



Self-funded startups: Determining the impact of personal investment on business survival

¹Ashish Kumar Tiwari

² A.K. Das Mohapatra

¹ Research scholar, Department of Business Administration, Sambalpur University
(corresponding author)

² Former Vice-Chancellor, Odisha State Open University and
Former Professor, Department of Business Administration, Sambalpur university.

Abstract

Out of the multiple scope of financing avenues available for startups. Own funds is the easiest medium. In the initial stage, personal capital including techniques of bootstrapping is found to be effective method of operations. In the later stages venture capital, angel investors and corporate sector join for the purpose of expansion. The paper explores the role of personal capital in the survival of startups. Own funded startups individually do not contribute to the startup's survival. Own funds along with bigger size, incubation, service sector and use of technology positively impacts survival.

Keywords: Startup, Own funds, Sector, fsQCA, Survival.

1. Introduction

Startups require funds in each and every stage but after reaching a certain level of customer traction it becomes somehow easy for firms to raise funds from investors and Venture Capitalists. The question arises what financing sources it takes to reach that level. In the initial year's founders lack sufficient assets to use bank financial machinery. Therefore, it has been proven record that idea generators have to depend on their own saved money in the earlier phase of any startups. own funds commonly referred to as personal commitments stakeholders contribute to initiate or sustain the business. This is often referred to as Bootstrapping. In the initial stage funds are required for registration, licensing, development of prototype, cost of rent, promotional campaigns, laying down foundation for production.

There are a lot of advantages of using own funds for financing like full control over business activities, autonomy in decision making and stability in management. At the same time, it suffers from a number of drawbacks; it can't be used by startups taking time to generate

revenue. Also, the funds requirements in the later part is so high that it is not possible to depend solely on own funds. The present study discusses the use of own funds in the light of performance of startups. The study tries to bridge the gap in literature by determining the factors impacting the survival of startups. Paper analyses how and as to what extent own funded startups survive and what determines their success in long term.

2. Literature review

Avery et.al. (1998) in the study ‘The Role of Personal Wealth in Small Business Finance’ analyzed the relationship between personal obligations and the allocation of small business credit. The results showed that Firm size had significant relationship with collateral to raise finance. Loans with personal commitments comprised a majority of small business finance but with less value. There were no correlations between the use of personal commitments and owner features.

Lahm and Little (2005) in their research ‘Bootstrapping business startups a review of current business practices’ discussed bootstrapping as a source of finance. Raising capital from banks, and venture capital can be difficult in the initial years, but bootstrapping can be employed to overcome the problem of scarcity of resources. There is extensive use of personal capital and sharing of resources for fulfilling initial stage working capital requirements.

Frid et al. (2016) conducted a study on ‘Low wealth entrepreneurs and access to external financing’ to explore the relationship between low wealth entrepreneurs and external funding. The findings reveal the need for targeted support and policy interventions to assist undercapitalized entrepreneurs in overcoming liquidity constraints and enhancing their chances of business success.

Bhattacharya and Londhe (2014) have conducted a research on ‘Micro entrepreneurship: source of finance and related constraints’ to examine the role of micro entrepreneurship in Indian economy and the challenges they face. The findings suggest that many micro entrepreneurs prefer to rely on personal capital rather than pursue loans, often due to perceived complexities and costs. This shows the importance of own funds in the initial years of entrepreneurship.

Fluck et al.(1998) conducted a study on ‘Where does the money come from? The financing of small entrepreneurial enterprises to examine the way startups are financed and evaluate the role of financing sources on performance. This paper examines the evolution of the mix of financial

capital from insider and outsiders as firms age. The proportion of funds from insiders rises during the early stages of the firms' life cycles, while the proportion from outsider's declines, these patterns eventually reverse themselves

3. Objective of the study

The main objective of study is to determine the impact of own fund in the success of startups. long term success is measured by way of survival in the form of Initial public offering or acquisition or being a unicorn. Other factors i.e., size, sector, technology, and incubation has been tested to determine the combine effect on survival of startups.

4. Hypothesis of the study

The hypothesis tested in the study is:

Hypothesis *H₀₁*: Survival of startups is independent of Own funds as a source of financing.

5. Determinants of survival

Prior studies have revealed that goal achievement, effective management, sales, profit, jobs created, market share, acquisition at higher value, listing, meeting consumer demands, high quality products and higher financial performance are the indicators (or factors) of successful startups. In the study survival of startups through IPO/Acquisition/ unicorn is used as measure

6. Research methodology

6.1 : Data collection: The data has been collected from Tracxn of 50 randomly selected startups. 25 of them have been backed by own funds and rest are backed from other modes of financing.

6.2: Analytical tool: fsQCA (fuzzy set Qualitative Comparative Analysis)

Configurational analysis is widely used in underlining the concept of equifinality. It is a phenomenon where final outcome can be achieved from different initial conditions from a variety of paths. Qualitative Comparative Analysis (QCA) undertakes intensive studies of a small number of case studies to reach final result. It compares cases with presence or absence of two groups. The two groups are presence and absence of a particular source of financing of firms who have completed the stages of startup in maturity stage.

The variables used in fsQCA are size, sector, technology, and support of Incubators/Accelerators to determine their effects on survival of startups. Use of these variables are based on prior work done by different researchers. For example, 'size' which represents the

number of employees as the fuzzy variable used in 'fsQCA' is based on the work of Mas-Verdu et al. (2015). Similarly, use of other variables, namely, sector, technology, and support of Incubators/Accelerators are based on the work of Coleman et al. (2013), Nerkar and Shane (2003), and Cohen and Hochberg (2014), respectively.

In the present study, the data has been analysed by using MS Excel 2016 and fsQCA 3.0 application.

6.3: Steps followed for fsQCA:

The following steps have been followed for fsQCA:

Step -1: Construction of truth table.

Step -2: Reducing the number of rows having minimum consistency of less than 0.75. Those cases which don't reach the threshold are removed.

Step-3: Construction of algorithm that simplifies combinations and minimizes solutions. In this step three kinds of solutions are obtained. They are parsimonious solution, intermediate solution and complex solution. Parsimonious solutions involve all simplifying assumptions, whether easy or difficult counterfactuals; intermediate solutions involve simplifying assumptions including easy counterfactuals; and complex solutions include neither easy or difficult counterfactuals.

Configurational comparative method contributes both quantitatively and qualitatively. QCA measures complex casualty between conditions and nonlinear relations.

The present study has attempted to establish logical connection between different combinations of factors such as size, sector, source of financing (own funds), support of incubators/accelerators.

6.4: Descriptions of variables and coding

Five indicators factors or variables have been used in this study to measure the success of startups in the form of survival. They are: size, level of technology used, industry/sector, source of financing, and incubation. A brief description about these variables have been given in Table 1. These variables have also been assigned quantitative value of '0'(zero) or '1'(one) as indicated in Table 1.

Table 1: Descriptions and Codifications of variables

Variable	Description	Conditions	Codes
Outcome: Survival	Dichotomous variable	Survival	1
		Not survived	0
Size of the firm represented by number of employees	Continuous variable based on number of employees	Fuzzy variable	0 to 1
Technology based firm (TBF)	Variable distinguishing between tech based and non tech based firm	Tech based	1
		Non-tech based	0
Industry sector divided into manufacturing or services	Dichotomous variable distinguishing between manufacturing and service sector firms	Product	0
		Service	1
Financing representing either funded or not	Dichotomous variable whether they have been funded or not	Yes	1
		No	0
Incubation if the firm has received support from incubators and/or accelerators or not	Dichotomous variable whether supported by incubators/accelerators	Yes	1
		No	0

Prior research studies have proved these variables have positive effect on the firm's survival. For example, large firms have better chances of survival compared to smaller firms (Agrawal and Audretsch, 2001). Firms bigger in size are more likely to grow (Fritsch et al., 2006). Industry/ sector also impacts the outcome of the firms (Coleman et al. 2013). Startups using higher level of technology have chances to survive better than non-technology based firms due to their ability of scalability and attractiveness (Wilbon, 2002). Incubation is a useful tool for improvement of firm performance through incubators (Schwartz, 2013). Finance is a central concern for survival of startups in the long run and absence of which may lead to failure (Casssar, 2004).

Measurement of size of firm is a fuzzy variable. Zero (0) is assigned to micro firms and small firms are assigned values above zero and close to 1. The number of employees has been used as a proxy for size, as many startups lack sufficient assets. Number of employees has been grouped and ranked starting from 1- 5000 employees (Verdu, et al.2012). Technology based

firm (TBF) refers to firms who use technology for operation extensively, and are represented as a dichotomous variable. Industry sector is also dichotomous where '1' is assigned to Service and '0' is assigned to Product. A particular major source of financing is represented as dichotomous variable where '1' is assigned to presence of the source and '0' is assigned to absence of the source. For the purpose of analysis of results of presence or absence of own source of financing, startups have been divided into two categories Own funded and other source financed startups.

7. Analysis

A total of 50 startups by own funds were randomly selected. To remove biasness 25 own funded and 25 by other major sources of financing were selected randomly. Using the variables namely, size, sector, support of incubators, and presence of own funds that test for determining necessary conditions has been run using fsQCA and the results has been shown in Table 2:

Table 2: Analysis of necessary conditions for survival of startups backed by own funds

	Consistency	Coverage
Size	0.6923	0.3461
~size	0.3076	0.1904
Sector	0.6153	0.2424
~sector	0.3846	0.3571
TBF	0.6153	0.2424
~TBF	0.3846	0.3571
Incubators/accelerators	0.2307	0.3750
~incubators/accelerators	0.7692	0.2564
Own funds	0.4615	0.2727
~own funds	0.5384	0.2800

Note: Conditions tested: exit, Outcome variable: exit

It is apparent from Table 2 that none of the factors has a coverage value of 0.9 or more. This implies that no individual variable has a determining effect on the survival of the firms under the study. This further means that a combination of factors drives success of startup in India. Therefore, to determine which combination of factors has contributed to the success of startups in India that analysis of causal conditions has been done by using the equation:

Survival =f (size, sector, TBF, incubators/accelerators, own funds)' and the result has been displayed in Table 3, with frequency cutoff: 1, and consistency cutoff: 0.875.

Table 3: Analysis of causal conditions of factors impacting survival

Combinations	Raw coverage	Unique coverage	consistency
Size*sector*TBF*In/acc~ownfunds	0.1346	0.1346	0.875

Note: Solution coverage: 0.134615, solution consistency: 0.875

Explanation :Size = bigger size firms, size = smaller size firms; Sector= product sector, sector= manufacturing sector firms;TBF= Technology backed firms; In/acc =presence of support of incubators/accelerators, in/acc=absence of support of incubators/accelerators; Own funds = presence of major equity by own funds and own funds =absence of major equity stake by own funds;

As per Ragin (2008) and Woodside (2012), the solution consistency value should be higher than 0.75 and the coverage value should be more than 0.25. It is observed from Table 3 that bigger size of firms, in the manufacturing sector, with the use of technology, incubation, and lower stake of own funds, have higher consistency value i.e., 0.875 for survival of the firm but has a lower coverage value, i.e., 0.1346 (low coverage value) which is less than the threshold limit of 0.25. It may therefore be concluded that, own funds with size, sector, TBF and incubation are not sufficient to determine the survival of startups in India. In other words, survival of startups in India is independent of own funds as a source of financing. Hence, the hypothesis H_{01} : Survival of startups is independent of Own funds as a source of financing is accepted.

8. Conclusion

The study aimed at determining the survival feature of own funded startups. 50 startups included in the study revealed that own funds as individual determinant doesn't impact survival. Even if the results are positive but they are not significant. Also, size, incubation, sector and level of technology used doesn't impact survival of startups significantly. Combine effect of all these variables are positive for startups survival.

References

- Cassar, G. (2004). The financing of business start-ups. *Journal of business venturing*, 19(2), 261-283.
- Coleman, S., Cotei, C., & Farhat, J. (2013). A resource-based view of new firm survival: New perspectives on the role of industry and exit route. *Journal of Developmental Entrepreneurship*, 18(01), 1350002.
- Colombo, M. G., & Grilli, L. (2005). Founders' human capital and the growth of new technology-based firms: A competence-based view. *Research policy*, 34(6), 795-816.

- Guzmán, J. B., & Lussier, R. N. (2015). Success factors for small businesses in Guanajuato, Mexico. *International Journal of Business and Social Science*, 6(11), 1-7.
- Hormiga, E., Batista-Canino, R. M., & Sánchez-Medina, A. (2011). The role of intellectual capital in the success of new ventures. *International entrepreneurship and management journal*, 7, 71-92.
- Hyder, S., & Lussier, R. N. (2016). Why businesses succeed or fail: a study on small businesses in Pakistan. *Journal of Entrepreneurship in emerging economies*, 8(1), 82-100.
- Kim, B., Kim, H., & Jeon, Y. (2018). Critical success factors of a design startup business. *Sustainability*, 10(9), 2981.
- Maine, E. M., Shapiro, D. M., & Vining, A. R. (2010). The role of clustering in the growth of new technology-based firms. *Small Business Economics*, 34, 127-146.
- Oakey, R. P. (2003). Technical entrepreneurship in high technology small firms: some observations on the implications for management. *Technovation*, 23(8), 679-688.
- Pirollo, L., & Presutti, M. (2010). The impact of social capital on the start-ups' performance growth. *Journal of Small Business Management*, 48(2), 197-227.
- Ragin, C. C. (2009). *Redesigning social inquiry: Fuzzy sets and beyond*. University of Chicago Press.
- Sulayman, M., Mendes, E., Urquhart, C., Riaz, M., & Tempero, E. (2014). Towards a theoretical framework of SPI success factors for small and medium web companies. *Information and Software Technology*, 56(7), 807-820.
- Schneider, M. R., Schulze-Bentrop, C., & Paunescu, M. (2010). Mapping the institutional capital of high-tech firms: A fuzzy-set analysis of capitalist variety and export performance. *Journal of International Business Studies*, 41, 246-266.
- Schwartz, M. (2013). A control group study of incubators' impact to promote firm survival. *The Journal of Technology Transfer*, 38, 302-331.
- Sevilla-Bernardo, J., Sanchez-Robles, B., & Herrador-Alcaide, T. C. (2022). Success factors of startups in research literature within the entrepreneurial ecosystem. *administrative sciences*, 12(3), 102.

- Strehle, F., Katzy, B. R., & Davila, T. (2010). Learning capabilities and the growth of technology-based new ventures. *International Journal of Technology Management*, 52(1/2), 26-45.
- Santisteban, J., Mauricio, D., & Cachay, O. (2021). Critical success factors for technology-based startups. *International Journal of Entrepreneurship and Small Business*, 42(4), 397-421.
- Lee, Y. J. (2010). Technology strategy by growth stage of technology-based venture companies. *International review of business research papers*, 6(6), 216-234.
- Van Gelderen, M., Thurik, R., & Bosma, N. (2006). Success and risk factors in the pre-startup phase. *Small Business Economics*, 26, 319-335.
- Wilbon, A. D. (2002). Predicting survival of high-technology initial public offering firms. *The Journal of High Technology Management Research*, 13(1), 127-141.
- Yoo, C., Yang, D., Kim, H., & Heo, E. (2012). Key value drivers of startup companies in the new media industry - The case of online games in Korea. *Journal of Media Economics*, 25(4), 244-260.