

# Predicting the Success Rate of Startups in India and Their Ability to Thrive in a Global Crisis Using Machine Learning

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## Introduction

Startups are new businesses that aim to develop innovative products, services, or solutions that can disrupt existing industries or create new markets. The fintech sector, in particular, has witnessed significant growth in India in recent years due to the rise of digital payments and the increasing adoption of mobile devices.

By analyzing data on the number of fintech startups, adoption rates of digital payment systems, funding raised by startups, and other relevant metrics, this research aims to provide actionable insights to entrepreneurs and investors looking to enter the fintech space in India.

Ultimately, this research aims to inform decision-making and contribute in developing a vibrant and sustainable fintech ecosystem in India.

## Literature Review

- ❑ The COVID-19 pandemic has had a significant impact on the Indian economy, with many businesses struggling to survive. However, the fintech sector has seen a significant boost in growth during the pandemic, as consumers increasingly turn to digital payment solutions in order to avoid physical contact.
- ❑ Several studies have explored the impact of the pandemic on the fintech sector in India (Bangdiwala et al., n.d.).
- ❑ A study by KPMG India and NASSCOM found that digital payments grew significantly during the pandemic, with a 50% increase in the number of digital transactions in the first quarter of 2020 (KPMG, 2021)
- ❑ Another study by BCG and PhonePe India found that the pandemic has accelerated the adoption of digital payments in India, with more than 100 million new users added in 2020 (BCG, 2022).
- ❑ The number of digital transactions recorded in India from the year 2017 to 2022 as seen in Table 1 (PIB, 2023).

Financial Year	Number of Digital Transactions (in millions)
2017-18	20,710
2018-19	31,340
2019-20	45,720
2020-21	55,540
2021-22	88,400
2022-23	91,920



Table 1: Number of digital transactions in the last 5 financial years

## Research Objectives

- ❑ The study seeks to understand the impact of the pandemic on Indian startups, especially fintech startups, with a focus on the digital payment sector.
- ❑ Utilising various quantitative methods and data analysis techniques, we evaluate the growth of fintech startups in India, before and after the pandemic.
- ❑ By exploring the impact of the pandemic on fintech startups, and their growth in various categories, the study seeks to provide insights into the changing trends and opportunities in the Indian fintech market.

## Technologies



## Methodology

- ❑ The data collected from relevant sources would be cleaned for pre-processing using jupyter notebook, python and pandas library.
- ❑ Random forest and decision trees models will be used to further analyse and classify the data.
- ❑ Since the focus is on the period before and after the pandemic, data for all the years in consideration would be analysed to identify the changes over those years.
- ❑ A comparative study and analysis would be adopted on the features to understand the overall growth and identify the key factors that drive the success or failure of those startups.

## Early Indications and Next Step

### Early Indications

- ❑ Even though many startups suffered significant losses during covid, specific startups with positive revenue growth have been identified.
- ❑ The measurement of success or failure for a startup varies and depends on multiple factors.

### Next Steps

- ❑ The various startup data prior to, during, and after covid has to be understood using time series analysis.
- ❑ Identifying the key features that act as a deciding factor for the success of a startup.

## References

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