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# Impact Analysis of Technology and Government Funded scheme on Business start-ups at Nagpur city

**Prof. Flavia Butram[1], Dr. Shubhangi Morey[2]**

[1]Assistant Professor, SBJITMR Nagpur
[2]Associate Professor, G.S. College of Commerce, Nagpur

**Abstract**

This study analyzes the impact of technology and government schemes on business startups in Nagpur city. The results indicate that technology has a moderate to high impact (73.2%) on startup performance, while government schemes show a moderate impact (68.4%). The findings suggest that although both factors positively influence business growth, technology plays a comparatively higher role. The study also insights the need for improving awareness and accessibility of government schemes to enhance their performance and productivity in supporting startups.

**Keyword:** Technology on startup, Government Scheme, Business Performance.

## 1. Introduction

In India, entrepreneurship has become a major force behind rapid economic growth, innovation, and job creation, especially due to country's swift technical advancement and proactive government involvement [1]. Artificial intelligence, e-commerce platforms, and digital payments are some few technologies that have drastically changed traditional business processes [2].

The Startup India project launched in 2016 aims to create a favourable environment for businesses by facilitating intellectual property, streamlining regulatory procedures, and providing finance support. Research shows that by lowering financial and procedural barriers, institutional support systems and government policies creates a major impact on the survival and expansion of startups [3]. Early-stage entrepreneurs can receive funding, incubation support, and mentorship through programs like the Startup India Seed Fund Scheme (SISFS), Credit Guarantee Scheme for Startups (CGSS), and Atal Innovation Mission (AIM). Particularly in tier-II and tier-III cities, data shows that these policy interventions increase capital access and entrepreneurial confidence [4].

Nagpur, a major city in central India, offers a special opportunity to study how government initiatives and advanced technology affect new businesses. Startups in industries like information technology sectors, agricultural sector, logistics solutions, healthcare sector, and ed-tech have flourished due to the presence of educational institutions, industrial estates, and developing digital infrastructure.

The creation of digital infrastructure in non-metropolitan areas greatly increases local innovation capability [5]. Additionally, Maharashtra state government efforts like the Maha-Fund, the Maharashtra Startup Policy, and startup incubation programs have given huge entrepreneurial growth in Nagpur [6].

Numerous studies have investigated about how technology might improve startup performance. Ref. [7] noted that regional competitiveness and entrepreneurial activity are strongly influenced by access to digital infrastructure. According to Ref. [8] adopting technology increases small and medium-sized businesses capacity for innovation and productivity. Ref [9] obtained that information and communication technology (ICT) help startups in India get over conventional barriers like geographical isolation and a lack of infrastructure. Digital platforms, e-commerce tools, and online payment methods are critical to the survival and expansion of early-stage businesses, according to [10].

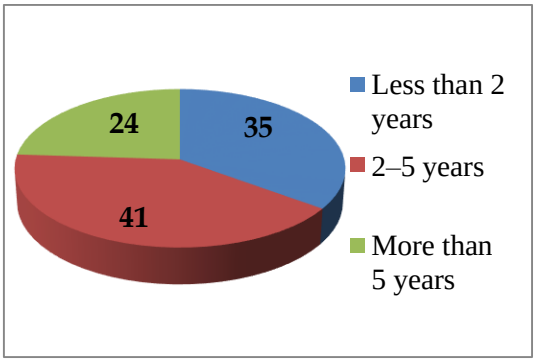
Ref [11] shows government policies have a direct impact on entrepreneurial activity by lowering entry barriers and uncertainty. According to [12], policy support is particularly important in

developing economies, where startups must contend any financial limitations.

To encourage entrepreneurship, many government initiatives have been introduced in India, including the Startup India Seed Fund Scheme (SISFS), Atal Innovation Mission (AIM), and Credit Guarantee Scheme for Startups (CGSS). After analyzing the effects of Maharashtra's startup policy, Ref [13] observed that state-level actions greatly improve job possibilities, innovation activities, and company formation. Similarly, Ref [15] revealed that in Maharashtra's semi-urban areas, awareness of government programs are important factors that influence company success.

Recently, Nagpur has seen a slow transition toward knowledge-based and technology-enabled entrepreneurship. However, research indicates that, in contrast to metropolitan areas, entrepreneurs in tier-II cities face difficulties like restricted access to venture financing and less exposure to international markets [16].

In this regard, the current study examines how government initiatives and technology affect new businesses in Nagpur. The study investigate how technological adoption, digital tools, and governmental support mechanisms

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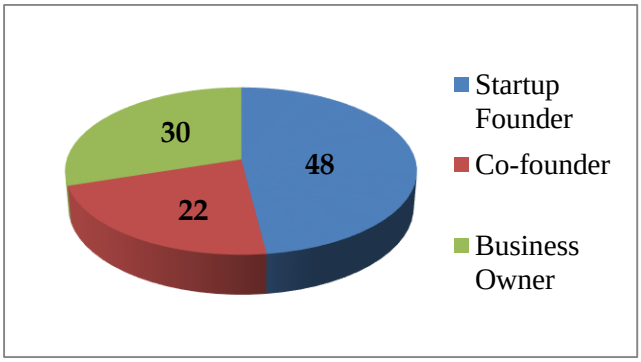


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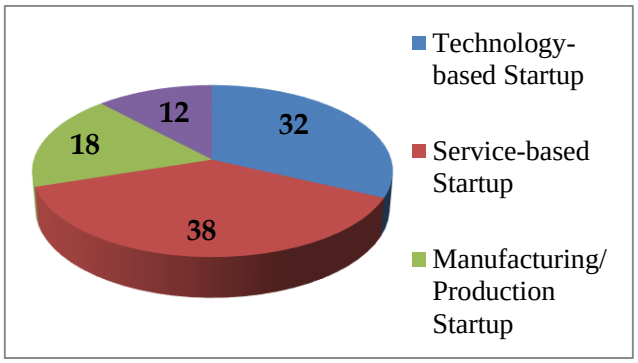


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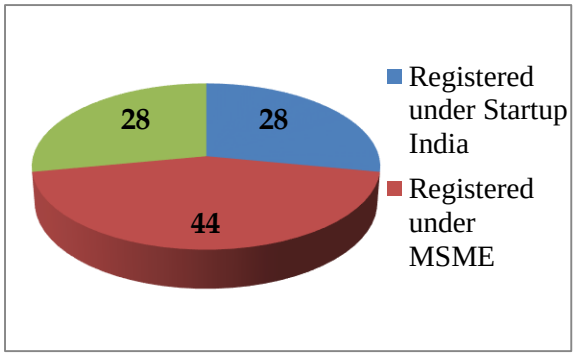


(d)

Figure 1. Classification of Respondents based on (a) Type of Respondent (b) Years of Operation (c) Nature of Business (d) Registration Status.

contribute to startup success in Nagpur by combining insights from the body of current literature with empirical analysis. Policymakers, academic institutions, and entrepreneurs can comprehend these relationships in order to establish focused plans that support balanced regional growth in startup environment.

## 2. RESEARCH METHODOLGY

A quantitative technique based on a 5-point Likert scale was used to assess how technology and government initiatives affected business starts in Nagpur city. One hundred company founders, co-founders, and business owners provided primary data. On a scale of 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, and 1 = Strongly Disagree, each respondent scored statements about government support, technology adoption, and company performance. For each variable (Technology Impact and Government Scheme Impact), the Total Score Obtained (TSO) was calculated as:

$$TSO = \sum f_i \bullet w_i$$

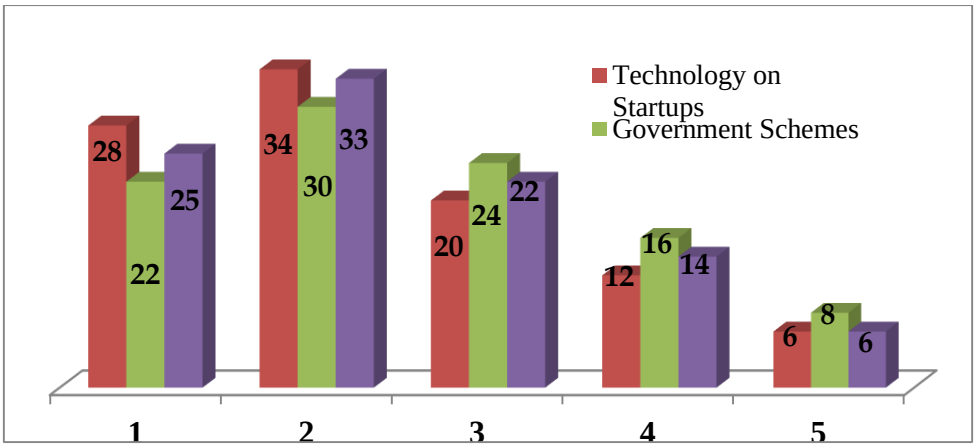


Figure 2. Frequency weightage based on response for Technology on Startups, Government Schemes on Startups., Business Performance.

where $f_{i \text{ and}}$ $w_i$ is the frequency and weight of responses for each scale point (5, 4, 3, 2, 1).

The Maximum Possible Score (MPS) was calculated as:

$$MPS=N•Q•5$$

Where N is the number of respondent, Q is the statement for that variable. Therefore impact index is calculated as:

$$\text{Impact Index (\%)}= \left(\frac{TSO}{MPS}\right)x100$$

Based on the response the impact level was interpreted as, Above 75% – High Impact, 60–75% – Moderate Impact, Below 60% – Low Impact.

## 3. RESULT AND DISCUSSION

The study's findings are based on information gathered from 100 Nagpur city business owners, co-founders, and startup founders. Using impact indices and descriptive statistical techniques, the analysis focuses on assessing how government programs and technology uptake affect startup performance. For easy comprehension, the results are displayed as tables, graphs, and interpretations. Respondent has to respond 5 statements based on Technology on Startups and Government Schemes on Startups. Finally the outcome variable 'Business Performance' with 4 statements is used for correlation support.

The total score and maximum possible score for Technology on Startups and is obtained as:

$MSO_{Tech}= 100×5×5=2500$

$TSO_{Tech}= 5×(140+136+60+24+6)=1830$

$(\text{Impact Index})_{Tech}= \left(\frac{1830}{2500}\right)×100= 73.2\%$

Similarly the total score and maximum possible score for Government Schemes on Startups is obtained as:

$MSO_{Govt}= 100×5×5=2500$

$TSO_{Govt}= 5×(110+120+72+32+8)=1710$

$(\text{Impact Index})_{Govt}= \left(\frac{1710}{2500}\right)×100= 68.4\%$

Further for correlation analysis,

$TSO_{Perf} = 357×4= 1428$

$MPO_{perf} = 100×4×5=2000$

$\text{Performance Index}= \left(\frac{1428}{2000}\right)×100= 71.4\%$

Table 1: Summary of Impact Indices

| Variable | Impact Index (%) | Interpretation |
|---|---|---|
| Technology | 73.2% | Moderate–High Impact |
| Government Schemes | 68.4% | Moderate Impact |
| Business Performance | 71.4% | Positive Performance |

Technology adoption has a moderate to high impact on startup performance in Nagpur city, as indicated by the impact index of 73.2%. Government programs had an impact value of 68.4%, which indicates a moderate degree of influence. This implies that although government programs and technology both have a good impact on startups, technology has a comparatively greater impact on improving business success.

## 4. CONCLUSION

According to the study, government programs have a moderate impact (68.4%) on startup performance in Nagpur, whereas technology has a moderate to high impact (73.2%), suggesting that digital adoption is comparatively more important for business growth. Despite the strong financial and policy support provided by government programs, their use is nevertheless restricted because of gaps in accessibility and understanding. The findings show that in order to increase the efficacy of schemes, better distribution and easier execution are required. To further investigate the long-term effects of technology and policy support on startup sustainability, future research may increase the sample size, incorporate additional cities, and employ sophisticated statistical techniques.

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