

# SURVEY OF ON STARTUPS PRDICTING MODELS

Ramakrishna Allu

Research Scholar CSED, GITAM Institute of Technology

Venkata Nageswara Rao Padmanabhuni

Professor, CSED, GITAM Institute of Technology

**ABSTRACT:** *Startups are increasing very rapidly because of the government policies that are laid to showcase the innovative ideas. Till date many startups are came into existence at the same time some startups are ceased by failure. Many startups are borning every day but some of them only surviving for a long period of time. There may be many reasons to be listed out to success or failure of startups. In this survey paper we are introducing some techniques and methods that are contributed by various researchers in assessing the success or failure of a startup.*

**KEYWORDS:** *Startup, KickUpper, Log-Logistic Model, Pre-Entry Knowledge, Thriving*

## I. INTRODUCTION

Startups are sprouting day by day because of different state governments initiation and support. Telangana government started T-HUB to facilitate the development of startups. Other governments are also encouraging the establishment of startups.

India stood in the third position by the number of startups so far started. NASCOM predictions projected that in India startups reach to 10500 by the year 2020 which will produce employment of 210000. More than 45000 startups are established in USA till date. UK became the second highest startup county with over 6000 startups. India is in the third position just behind US and UK, In year 2017 more than 1000 startups are established. According to NASCOM total number of startups is increased to 5200.

Startup Definition As defined by Department of Industrial Policy & Promotion (DIPP)

Startup means an entity, incorporated or registered in India:

- Up to a period of seven years from the date of incorporation/registration or upto ten years in case of Startups in Biotechnology sector
- As a private limited company or registered as a partnership firm or a limited liability partnership
- With an annual turnover not exceeding Rs. 25 crore for any of the financial years since incorporation/registration
- Working towards innovation, development or improvement of products or processes or services, or if it is a scalable business model with a high potential of employment generation or wealth creation

Provided that an entity formed by splitting up or reconstruction of an existing business shall not be considered a 'Startup'.

An entity shall cease to be a Startup:

- On completion of seven years from the date of its incorporation/registration, ten years in case of Startups in Biotechnology sector, or
- If its turnover for any previous year exceeds Rs. 25 crore.

The Startups are failing as fast as they are coming for existence. There are plenty of reasons to be listed out for the failure of startups. Very few researchers are focused on the success and failure of startups. Some researchers contributed their work in proposing some models to predict success or failure of startups. In the next section we are addressing the research papers which are discussing about the startups success or failure.

## II. LITERATUR SURVEY

There are very few papers which are concentrated on startups some them are introduced in this section.

AMIRHOSSEIN ALEYASEN in his “KickUpper: A Tool For Making Better Crowdfunding Projects”[1] developed a model in which project description of 46000 startup companies are analysed to predict the success or failure of the startup project using n-gram technique. This model is able to classify the project success or failure by 73.7% f-measure.

In “Challenges Of Entering The Business Market: The Pre-Entry Knowledge And Experience”, Carmen Monica Păunescu addressed the importance and need of pre-entry knowledge and experience and of development through learning for start-ups.[2]

Jisun An,Daniele Quercia and Jon Crowcroft in their “Recommending Investors for Crowdfunding Projects” [3] built a statistical model on kickstarted dataset to predict the success. In this experiment they obtained 84% accuracy.

“Survival of Newly Founded Businesses: A Log-Logistic Model Approach” by Talat Mahmood[4] discussed about a model which was name as log-logistic model. He developed the model on A longitudinal data set which contains the observations of startups of US based small businesses.

**Amirali Piadehbasmenj in ” Entrepreneurial Venture Failure Experiences An Analysis Into Causes, Costs, And Outcomes Of Venture Failure”**[5] addressed various reasons of failures of ventures. In this project the researcher collected data from the entrepreneurs by conducting surveys.

Sohaib Shahid Bajwa , Xiaofeng Wang and Pekka Abrahamsson in their “Key Challenges in Early-Stage Software Startups”[6] identified the ten challenges that effect the success of a startups with the help of surveys and case studies. The challenges they identified are Thriving in Technology Uncertainty, Acquiring First Paying Customers, Acquiring Initial Funding, Building Entrepreneurial Teams, Delivering Customer Value, Managing Multiple Tasks, Defining Minimum Viable Product, Targeting a Niche Market, Staying Focused and Disciplined, Reaching the Break-even Point

In “Survival Chances of Newly Founded Business Organization”,Josef Bruderl, Peter Preisendorfer, Rolf Ziegler insisted on the survival of a business depends on number of employees, strategies of firm and capital[7].They added some characteristics of founder which leads to failure of business are investor schooling and industry experience. They conclude these reasons of failure by gathering data of 1849 founders of organization in Germany.

Amar Krishna, Ankit Agrawal, Alok Choudhary in “Predicting the Outcome of Startups: Less Failure, More Success”[8] listed some key factors of a business which effects the survival of a business the factors are seed funding, time required to acquire seed funding and rounds of funding

“Opportunity Evaluation as Rule-Based Decision Making” by Matthew S. Wood and David W. Williams discussed about Conjoint Analysis to get the entrepreneurs evaluation of opportunities [9]. Conjoint Analysis is an effective tool to obtain investors decisions.

Gilda Antonelli in his” The effect of the founders group characteristics in pre-start up phase on innovative firms performance”[10] proposed 3 hypotheisis. Those are

Hypothesis 1: The performance of a firm depends up on the size and correlation of the entrepreneur group.

Hypothesis 2: The success of the startup directly depends on the heterogeneity of the group in the competence.

Hypothesis 3: The dynamics in the variation of the group has a moderate effect on the startup success.

Marco van Gelderen, Roy Thurik and Niels Bosma in “Success and Risk Factors in the Pre-Startup Phase”[11] conducted Logistic regression analyses on the sample data which was collected by interviewing 21,393 new entrepreneurs.

| <b>Reserch Paper</b>  | <b>Authors</b>  | <b>Method/Out Come</b>        |
|---|---|-------------------------------|
| KickUpper: A Tool For Making Better Crowd funding Projects  | AMIRHOSSEIN<br>ALEYASEN                                   | n-gram technique              |
| Challenges Of Entering The Business Market: The Pre-Entry Knowledge And Experience                          | Carmen Monica Păunescu                                    | Survey                        |
| Recommending Investors for Crowdfunding Projects  | Jisun An,Daniele Quercia and Jon Crowcroft                | statistical model             |
| Survival of Newly Founded Businesses: A Log-Logistic Model Approach   | Talat Mahmood   | A Log-Logistic Model          |
| Entrepreneurial Venture Failure Experiences An Analysis Into Causes, Costs, And Outcomes Of Venture Failure | Amirali Piadehbasmenj                                     | Survey                        |
| Key Challenges in Early-Stage Software Startups   | Sohaib Shahid Bajwa , Xiaofeng Wang and Pekka Abrahamsson | Surveys and Case Study        |
| Survival Chances of Newly Founded Business Organization   | Josef Bruderl, Peter Preisendorfer, Rolf Ziegler          | Survey                        |
| Predicting the Outcome of Startups: Less Failure, More Success  | Amar Krishna, Ankit Agrawal, Alok Choudhary               | Prediction                    |
| Opportunity Evaluation as Rule-Based Decision Making [9].   | Matthew S. Wood and David W. Williams                     | Conjoint Analysis             |
| The effect of the founders group characteristics in pre-start up phase on innovative firms performance[10]  | Gilda Antonelli   | Regression test on Hypothesis |
| Success and Risk Factors in the Pre-Startup Phase[11]   | Marco van Gelderen, Roy Thurik and Niels Bosma in         | Logistic regression analyses  |

Table 1 Research Papers, Authors and Method

### III CONCLUSION

After a deep survey of various research papers we are concluding that the success or failure of a business depends on many factors. Some researchers tried to design a model to predict the success rate of startups. Some researchers are given the concept models for the success or failure of the startups. But those models are not familiar and not fair. There is open challenge for the researchers to design a model through which we can predict the future of a startup.

### IV REFERENCES

- [1]. AMIRHOSSEIN ALEYASEN in his “KickUpper: A Tool For Making Better Crowdfunding Projects”
- [2]. In “Challenges Of Entering The Business Market: The Pre-Entry Knowledge And Experience”, Carmen Monica Păunescu
- [3]. Jisun An, Daniele Quercia and Jon Crowcroft in their “Recommending Investors for Crowdfunding Projects”
- [4]. .Survival of Newly Founded Businesses: A Log-Logistic Model Approach by Talat Mahmood
- [5]. **Entrepreneurial Venture Failure Experiences** An Analysis Into Causes, Costs, And Outcomes Of Venture Failure
- [6]. Sohaib Shahid Bajwa , Xiaofeng Wang and Pekka Abrahamsson in their “Key Challenges in Early-Stage Software Startups”
- [7]. “Survival Chances of Newly Founded Business Organization”, Josef Bruderl, Peter Preisendorfer, Rolf Ziegler
- [8]. Amar Krishna, Ankit Agrawal, Alok Choudhary in “Predicting the Outcome of Startups: Less Failure, More Success”
- [9]. “Opportunity Evaluation as Rule-Based Decision Making” by Matthew S. Wood and David W. Williams
- [10]. The effect of the founders group characteristics in pre-start up phase on innovative firms performance” by Gilda Antonelli
- [11]. Success and Risk Factors in the Pre-Startup Phase by Marco van Gelderen, Roy Thurik and Niels Bosma