial planning of future kiosk deployments.

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ⁱ The definitions of small and micro enterprises vary by sector (such as manufacturing and services), and across countries. The present study will use the term micro enterprise within the context of the services sector in India. Micro enterprises therefore refer to firms with an investment below INR 1 million. For details, see: GOI (2006). The Micro, Small and Medium Enterprises (MSMED) Act, Ministry of Small Scale Industries and the Ministry of Agro and Rural Industries.

ⁱⁱ This is reflected in the name and mission of the newly created Ministry of Micro, Small and Medium Enterprises in May 2007, merging the former Ministry of Small and Medium Industries with the Ministry of Rural and Agro-Business Industries.

ⁱⁱⁱ For details on the CSCs scheme, see: GOI (2006). Guidelines for the Implementation of the Common Services Centres (CSCs) in States. D. o. IT.

^{iv} The set of twelve studies were conducted jointly by Michigan State University and collaborators from the specific countries, and aims to provide insights into the small scale industrial sector in these countries.

^v The cost includes: (i) a branded PC with a 15 inch color monitor (ii) computer peripherals, which include speakers, a microphone, CD-ROM, sound card, a digital camera and an inkjet printer (iii) An Uninterrupted Power System (UPS) with 4 hours of back-up battery power (iv) a device to be mounted on the wall of the kiosk, which receives wireless signals for Internet connectivity (v) the required cabling and (vi) software both in English and the local language. The total cost also includes Internet connectivity for the first six months, a marketing tool kit and introductory training. In some areas telephony is also offered as a service by the franchisor, in which case the cost of equipment increases by INR 5,000 (or USD 110) to include the telephony equipment and a Standard Trunk Dialing-Public Call Office (STD-PCO) meter.

^{vi} The training provided consists of imparting basic computer skills, since no prior knowledge is assumed, management skills to run the kiosk, and service-specific skills so that the kiosk owner can effectively market the services and educate new users.

^{vii} Popular renewal packages include unlimited monthly connectivity, 50 hour and 100 hour packages.

^{viii} The precise monitoring period was twenty one months.

^{ix} The definition of discontinuity is based on information pertaining to the renewal of Internet connectivity, since the kiosk business model is principally based on the provision of IT-services to the local population. However, a limitation of this study is that it does not consider the possibility of voluntary exit (due to better outside opportunities) and exit for non-business or personal reasons.

^x More specifically, the variable takes the value 1 for those operators who have completed only high school level education (up to the 10th or 12th grade levels) and zero for those who have acquired some level of college education. The latter category includes those who have attended college at the undergraduate level (both partially and completely) and those who have acquired post-graduate diplomas or degrees.

^{xi} It is to be noted, however, that the precise family composition (the number of adult and child members) is not known. Therefore this is not a strong proxy for the ability of the family to assist in the business.

^{xii} There are several challenges associated with the business, both from a demand and supply point of view, particularly in the early stages. From a demand perspective, purchasing power in these areas tends to be low and there is often only a limited pre-existing demand for Internet-based services or none at all. Barriers of illiteracy and limited local language content could further inhibit the demand for information services. From a supply perspective, the franchisee must acquire the technical, business and service-specific knowledge to run the business in a relatively short span of time and initial difficulties can therefore be expected.

^{xiii} The variable is a bivariate (yes or no) response to the base-line survey question: "Would you prefer not to buy certain equipment rather than purchasing the all the equipment together (as offered in the kiosk package)?"

^{xiv} The 'discontinued kiosks' have been coded 0 while those that survived have been coded 1.

^{xv} This is reflected in the response to the survey question: 'What type of service would you like to introduce at your kiosk that is currently not offered?' The most popular response was government services.

^{xvi} An Ordinary Least Squares (OLS) regression used instead of a tobit model also yields the same results, since there is little clustering found in the values corresponding to the outcome variable of interest (age at exit), despite the censoring of the data on both ends.

Table 1: Summary Statistics for the Total Sample (150 Firms)

Variables	Sample Group	Observations	Mean	SD	t-statistic	p-value
Gender_Male (D)	Did Not Survive	74	0.68	0.47	0.22	0.81
	Survived	76	0.66	0.48		
	Combined	150	0.67	0.47		
Age	Did Not Survive	72	29.56	6.58	0.58	0.56
	Survived	76	28.96	6.00		
	Combined	148	29.25	6.27		
Education_School (D)	Did Not Survive	73	0.36	0.48	-0.32	0.75
	Survived	76	0.38	0.49		
	Combined	149	0.37	0.48		
Size of Household	Did Not Survive	74	4.59	1.64	-0.55	0.59
	Survived	75	4.76	2.04		
	Combined	149	4.68	1.85		
Family Assistance in Business (D)	Did Not Survive	74	0.27	0.45	-0.95	0.34
	Survived	76	0.34	0.48		
	Combined	150	0.31	0.46		
Ownership of Another Business (D)	Did Not Survive	74	0.31	0.47	-1.89	0.06
	Survived	76	0.46	0.50		
	Combined	150	0.39	0.49		
Awareness of Kiosk in Village (%)	Did Not Survive	73	0.42	0.23	-2.02	0.04
	Survived	76	0.51	0.27		
	Combined	149	0.47	0.26		
Dissatisfaction with Franchising Arrangement (D)	Did Not Survive	72	0.29	0.46	1.24	0.22
	Survived	74	0.20	0.40		
	Combined	146	0.25	0.43		
First Heard About Business through Advertisements (D)	Did Not Survive	72	0.51	0.50	0.49	0.62
	Survived	74	0.47	0.50		
	Combined	146	0.49	0.50		
First Heard About Business through Government Official (D)	Did Not Survive	72	0.13	0.33	1.5	0.13
	Survived	74	0.05	0.23		
	Combined	146	0.09	0.29		
First Heard About Business through Other Kiosk Operator (D)	Did Not Survive	72	0.19	0.40	-0.32	0.75
	Survived	74	0.22	0.41		
	Combined	146	0.21	0.41		
First Heard About Business through Franchisor (D)	Did Not Survive	72	0.06	0.23	-0.3	0.76
	Survived	74	0.07	0.25		
	Combined	146	0.06	0.24		
First Heard About Business through Any Other Source (D)	Did Not Survive	72	0.15	0.36	-0.98	0.33
	Survived	74	0.22	0.41		
	Combined	146	0.18	0.39		
Motive _ Profit Only (D)	Did Not Survive	73	0.15	0.36	0.54	0.59
	Survived	75	0.12	0.33		
	Combined	148	0.14	0.34		
Motive_ Social Objective Only (D)	Did Not Survive	73	0.10	0.30	-1.79	0.08
	Survived	75	0.20	0.40		
	Combined	148	0.15	0.36		

Table 1: Summary Statistics for the Total Sample (150 Firms) (continued)

Variables	Sample Group	Observations	Mean	SD	t-statistic	p-value
Motive_Both Profit and Social Reasons (D)	Did Not Survive	73	0.74	0.44	1.48	0.14
	Survived	75	0.63	0.49		
	Combined	148	0.68	0.47		
Motive_Any Other (D)	Did Not Survive	73	0.03	0.16	-0.8	0.43
	Survived	75	0.05	0.23		
	Combined	148	0.04	0.20		
Source of Borrowing for Investment_Franchisor Only (D)	Did Not Survive	73	0.89	0.31	0.73	0.46
	Survived	73	0.85	0.36		
	Combined	146	0.87	0.34		
Source of Borrowing for Investment_Commercial Bank Only (D)	Did Not Survive	73	0.04	0.20	-1.03	0.31
	Survived	73	0.08	0.28		
	Combined	146	0.06	0.24		
Source of Borrowing for Investment_Other (D)	Did Not Survive	73	0.07	0.25	0	1
	Survived	73	0.07	0.25		
	Combined	146	0.07	0.25		
Source of Borrowing for Investment_Franchisor and Another Source (D)	Did Not Survive	73	0.12	0.33	0.53	0.6
	Survived	73	0.10	0.30		
	Combined	146	0.11	0.31		
Volume of Additional Expenditure (INR)	Did Not Survive	71	22593.17	30850.40	-0.61	0.54
	Survived	74	25664.32	29876.56		
	Combined	145	24160.52	30290.78		
Other Services Introduced (D)	Did Not Survive	70	0.24	0.43	-0.42	0.67
	Survived	73	0.27	0.45		
	Combined	143	0.26	0.44		
Location_Commercial Complex (D)	Did Not Survive	72	0.65	0.48	-0.58	0.57
	Survived	76	0.70	0.46		
	Combined	148	0.68	0.47		
Location_Home of Entrepreneur (D)	Did Not Survive	72	0.17	0.38	-0.07	0.94
	Survived	76	0.17	0.38		
	Combined	148	0.17	0.38		
Location_Within A Government Office (D)	Did Not Survive	72	0.08	0.28	2.02	0.04
	Survived	76	0.01	0.11		
	Combined	148	0.05	0.21		
Location_Other (D)	Did Not Survive	72	0.10	0.30	-0.41	0.68
	Survived	76	0.12	0.33		
	Combined	148	0.11	0.31		
Usage	Did Not Survive	72	12.07	8.33	0.76	0.45
	Survived	75	10.95	9.53		
	Combined	147	11.50	8.95		
Population_Less than 2500 (D)	Did Not Survive	74	0.35	0.48	1.54	0.13
	Survived	76	0.24	0.43		
	Combined	150	0.29	0.46		
Population_2500 to 5000 (D)	Did Not Survive	74	0.24	0.43	-0.99	0.33
	Survived	76	0.32	0.47		
	Combined	150	0.28	0.45		

Table 1: Summary Statistics for the Total Sample (150 Firms) (continued)

Variables	Sample Group	Observations	Mean	SD	t-statistic	p-value
Population_Above 5000 (D)	Did Not Survive	74	0.38	0.49	-0.85	0.39
	Survived	76	0.45	0.50		
	Combined	150	0.41	0.49		
Daily Hours Open (Weekday Average)	Did Not Survive	72	12.03	2.35	-1.06	0.29
	Survived	75	12.45	2.50		
	Combined	147	12.24	2.43		
Existence of Another Kiosk Within 2Km Radius (D)	Did Not Survive	74	0.58	0.50	-0.14	0.89
	Survived	76	0.59	0.49		
	Combined	150	0.59	0.49		
Existence of Another Kiosk Within 2 to 4 Km Radius (D)	Did Not Survive	74	0.12	0.33	-0.64	0.53
	Survived	76	0.16	0.37		
	Combined	150	0.14	0.35		
Existence of Another Kiosk Above a 4Km Radius (D)	Did Not Survive	74	0.30	0.46	0.46	0.64
	Survived	76	0.26	0.44		
	Combined	150	0.28	0.45		
Existence of Another Kiosk_Unknown (D)	Did Not Survive	74	0.09	0.29	1.35	0.18
	Survived	76	0.04	0.20		
	Combined	150	0.07	0.25		
Age of Kiosk in Months at Baseline Survey Date (November 2004)	Did Not Survive	74	8.27	4.27	-1.8	0.07
	Survived	76	9.61	4.80		
	Combined	150	8.95	4.58		

Notes:

1. (D) denotes a dummy variable
2. The t-statistic tests for the difference in means between the two groups 'did not survive' and 'survived' in the total sample of 150 firms

Table 2: Results of Probit and Tobit Estimations

Independent Variables	Probit (Total Sample)	Probit (Cohort)	Tobit (Total Sample)	Tobit (Cohort)
Baseline Age of Kiosk	-0.016	-0.03	1.075***	0.889***
	-0.87	-0.89	8.99	4.16
Age	-0.019	-0.028	-0.038	-0.099
	-1.57	-1.57	-0.47	-1.02
Gender_Male (D)	-0.211	-0.318	-1.957	-2.219
	-1.29	-1.63	-1.61	-1.6
Education_School (D)	-0.033	-0.04	-1.328	-0.474
	-0.19	-0.19	-1.13	-0.33
Size of Household	-0.022	-0.055	0.1	-0.071
	-0.54	-1.03	0.34	-0.21
Family Assistance in Business (D)	0.426**	0.522**	2.887**	3.941***
	2.43	2.51	2.51	3.01
Own Another Business (D)	0.536***	0.628***	1.966*	2.044
	2.93	2.73	1.68	1.51
First Heard About Business through Advertisements (D)	0.089	-0.035	0.919	0.24
	0.49	-0.16	0.68	0.16
First Heard About Business through Government Official (D)	-0.634***	-0.651***	-7.832***	-10.830***
	-3.24	-2.95	-3.06	-3.64
First Heard About Business through Franchisor (D)	-0.205	-0.41	-2.17	-3.611
	-0.66	-1.3	-0.93	-1.43
First Heard About Business through Any Other Source (D)	-0.127	-0.256	-0.27	-1.298
	-0.52	-0.87	-0.16	-0.67
Dissatisfaction with Franchising Arrangement (D)	-0.109	-0.172	-0.751	-1.011
	-0.64	-0.87	-0.59	-0.72
Motive _ Profit Only (D)	-0.126	-0.169	2.436	2.81
	-0.54	-0.54	1.36	1.36
Motive _Both Profit and Social (D)	-0.215	-0.259	-0.19	0.433
	-1.11	-0.98	-0.13	0.24
Motive_ Other (D)	0.345	0.411	3.634	6.042**
	1	1.07	1.34	2.11
Source of Borrowing _Commercial Bank Only (D)	0.003	-0.058	-1.341	-3.353
	0.01	-0.14	-0.62	-1.23
Source of Borrowing_Other Only (D)	0.206	0.205	3.678*	3.377
	0.72	0.55	1.72	1.33
Source of Borrowing_Franchisor and Another Source Only (D)	-0.542**	-0.571**	-1.602	-5.592**
	-2.11	-2.15	-0.77	-2.17
Additional Expenditure (INR)	0	0	0	0
	-0.07	0.42	-0.53	-0.07

Table 2: Results of Probit and Tobit Estimations (continued)

Independent Variables	Probit (Total Sample)	Probit (Cohort)	Tobit (Total Sample)	Tobit (Cohort)
Awareness of Kiosk (%)	0.748** 2.2	0.774* 1.95	0.895 0.42	1.374 0.56
Location_Home of Entrepreneur (D)	0.086 0.4	0.174 0.64	0.822 0.52	3.137 1.65
Location_ Government Office (D)	-0.501 -1.58	-0.447 -1.23	-6.698** 2.63	-4.817 -1.65
Location_Other (D)	0.338 1.44	0.371 1.25	-0.04 -0.02	-0.093 -0.04
Population_2500 to 5000 (D)	0.128 0.57	0.007 0.03	2.232 1.62	1.765 1.14
Population_Above 5000 (D)	0.228 1.18	0.179 0.73	2.211* 1.67	1.913 1.17
Competition_ 2-4 Km Radius (D)	0.474** 2.45	0.562** 2.46	2.644 1.6	4.469** 2.09
Competition_ Above 4Km Radius (D)	0.214 1	0.349 1.23	1.909 1.34	2.396 1.34
Existence of Another Kiosk_Unknown (D)	-0.547** -2.13	-0.564* -1.92	-4.861* -1.91	-7.693** -2.37
Hours Open (Average Weekdays)	0.075** 2.09	0.157** 2.42	0.604** 2.63	0.844*** 3.25
Level of Use (Regular Customers)	-0.01 -1.13	-0.011 -0.95	-0.071 -1.14	0.001 0.01
Other Services Introduced (D)	0.003 0.02	-0.044 -0.2	1.314 1.08	1.908 1.34
District_2 (D)	-0.640*** -2.93	-0.631** -2.57	-8.470*** -3.76	-9.428*** -3.74
District_3 (D)	-0.38 -0.95	-0.489 -1.15	-7.253** -2.31	-5.225 -1.48
District_4 (D)	0.056 0.13	-0.039 -0.08	-1.718 -0.7	-0.701 -0.23
District_5 (D)	-0.647*** -2.75	-0.697*** -2.65	-7.524*** -3.33	-6.924*** -2.75
District_6 (D)	-0.352 -1.13	-0.515 -1.59	-1.982 -0.87	-3.726 -1.39
District_7 (D)	-0.154 -0.55	-0.388 -1.14	-3.607* -1.73	-3.529 -1.58
Constant			11.347** 2.39	10.966* 1.97
Sample Size (Number of Firms)	122	100	122	100

Notes:

1. (D) denotes a dummy variable
2. Coefficients are presented in the first row (adjacent to the variables), with levels of significance indicated as * for a 90% level, ** for a 95% level and *** for a 99% level.
3. 'z' statistics are presented in the row below the coefficients for the probit (marginal effects) estimations.
4. 't' statistics are presented in the row below the coefficients for the tobit estimations.

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5. *The 'cohort' is a sub-sample of the total sample, corresponding to firms that were aged 12 months and below in the baseline period.*
 6. *Sample sizes are reduced in the total sample estimation from 150 to 122 and in the cohort estimation from 123 to 100, due to missing values corresponding to some of the variables.*