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Penetration of Startups in Vadodara: Impact on Employment

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I. INTRODUCTION

Vadodara, known as the *"Cultural Capital of Gujarat,"* has emerged as a significant hub for entrepreneurial activity and startups in recent years. Traditionally an industrial city, it has witnessed a growing shift towards innovation and technology-driven businesses, thanks in part to favourable government policies, emerging tech infrastructure, and a supportive local ecosystem.

The impact of startups on employment in Vadodara reflects broader trends observed in India's startup ecosystem, which has become a significant driver of job creation. Startups not only generate direct employment but also stimulate indirect job opportunities through their innovative activities and contributions to economic growth. This multifaceted influence can be categorized into several key aspects.

Important aspects about startups

A. Number of Startups

The exact number of startups in Vadodara varies depending on the source and definition of a "startup." As of recent data:
Ambition Box lists around 126 startups in Vadodara, based on employee-shared information.
Tracxn reports 450 tech startups in Vadodara as of mid-2023.
Startup Blink identifies 51 top startups, though this is a curated list rather than a total count.

B. Best location for startup in Vadodara

Alkapuri: A commercial hub with modern infrastructure, office spaces, and proximity to amenities like cafes, co-working spaces, and transport links (e.g., railway station).
Gotri-Sevasi Road: Emerging as a tech-friendly area with new commercial developments and affordable office rentals.
Manjalpur: Offers affordable real estate and a growing business community.
Sama-Savli Road: Close to industrial zones and educational institutions like MS University and Parul University, it's great for start-ups needing talent and collaboration with manufacturing sectors.

C. Rank among start-ups facilities in Vadodara

Vadodara ranks 20th in India and 439th globally for its start-up's ecosystem as of recent reports. This places it behind major hubs like Bangalore (1), Mumbai (2), and Delhi (3) but ahead of many smaller cities. Gujarat, as a state, ranks high nationally (often 3rd or 4th), and Vadodara contributes significantly alongside Ahmedabad.

D. Number of Employees in Startups in Vadodara

Exact employee counts across all Vadodara startups aren't aggregated in public data, but we can estimate of 5000-15000

E. Employee Earnings

Estimated 10-30 Lakh/employee for profitable firms.

F. Fields of Startups

Based on current momentum and Vadodara's ecosystem:
Technology (IT/Software): Broad applicability and scalability.
EV/Renewable Energy: High investment and policy support.
EdTech: Aligns with educational reforms and local talent.

This research would focus on understanding the penetration of startups in Vadodara and their impact on the local economy, particularly in terms of:

1) Direct employment generation: in India, startups are estimated to contribute around 4-5% to the GDP, indicating their role in fostering employment opportunities.
2) Indirect employment effects: the presence of startups enhances the local economy, leading to increased demand for services and products, which in turn creates additional jobs. Startups often engage in innovative practices that can lead to the development of new sectors, further diversifying employment opportunities.
3) Demographic impact: startups play a crucial role in providing employment to various demographic groups, indicating youth and women, thereby promoting inclusivity in the workplace.

Startups in Vadodara significantly influence various demographic groups by creating diverse employment opportunities. Their impact is particularly among youth, women, and skilled labour, contributing to economic growth and sustain inclusively.

- Employment generation for youth: startups are pivotal in providing job opportunities for the youth, who represent a significant portion of the workforce in Vadodara. The dynamic nature of startups allows for innovative roles that attract young talent, fostering skill development and entrepreneurship.
- Empowerment of women: women owned startups in Vadodara benefit from technological advancements and open innovations, enhancing their competitiveness and job creation potential. These enterprises not only create jobs for women but also empower them economically, contributing to gender equality in the workforce.
- Skilled labour demand: startups often seek skilled labour, leading to increased employment for educated individuals in Vadodara.

The demand for specialization skills in technology and innovation drives educational institutions to align their curricula with industry needs, enhancing employability.

II. REVIEW OF LITERATURE

1) Vishesh C Chandiok:
Grant Thornton India LLP, 2016
The Indian startup saga
Currently a clear definition of a ‘Startup’ does not exist in the Indian context due to the subjectivity and complexity involved. Considering various parameters pertaining to any business such as the stage of their lifecycle, the amount and level of funding achieved, the amount of revenue generated, the area of operations, etc, some conceptual definitions are available in the public domain. These have been sourced and enumerated below to provide an indicative understanding on the space to the reader. The Department of Industrial Policy and Promotion (DIPP) is also working around a clear definition for startups and is expected to make it public in due course.

2) Prof. Rachana Pulgam:
September 2023
A STUDY OF OPPORTUNITIES AND CHALLENGES FOR INDIAN START-UPS
In recent times, where most of the countries in the world are trying to promotion and survival of new ventures, India too has accelerated on this front. Ever since Startup India, the ambitious project of Indian government was launched, we have seen an unprecedented rise in enthusiasm of talented entrepreneurs coming up with fresh new business ideas, innovations and an enduring zeal to excel. With support pouring in from all directions, Indian startups are coming in strong and fast. However, along with the great opportunities, startups have to face a fair share of challenges too.

3) Dr. Ashok P. Jadhav, Dr. Tejpal J. Moharekar, Dr.
Tejashree T. Moharekar
Journal of the Maharaja Sayajirao University of Baroda ISSN: 0025-0422
ROLE OF AGRITECH START-UPS IN INDIA
India has become one of the most emerging nations in the world. India has established the most start-ups in the past year, making it the ecosystem with the most rapid growth. In addition, despite the pandemic, the total valuation of start- ups in India surpassed $1 billion, indicating that there will be numerous Top Start- ups in India in 2022. India has already established a solid reputation within the global start-up community. It is time to ensure the success of agritech startups and propel India to the forefront of the Agri technology industry. The paper focuses on the Agritech start-up ecosystem in India.

4) Aseem Chauhan
Jaico Publishing House, 2021
VUCA in Start-ups
How to Thrive as a Start-Up in an Uncertain World What motivates a start-up in its journey? Wealth and fame? Or is it hunger for innovation? VUCA in Start-Ups attempts to capture a start-up's entrepreneurial journey and find out why some do well when others don't. It's a highly volatile environment out there for entrepreneurs and start-ups, thanks to the unprecedented Covid-19 crisis filled with volatility, uncertainty, complexity and ambiguity (VUCA). Many businesses that did well in the past had to shut shop as a result. So, what went wrong? To find the answer, it's important to understand what worked in the past and why a new venture must discover fresh and innovative opportunities to survive. Learn from those who chose the road less travelled, including Zomato, Paytm, Flipkart, Ola Cabs and Quikr, and discover the underlying causes for start-up successes and failures. These well- researched case studies aim to inspire those who wish to embark on an entrepreneurial journey.

5) Dr. Mallikarjun M. Maradi
JOURNAL OF MANAGEMENT AND ENTREPRENEURSHIP
ISSN : 2229-5348
GROWTH OF INDIAN STARTUP: A CRITICAL ANALYSIS
India has emerged as the world's second largest startup ecosystem next the US.
India is a hotspot for startup and spacing forward at an exponential rate. Bengaluru, Mumbai and Delhi are ranked amongst the top 40 startup hubs across the globe in the Global Startup Ecosystem Report 2022. In 2021 alone, India startups have raised more than $23 billion, spread over 1000+ deals, with 33 startups entering the coveted unicorn club. So far 2022 has added 13 more startups to the unicorn club. The growing investor confidence in Indian Startups is overwhelming and is seen gaining momentum across varied phases of growth in a startup journey.

6) Petr Sedláček Vincent Sterk
American Economic Review vol. 107, no. 10, October 2017
The growth potential of startups over the business cycle
This paper shows that employment in cohorts of US firms is strongly influenced by aggregate conditions at the time of their entry. Employment fluctuations of startups are procyclical, they persist into later years, and cohort-level employment variations are largely driven by differences in firm size, rather than the number of firms. An estimated general equilibrium firm dynamics model reveals that aggregate conditions at birth, rather than post-entry choices, drive the majority of cohort-level employment variation by affecting the share of startups with high growth potential. In the aggregate, changes in startup conditions result in large, slow-moving fluctuations in employment.

7) Dr. Rohitash Bairwa, Dr. Shri chand
An International Peer-Reviewed Open Access Journal of Interdisciplinary Studies 2(1), 239-245, 2019
Issues of startup in India
The objectives of a startup are to be one's own boss and to create employment to others which warrants lot of endurance and sacrifice. Large population with high percentage of middle-income group, educated youth with technical background, IT domination, high internet and mobile penetration are some of the drivers that have thrown up opportunities for spreading startup revolution in India. The 'Make-in- India' initiatives and other government schemes have also given a boost to startups with many individuals entering the fray.

8) Kshitija Joshi, Krishna Satyanarayana
Asian Journal of Innovation and Policy 3 (2), 216-244, 2014
What Ecosystem Factors Impact the Growth of High-Tech Start-ups in India?
This paper empirically establishes the role played by the ecosystem related parameters in the emergence and growth of high technology start-up clusters in India. It is mainly based on secondary data from six major start-up hubs in India during the period 2005-2013. Our results throw up several interesting findings. First of all, we find that traditional infrastructure related factors or robust macroeconomic situation in general are not the most important drivers.

9) Saurabh Chawaria
Journal of Philanthropy and Marketing 4 (1), 289-299, 2024
IMPACT OF STARTUPS ON INDIAN ECONOMY
Startups have become a powerful agent of change in the Indian economy, stimulating innovation, creating jobs, and driving economic expansion. This article examines the diverse and wide-ranging effects of startups on India's economic environment. Startups have made a substantial contribution to India's Gross Domestic Product (GDP) in recent years, representing over 1.8% of the overall GDP in 2020. This paper highlights the increasing significance of startups as crucial catalysts of economic activity.

10) Congregado, E.
Carmona, M.
Rubino, N.
October 25, 2024
Dissecting the Impact of Self-Employment on Unemployment: The Interplay of Economic Performance and Startup Motivations
This paper revisits the relationship between entrepreneurship and unemployment, challenging the prevailing notion that new startups uniformly reduce unemployment. The primary objective is to elucidate how startup motives and economic performance levels influence this relationship, emphasizing a non-linear dynamic often overlooked. Our methodological contribution lies in distinguishing between opportunity and necessity entrepreneurship, revealing that the impact on employment reduction is contingent on economic context.

11) Sneha CJ, Vignesh b, dr. J. Krithika 16 Jan 2023
Impact of startups in Indian GDP in 2022
In this paper, the authors highlight the impact of start-ups on the Indian economy, as well as the ecosystem’s inherent ability to foster inclusivity, sustainability, and growth. Indian start-ups have made their mark on the global stage. The ecosystems rapid growth and maturity have unleashed a tremendous appetite for scalability, alternative funding options, global market expansion, and the ability to enable millions of jobs. This meteoric rise of start-ups has made India the world’s third largest start-up ecosystem, and it has had a significant impact on the Indian economy, demonstrating the ability to contribute approximately 4-5 percent of Indias GDP.

12) Subrahmanya, M. H. Bala
ASCI Journal of Management, 2017, Vol 46, p12
An ideal entrepreneurial Ecosystem for Tech start-ups in India: structure, role and promotion
The objective of this paper is to explore the structure of an entrepreneurial ecosystem in India specifically for tech startups. It examines the roles of various actors and stakeholders within the ecosystem (e.g., government, venture capitalists, incubators, educational institutions) and offers suggestions for promoting and nurturing an environment conducive to the growth of technology startups in India.

13) Vijay Kumar Singh
Asian development bank institute
Policy and Regulatory Changes for a Successful Startup Revolution: Experiences from the Startup Action Plan in India
Analyse the Startup Action Plan in India, which was introduced by the government to boost the startup ecosystem. Investigate the policy and regulatory changes that have been implemented to create a favourable environment for startups. Assess the impact of these changes on the growth and success of startups in India, with a particular focus on the challenges and opportunities created by these policies. Explore the lessons learned from the implementation of the Startup Action Plan and offer recommendations for strengthening the regulatory framework to support the startup revolution.

14) Gianni Bardazzi
Catalysis, Green Chemistry and sustainable energy
The role of start-up companies in creating job opportunities
Examine the role of start-up companies in creating job opportunities. Investigate how new businesses, particularly in high-growth sectors, contribute to employment generation and economic growth.

Explore the relationship between start-ups and job market dynamics, identifying the types of jobs created, the skills required, and the long-term impact on the local and national economy. Assess the effectiveness of government policies and support mechanisms (e.g., tax incentives, subsidies, incubators) in fostering start-up ecosystems that can enhance job creation.

15) Dr. Narendra Kumar & Mr. Amarpreet Singh Research gate
A Study on Startups Role in Developing the
Economy of India
Analyse the role of startups in the economic development of India. Investigate how startups contribute to job creation, innovation, and technological advancement in India. Explore the impact of government policies such as Startup India and how they have fostered a conducive environment for startups. Assess the challenges faced by startups in India and identify ways to improve their contribution to the economy. Examine the role of venture capital, incubators, and accelerators in supporting startup growth and economic contribution.

16) Tim Kane
22 Jul 2010
The Importance of Startups in Job Creation and Job Destruction
This paper presents a newly constructed national time series of job creation by startup firms, using annual data from the BDS for age zero firms. Startups create an average of 3 million new jobs annually. All other ages of firms, including companies in their first full years of existence up to firms established two centuries ago, are net job destroyers, losing 1 million jobs net combined per year.

17) Antonio Davila, George Foster, Xiaobin He,
Carlos Shimizu
Australian Journal of Management 40 (1), 6-35, 2015
The rise and fall of startups: Creation and destruction of revenue and jobs by young companies
Using a large multi-country multi-industry sample of over 158,000 companies, the earlystage company sector is documented to have sizable destruction of revenues and jobs and as well as sizable gross creation of revenues and jobs. The creation aspect has captured the dominant attention of researchers, commentators, and policy makers.

18) Liinus Hietaniemi IESE Business School
August 31, 2023
Returns to Startup Employment
The prevailing view is that skilled workers face an earnings penalty in early-stage startups. However, prior research has not considered the residual returns associated with startup employment. This paper is the first to show that, when accounting for the residual returns of startup employment, skilled workers enjoy an earnings premium of 7% compared to their peers in large firms.

III. OBJECTIVES

1) Analyse how startups create jobs, focusing on sectors like tech and e-commerce, and the impact on skilled and entry-level roles.
2) Examine startups' influence on local competition, collaboration, and investment, as well as the role of infrastructure and policies.
3) Assess startups' impact on Vadodara's GDP, market creation, and economic diversification through innovation.
4) Identify challenges like funding, talent, regulations, and market access, and recommend solutions.
5) Suggest actionable policy changes and collaborations to support the startup ecosystem and enhance growth.

IV. RESEARCH METHODOLOGY

The project, study intends to understand mainly the penetration of startups in Vadodara: impact on employment on the life of community, the benefits they derive from it and their level of satisfaction, also the challenges they face under this research.

A. Research Design

A research design is the set of methods and procedures used in collecting and analysing measures of the variables specified in the research problem research.

There are various types of research design but we have included this two: -

1) Explorative Analysis: The interviews and any open-ended survey questions suggest we are exploring the "why" and "how" of startups penetration and employment (e.g., understanding motivations, barriers, or qualitative impacts). This is typical for a less-studied area like Vadodara's startups ecosystem.
2) Descriptive Analysis: The structured nature of Google Forms and questionnaires, combined with interest in employment numbers and trends, points to summarizing "what" is happening (e.g., how many jobs, where startups locate).

B. Sources of Data Collection

There are mainly two types of data which are primary and secondary:

1) Primary Data

a) Interviews

Nature: Interviews with individuals (e.g., startup founders, employees, or experts) to gather their direct responses.
Data type: Primary. We're collecting original insights specific to your research questions (e.g., "How do startups impact employment in Vadodara?") straight from the source.
No indication you're relying on pre-recorded interviews or someone else's transcripts.

b) Google Form Surveys

Nature: We design and distribute these surveys to respondents (e.g., employees, startup owners) via Google Forms, collecting their answers.
Data Type: Primary. The responses are generated by participants for our study, not pulled from an existing dataset.
We're actively gathering data, not analysing a pre-existing survey conducted by another entity.

c) Questionnaires

Nature: We create and administer questionnaires (paper-based or digital) to collect structured responses from our target population.
Data Type: Primary. Like the Google Forms, this is first hand data we have collected directly from respondents.

2) Secondary Data

Literature Review Using Published Research Papers:
Nature: We have reviewed existing research papers written by other authors, which contain data, findings, or insights they collected or analysed. This could include studies on start-ups, employment trends, or Vadodara's economy.
Data Type: Secondary. We are using pre-existing data or conclusions compiled by others, not generated by us directly.
Purpose: Likely to provide context, identify gaps, or support your primary findings (e.g., comparing our survey results to published employment stats).

C. Data Collection Method

Data collection is a process of collecting information from all the relevant sources to find answers to the research problem, test the hypothesis and evaluate the outcomes. Data collection methods can be divided into two categories: secondary methods of data collection and primary methods of data collection.
There are two methods in data collection, they are as follows:

1) Primary Data Collection Methods

Primary data collection methods can be divided into two groups: quantitative and qualitative.
Quantitative data collection methods are based in mathematical calculations in various formats. Methods of quantitative data collection and analysis include questionnaires with closed-ended questions, methods of correlation and regression, mean, mode and median and others.
Quantitative methods are cheaper to apply and they can be applied within shorter duration of time compared to qualitative methods. Moreover, due to a high level of standardization of quantitative methods, it is easy to make comparisons of findings.
Qualitative research methods, on the contrary, do not involve numbers or mathematical calculations. Qualitative research is closely associated with words, sounds, feeling, emotions, colours and other elements that are non-quantifiable.
Qualitative studies aim to ensure greater level of depth of understanding and qualitative data collection methods include interviews, questionnaires with open- ended questions, focus groups, observation, game or role-playing, case studies etc.

Your choice between quantitative or qualitative methods of data collection depends on the area of your research and the nature of research aims and objectives.

2) Secondary Data Collection Methods:

Secondary data is a type of data that has already been published in books, newspapers, magazines, journals, online portals etc. There is an abundance of data available in these sources about your research area in business studies, almost regardless of the nature of the research area. Therefore, application of appropriate set of criteria to select secondary data to be used in the study plays an important role in terms of increasing the levels of research validity and reliability.

These criteria include, but not limited to date of publication, credential of the author, reliability of the source, quality of discussions, depth of analyses, the extent of contribution of the text to the development of the research area etc.

D. Sampling Method

In statistics, quality assurance, and survey methodology, sampling is the selection of a subset (a statistical sample) of individuals from within a statistical population to estimate characteristics of the whole population. Statisticians attempt for the samples to represent the population in question. Two advantages of sampling are lower cost and faster data collection than measuring the entire population.

Each observation measures one or more properties (such as weight, location, colour) of observable bodies distinguished as independent objects or individuals. In survey sampling, weights can be applied to the data to adjust for the sample design, particularly stratified sampling. Results from probability theory and statistical theory are employed to guide the practice. In business and medical research, sampling is widely used for gathering information about a population. Acceptance sampling is used to determine if a production lot of material meets the governing specifications.

There are various methods of sampling, they are as follows:

1) Simple random sampling

= SIMPLE RANDOM SAMPLING:

In a simple random sample (SRS) of a given size, all such subsets of the frame are given an equal probability. Each element of the frame thus has an equal probability of selection: the frame is not subdivided partitioned. Furthermore, any given pair of elements has the same chance of selection as any other such pair (and similarly for triples, and so on). This minimizes bias and simplifies analysis of results. In particular, the variance between individual results within the sample is a good indicator of variance in the overall population, which makes it relatively easy to estimate the accuracy of results.

SRS can be vulnerable to sampling error because the randomness of the selection may result in a sample that doesn't reflect the makeup of the population. For instance, a simple random sample of ten people from a given country will on average produce five men and five women, but any given trial is likely to over represent one sex and under represent the other. Systematic and stratified techniques as per to overcome this problem by "using information about the population" to choose a more "representative" sample.

SRS may also be cumbersome and tedious when sampling from an unusually large target population. In some cases, investigators are interested in “research questions specific” to subgroups of the population. For example, researchers might be interested in examining whether cognitive ability as a predictor of job performance is equally applicable across racial groups. SRS cannot accommodate the needs of researchers in this situation across racial provide subsamples of the population "Stratified sampling" addresses this weakness of SRS.

2) Data Collection Instrument

- Accurate and systematic data collection is critical to Conducting scientific research
- Data collection allows us to collect information that we want to collect about our study objects
- Depending on research type, methods of data collection Include: document review, observation, questioning, measuring or a combination of different methods

From the above collection of instruments have taken questionnaire technique:

Questionnaire

A questionnaire is a data collection instrument consistent of a series of questions and other prompts for the purpose of gathering information from respondents. The questionnaire was invented by Sir Francis Galton.

Interview

An interview is a qualitative research method used to collect primary data. It involves asking one or more people about their opinions on a company, a product, or a topic.

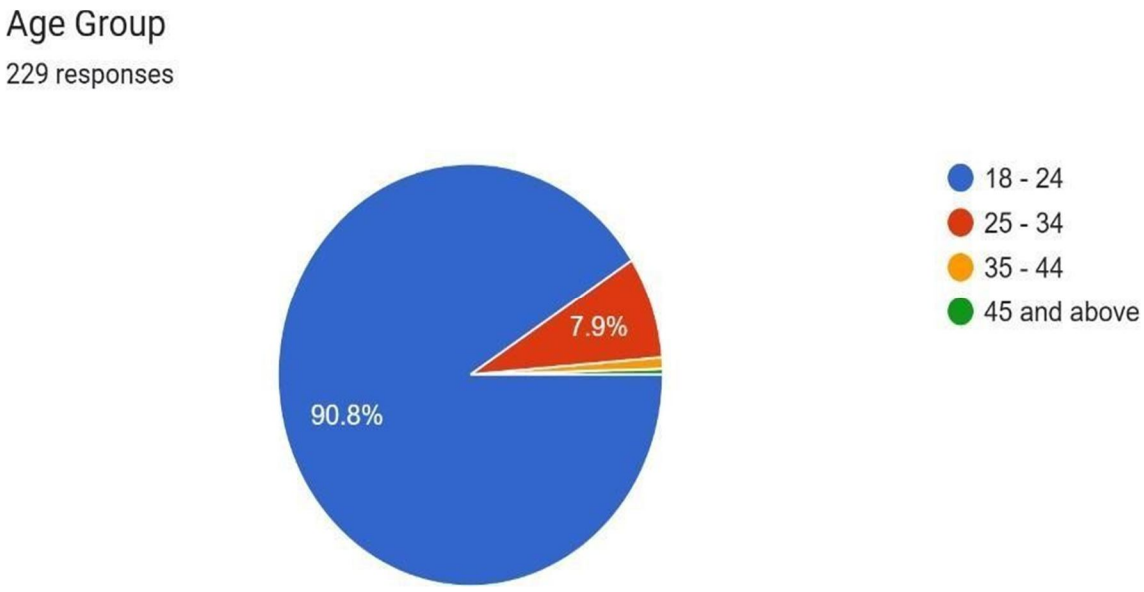
Survey

A survey is a list of questions aimed for extracting specific data from a particular group of people. Survey may be conducted by phone, mail, via the internet and also in person in public spaces.

V. DATA ANALYSIS AND INTERPRETATION

A. Age Group

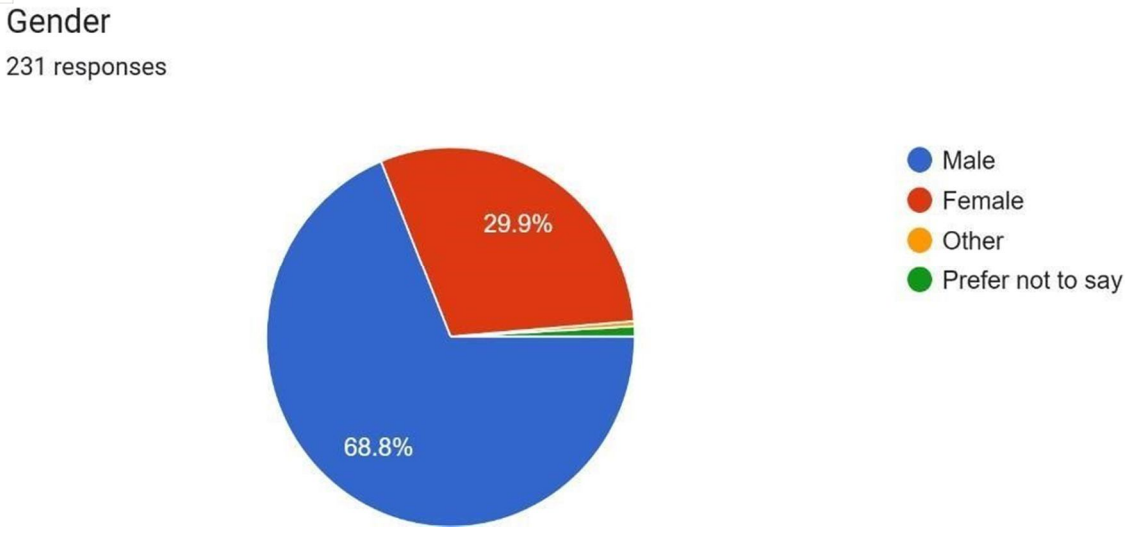
	Number	Percentage	Cumulative
18-24	208	90.8	90.8
25-34	18	7.9	98.7
35-44	2	0.9	99.6
45 and above	1	0.4	100
Total	229	100	



Description: we can observe that major of respondents are from 18–24 age group with 90.8% and 7.9% in 25-34 age group.

B. Gender

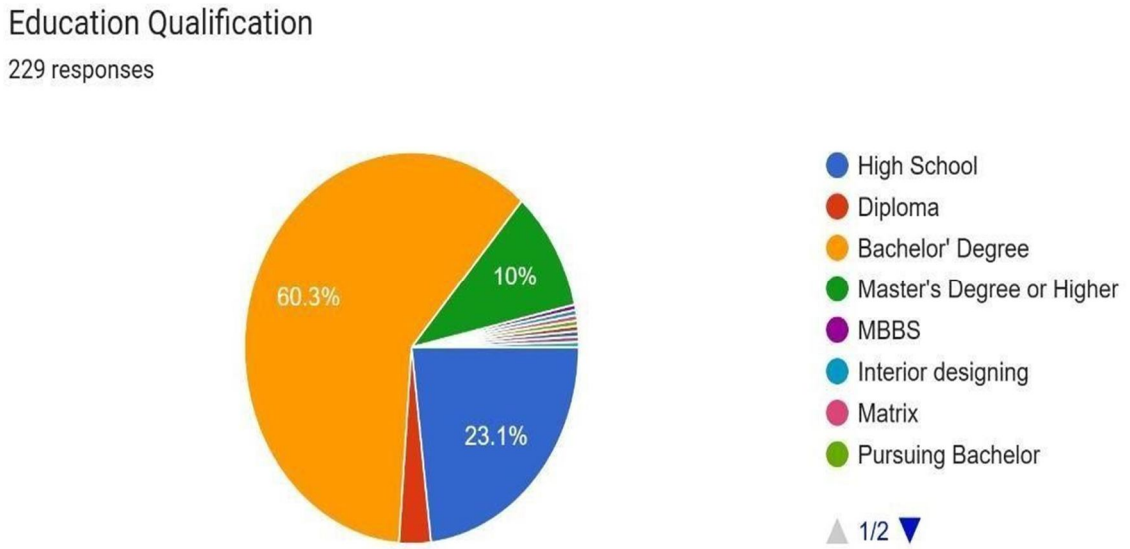
	Number	Percentage	Cumulative
Male	159	68.8	68.8
Female	69	29.9	98.7
Other	1	0.4	99.1
Prefer not to say	2	0.9	100
Total	231	100	



Description: this pie chart depicts 231 respondents to gender, with 68.8% in males which is higher in all 29.9% in females and with 1.3% which are other or prefer not to say.

C. Education qualification

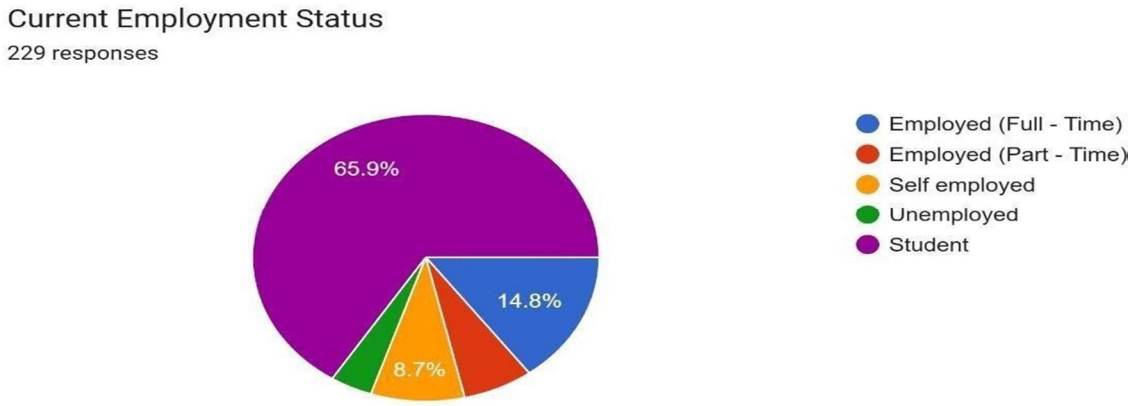
	Number	Percentage	Cumulative
High school	53	23.1	23.1
Diploma	7	3.1	26.2
Bachelors' degree	138	60.3	86.5
Masters' degree	23	10	96.5
Other	8	3.5	100
Total	229	100	



Description: this pie chart shows the responses of the education qualification of respondents highest with 60.3% in bachelor's degree, 23.1% in high school followed by master's degree and diploma with 10% and 3.1% respectively and lastly other with 3.5%

D. Current Employment Status

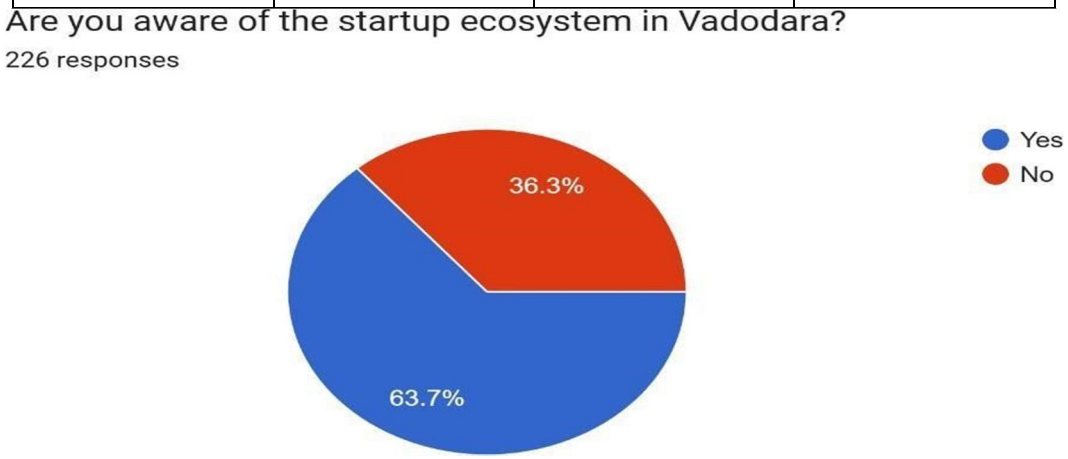
	Number	Percentage	Cumulative
Employed (full-time)	34	14.8	14.8
Employed (part-time)	15	6.6	21.4
Self employed	20	8.7	30.1
Unemployed	9	3.9	34
Student	151	65.9	100
Total	229	100	



Description: this pie chart shows the current employment status of respondents, employed (full time) with 14.8%, employed (part time) with 6.6%, self employed and unemployed with 8.7% and 3.9% respectively, student with 65.9% highest in employment status, respondents are mostly from student group.

E. Are you aware of the startup ecosystem in Vadodara?

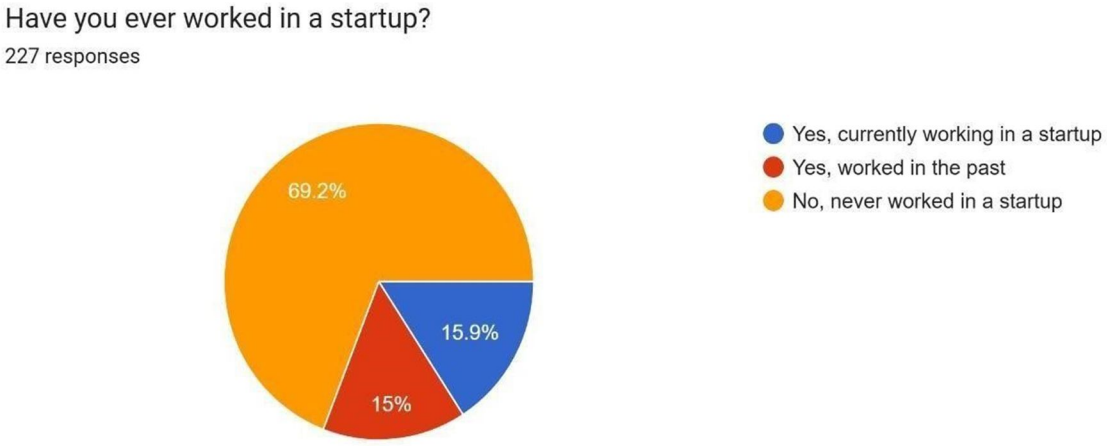
	Number	Percentage	Cumulative
Yes	144	63.7	63.7
No	82	63.3	100
Total	226	100	



Description: in this pie chart it shows that is respondents are aware of the startup ecosystem in Vadodara yes or no, 63.7% respondents are aware of the startup and other 36.3% is not aware of startup in Vadodara.

F. Have you ever worked in a startup?

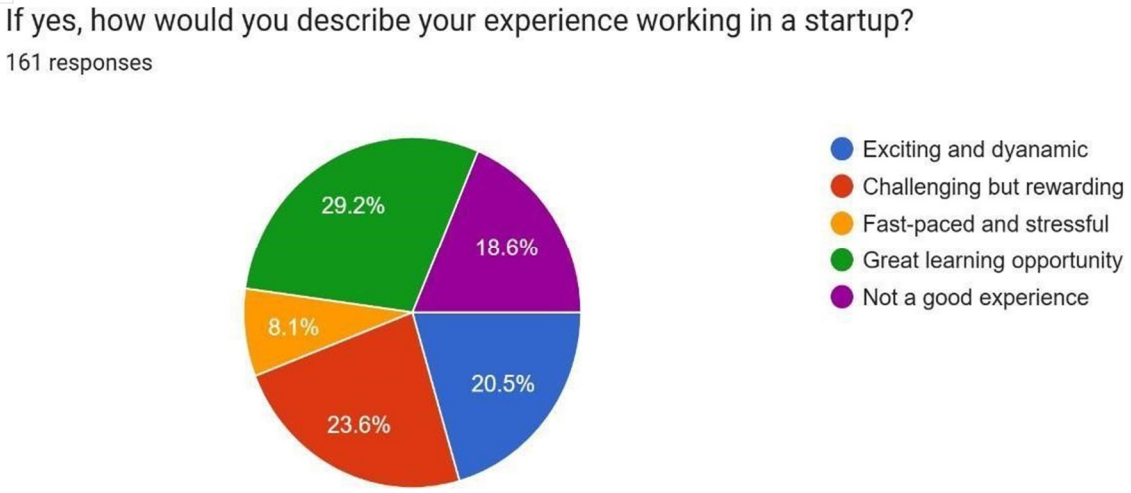
	Number	Percentage	Cumulative
Yes, currently working in a startup	36	15.9	15.9
Yes, worked in a startup	34	15	30.9
No, never worked in a startup	157	69.2	100
Total	227	100	



Description: in this pie chart it shows that if the respondent has ever worked in a startup or not, with 69.2% in No, never worked in a startup is the highest in chart, with 15.9% and 15% in Yes, worked in the past and Yes, currently working in a startup respectively are shows the interest in working the startup of the respondents.

G. If yes, how would you describe your experience working in a startup?

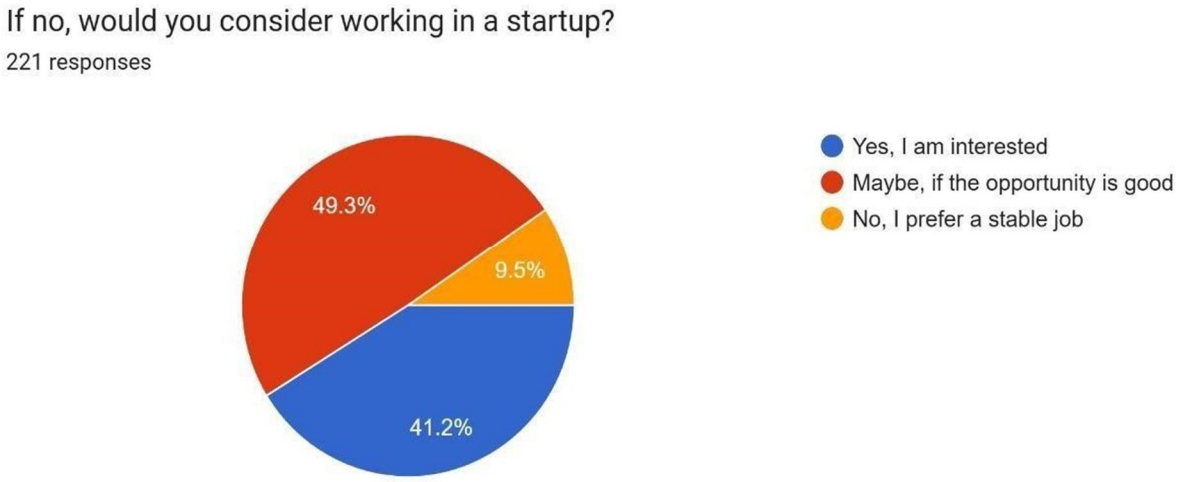
	Number	Percentage	Cumulative
Exciting and dynamic	33	20.5	20.5
Challenging but rewarding	38	23.6	44.1
Fast paced and stressful	13	8.1	52.2
Great learning opportunity	47	29.2	81.4
Not a good experience	30	18.6	100
Total	161	100	



Description: in this pie chart it shows that if you have ever worked in the startup than what was your experience in it, with 29.2% in great learning opportunities in nature which is highest in chart, 23.6% and 20.5% in challenging but rewarding and exciting and dynamic respectively with not much difference,18.6% in not a good experience shows a bad impact of startup on them, lastly with lowest 8.1% in fast paced and stressful.

H. If no, would you consider working in a startup?

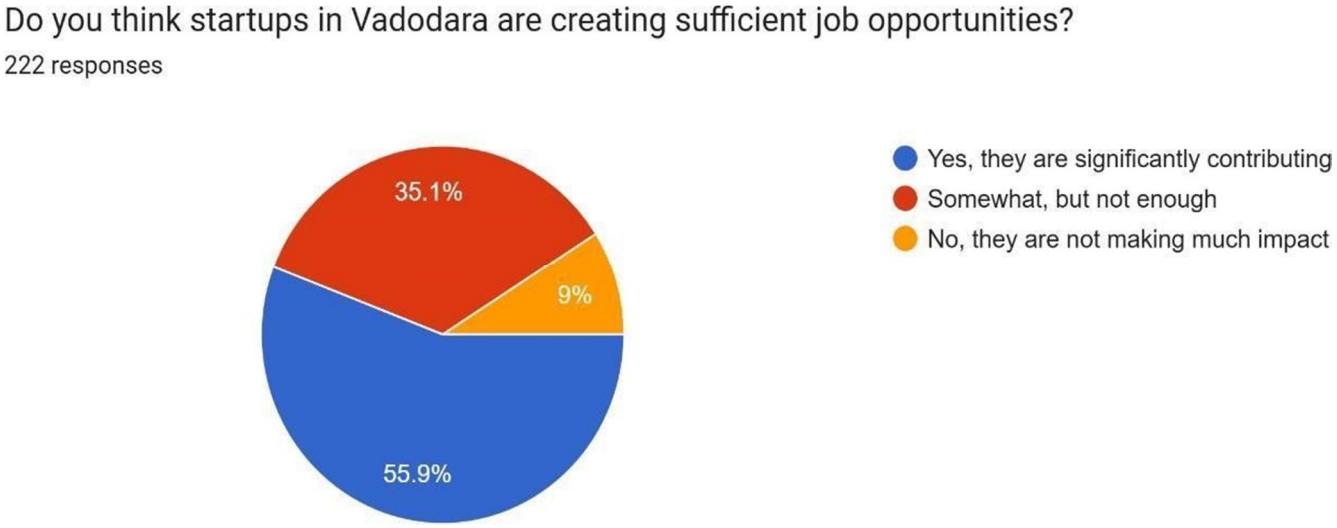
	Number	Percentage	Cumulative
Yes, I am interested	91	41.2	41.2
Maybe, if the opportunity is good	109	49.3	90.5
No, I prefer a stable job	21	9.5	100
Total	221	100	



Description: in this pie chart it shows that if you have not worked in startup than would you prefer to work, with highest 49.3% in Maybe, if the opportunity is good would consider to work in startup, 41.2% in Yes, I am interested are considering to work and with lowest 9.5% in No, I prefer a stable job are not interested in working in a startup in future if the opportunity come.

I. Do you think startups in Vadodara are creating sufficient job opportunities?

	Number	Percentage	Cumulative
Yes, they are significantly contributing	124	55.9	55.9
Somewhat, but not enough	78	35.1	91
No, they are not making much impact	20	9	100
Total	222	100	



Description: in this pie chart it shows that do you think startups in Vadodara are creating sufficient job opportunities, with highest of 55.9% in Yes, they are significantly contributing, 35.1% and 9% in Somewhat, but not enough and No, they are not making much impact respectively are shown.

J. what factors influence your decision to work in a startup?

	Number	Percentage	Cumulative
Salary and financial benefits	64	28.6	28.6
Learning and skill development opportunities	102	45.5	74.1
Work culture and flexibility	15	6.7	80.8
Career growth and promotions	30	13.4	94.2
Job security	13	5.8	100
Total	224	100	

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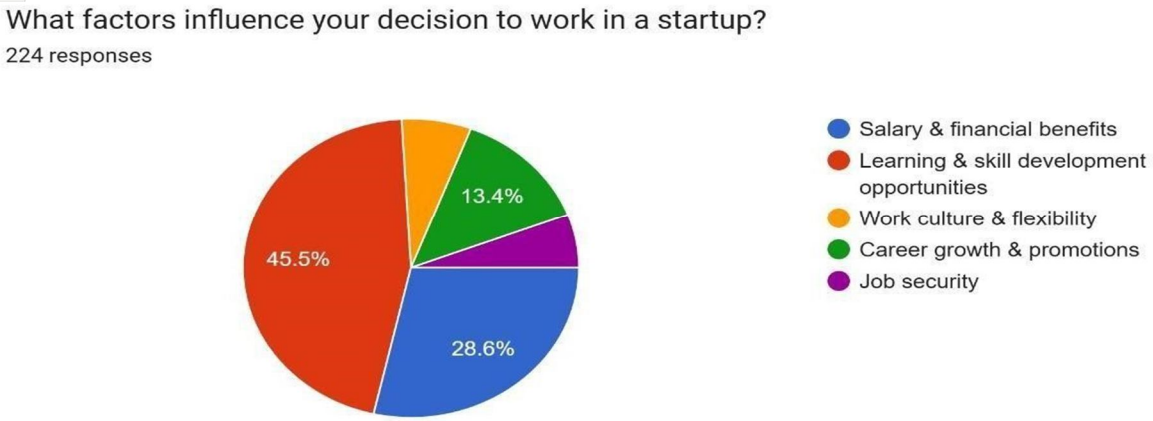
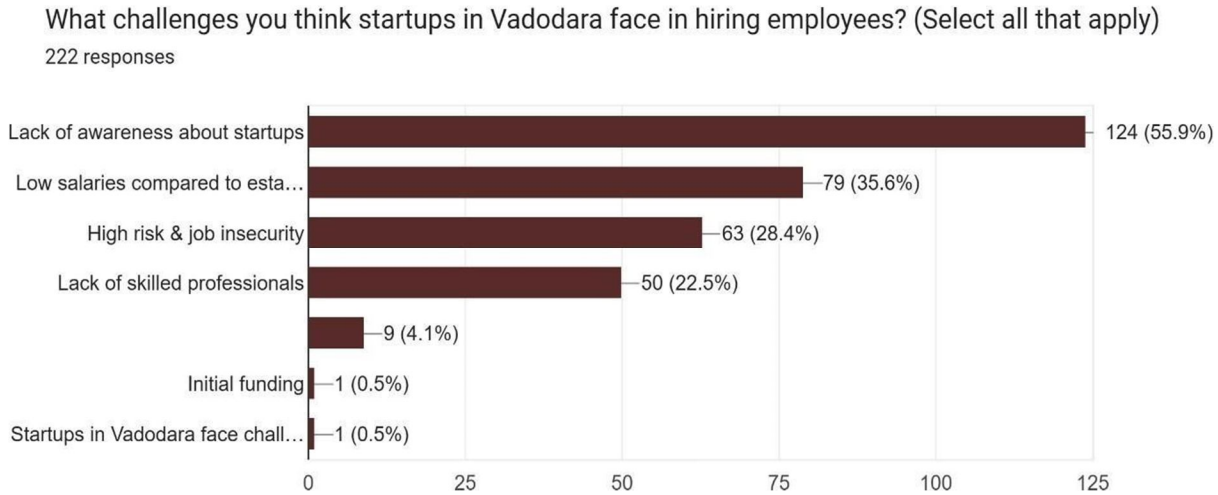


Description: in this pie chart it shows that what factors are influencing your decision to work in a startup, where with 45.5% in learning and skill development opportunities is highest in chart followed by salary and financial benefits with 28.6% and 13.4% in career growth and promotions, lastly lowest with work culture and flexibility and job security followed by 6.7% and 5.8% respectively.

K. What challenges you think startups in Vadodara face in hiring employees?

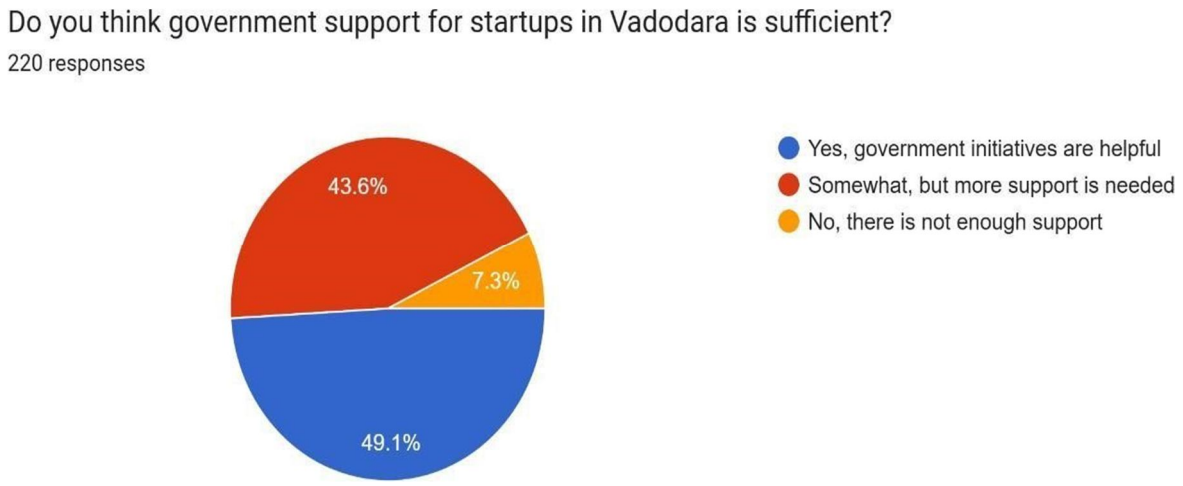
	Number	Percentage	Cumulative
Lack of awareness about startups	124	55.9	55.9
Low salaries compared established to companies	79	35.6	91.5
High risk and job security	63	28.4	119.9
Lack of skilled professionals	50	22.5	142.4
Other	11	5.1	147.5
Total	222	147.5	



Description: in this bar graph it shows the challenges that a respondent thinking startups in Vadodara face in hiring employees, highest with 55.9% in lack of awareness about startups, followed by 35.6% and 28.4% in low salaries compared to established companies and high risk and job insecurity respectively, lastly with 22.5% in lack of skilled professionals is challenging in Vadodara in hiring employees followed by other with 5.1% in graph.

L. Do you think government support for startups in Vadodara is sufficient?

	Number	Percentage	Cumulative
Yes, government initiatives are helpful	108	49.1	49.1
Somewhat, but more support is needed	96	43.6	92.7
No, there is not enough support	16	7.3	100
Total	220	100	



Description: in this pie chart it shows that what do you think government support for startups in Vadodara is sufficient or not, with highest of 49.1% in Yes, government initiatives are helpful, and 43.6% in Somewhat, but more support is needed from government for startup followed by 7.3% in No, there is not enough support from government for startups.

M. Which industries do you think have the most startup growth potential in Vadodara?

	Number	Percentage	Cumulative
IT and Software	110	50	50
E-commerce and retail	96	43.6	93.6
Manufacturing and engineering	62	28.2	121.8
Healthcare and edtech	53	24.1	145.9
Finance and fintech	45	20.5	166.4
Other	9	4.1	170.5
Total	220	170.5	

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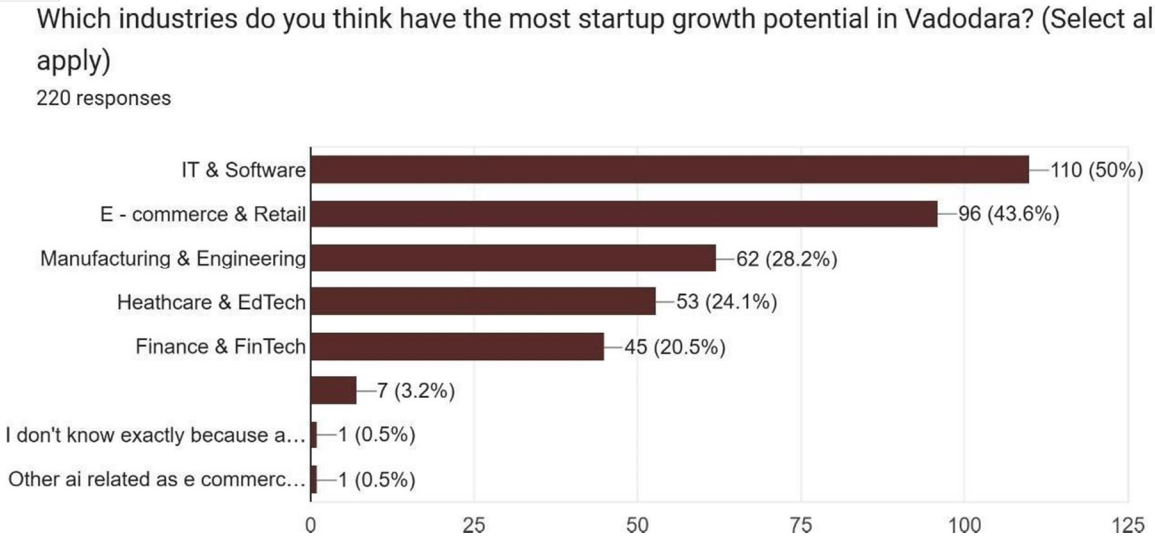
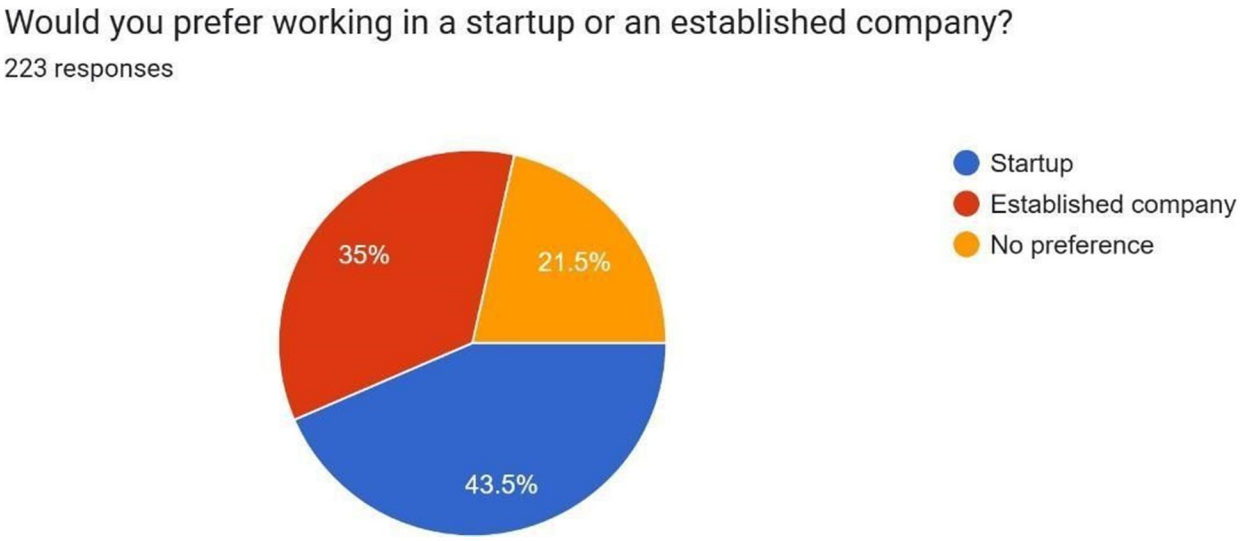


Description: in this bar graph it shows that which industries do you think have the most startup growth potential in Vadodara, with highest 50% in IT and software followed by 43.6% in Ecommerce and retail, accordingly 28.2%, 24.1%, and 20.5% in manufacturing and engineering, healthcare and edtech and finance and fintech respectively, lastly with 4.1% in other having most startup growth potential in Vadodara.

N. Would you prefer in a startup or an established company?

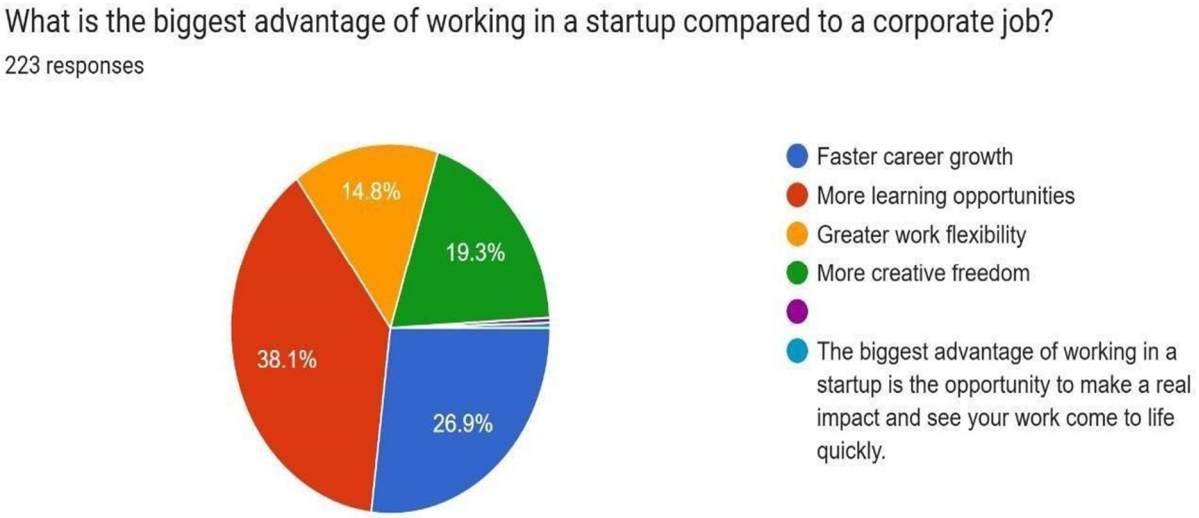
	Number	Percentage	Cumulative
Startup	97	43.5	43.5
Established company	78	35	78.5
No preference	48	21.5	100
Total	223	100	



Description: in this pie chart it shows the preferences of the respondents who prefer to work in a startup or an established company, with highest of 43.5% in startup, followed by 35% and 21.5% in established company and no preferences respectively.

O. What is the biggest advantage of working in a startup compared to a corporate job?

	Number	Percentage	Cumulative
Faster career growth	60	26.9	26.9
More learning opportunities	85	38.1	65
Greater work flexibility	33	14.8	79.8
More creative freedom	43	19.3	99.1
Other	2	0.9	100
Total	223	100	



Description: in this pir chart it shows what is the biggest advantage of working in a startup compared toa corporate job, with highest of 38.1% in more learning opportunities, 26.9% and 14.8% in faster career growth and greater work flexibility respectively, lasty with 19.3% in more creative freedom, and 0.9% in other advantage.

P. Would you consider launching your own startup in the future?

	Number	Percentage	Cumulative
Yes, definitely	110	49.8	49.8
Maybe, if I get the right opportunities	87	39.4	89.2
No, I prefer working for a company	24	10.9	100
Total	221	100	

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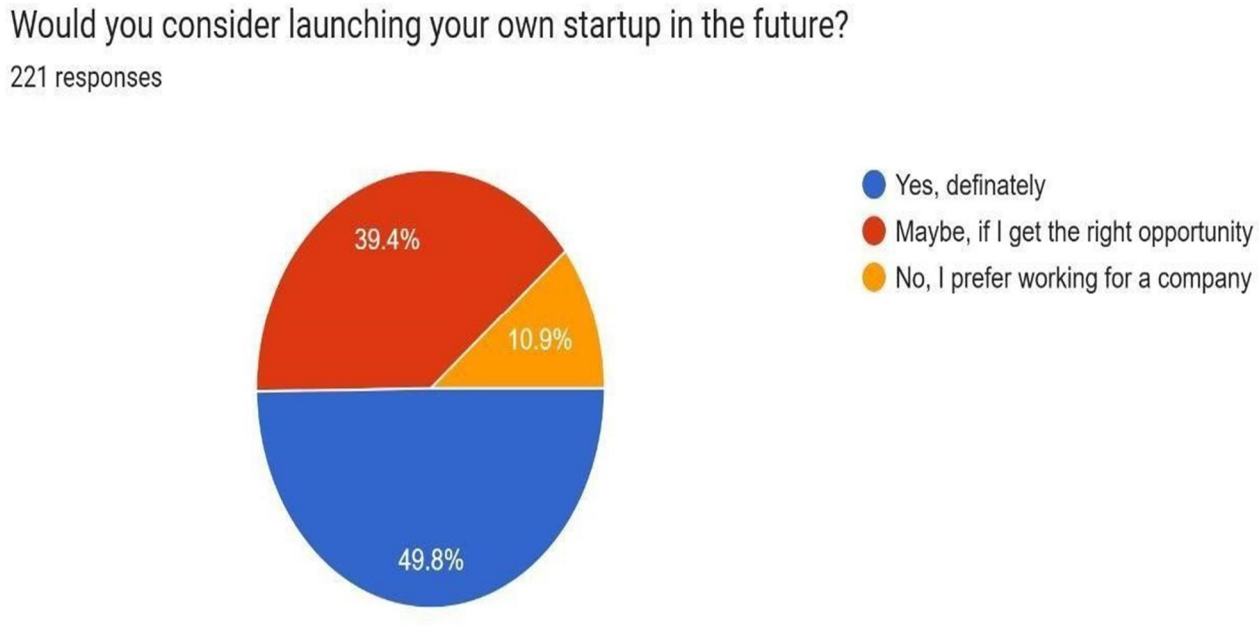

Description: in this pie chart it shows that would a respondent consider to launching its own startup in the future or not, with highest of 49.8% in Yes, definitely they will consider to launch, followed by 10.9% in No, I prefer working for a company, lastly who come under maybe with 39.4% in Maybe, if I get the right opportunity, maybe one are those who will consider launching if they got any good opportunities.

VI. HYPOTHESIS

1) Analyse how startups create jobs, focusing on sectors like tech and e- commerce, and the impact on skilled and entry-level roles.

- H_0:Startups in Vadodara do not significantly contribute to employment generation.
- H_1: Startups in Vadodara significantly contribute to employment generation.

2) Examine startups' influence on local competition, collaboration, and investment, as well as the role of infrastructure and policies.

- H_0: The startup ecosystem in Vadodara does not have a significant impact on local business competition and investment.
- H_1: The startup ecosystem in Vadodara significantly influences local business competition and investment.

3) Assess startups' impact on Vadodara's GDP, market creation, and economic diversification through innovation

- H_0: Startups do not significantly contribute to Vadodara's GDP and economic diversification.
- H_1: Startups significantly contribute to Vadodara's GDP and economic diversification.

4) Identify challenges like funding, talent, regulations, and market access, and recommend solutions

- H_0: Startups in Vadodara do not face significant challenges in terms of funding, talent acquisition, regulations, and market access.
- H_1: Startups in Vadodara face significant challenges in terms of funding, talent acquisition, regulations, and market access.

5) Suggest actionable policy changes and collaborations to support the startup ecosystem and enhance growth.

- H_0: Existing government policies and support programs are sufficient for startup growth in Vadodara.
- H_1: Existing government policies and support programs are not sufficient for startup growth in Vadodara.

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VII. HYPOTHESIS TESTING

A. Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	147	63.6
	Excluded[a]	84	36.4
	Total	231	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.702	10

B. Factor Analysis

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.553
Bartlett's Test of Sphericity	Approx. Chi-Square	19.423
	df	3
	Sig.	<.001

Communalities

	Initial	Extraction
Age Group	**1.000**	**.558**
Gender	**1.000**	**.403**
Education Qualification	**1.000**	**.377**

Extraction Method: Principal Component Analysis.

C. Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.338	44.592	44.592	1.338	44.592	44.592
2	.904	30.126	74.718			
3	.758	25.282	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component 1
Age Group	.747
Gender	.635
Education Qualification	.614

Extraction Method: Principal Component Analysis.
a. 1 components extracted.

D. Frequencies

Statistics

		Name	Gender	Age Group	Education Qualification	Current Employment Status
N	Valid	231	231	229	228	229
	Missing	0	0	2	3	2

Frequency Table

Name

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		24	10.4	10.4	10.4
	Aadil	1	.4	.4	10.8

Aaditya Bhatt	1	.4	.4	11.3
Aashutosh Umarvaishy	1	.4	.4	11.7
Aayan Debnath	1	.4	.4	12.1
Aayush Joshi	1	.4	.4	12.6
Abhay Kumar	1	.4	.4	13.0
Abhay Kumar Mehta	1	.4	.4	13.4
Abhinav Mishra	1	.4	.4	13.9
Abhishek	1	.4	.4	14.3
Abhishek Raj	1	.4	.4	14.7
Abhishek Yadav	1	.4	.4	15.2
Abir Roy	1	.4	.4	15.6
Adarsh Dixit	1	.4	.4	16.0
Aditya Kumar	1	.4	.4	16.5
Akash Gupta	1	.4	.4	16.9
Akhil Sharma	1	.4	.4	17.3
Almas Godal	1	.4	.4	17.7
Alok	1	.4	.4	18.2
Amit Kumar thakur	1	.4	.4	18.6
Anamika Das	1	.4	.4	19.0
Anand Yadav	1	.4	.4	19.5
Ananya	1	.4	.4	19.9
Aniket Kumar	1	.4	.4	20.3
Anjali alunkhe	1	.4	.4	20.8

Ankit Kumar	1	.4	.4	21.2
Ankit Shivam	1	.4	.4	21.6
Ankur Kumar	1	.4	.4	22.1
Ankush Gaurav Sharma	1	.4	.4	22.5
Anmol Duberiya	1	.4	.4	22.9
Anshika	1	.4	.4	23.4
Anshul Awasthi	1	.4	.4	23.8
Arth Srivastava	1	.4	.4	24.2
Aryan	1	.4	.4	24.7
Avantika Choudhury	1	.4	.4	25.1
Ayasha khan	1	.4	.4	25.5
B Gopal	1	.4	.4	26.0
Bharti Shyam	1	.4	.4	26.4
Blessings	1	.4	.4	26.8
Bhargav	1	.4	.4	27.3
Charmi Patel	1	.4	.4	27.7
Deepak Kumar	1	.4	.4	28.1
Devanshi Sharma	1	.4	.4	28.6
Dhaval Prajapati	1	.4	.4	29.0
Dhruv s Sahani	1	.4	.4	29.4
Dixit Tushar	1	.4	.4	29.9
Diya Sewa	1	.4	.4	30.3
Esha Patidar	1	.4	.4	30.7
Faizaan Saifi	1	.4	.4	31.2
Gaurav Kumar	1	.4	.4	31.6
Gautam Kumar	1	.4	.4	32.0
Gopal	1	.4	.4	32.5
Ghanshyam Shinde	1	.4	.4	32.9

Grace Erika Meki Jumah	1	.4	.4	33.3
Harleen Kaur	1	.4	.4	33.8
Harsh Vardhan Sain	1	.4	.4	34.2
Harshit	1	.4	.4	34.6
Himanshi	1	.4	.4	35.1
Himanshu Rawat	1	.4	.4	35.5
Hozefa	1	.4	.4	35.9
Isha	1	.4	.4	36.4
Kashish	1	.4	.4	36.8
Jagriti	1	.4	.4	37.2
Jaspreet	1	.4	.4	37.7
Jinay Patel	1	.4	.4	38.1
Jyoti	1	.4	.4	38.5
Kabira	1	.4	.4	39.0
Karan	1	.4	.4	39.4
Karan Singh Rajput	1	.4	.4	39.8
Kashish	1	.4	.4	40.3
Kaushal Yadav	1	.4	.4	40.7
Kaushik Kumar Dash	1	.4	.4	41.1
Kaustubh Sonawane	1	.4	.4	41.6
Kavita prajapat	1	.4	.4	42.0
Khushi	1	.4	.4	42.4
Kishan Yadav	1	.4	.4	42.9
Krupa	1	.4	.4	43.3
Kundan Kumar	1	.4	.4	43.7
Lakshita Chauhan	1	.4	.4	44.2
Lavanya	1	.4	.4	44.6

	Lishika Sen	1	.4	.4	45.0
	Lokesh Kumar thakur	1	.4	.4	45.5
	Lucky Upadhyay	1	.4	.4	45.9
	M Efraiem	1	.4	.4	46.3
	Macchi Vivek	1	.4	.4	46.8
	Madhav Ahuja	1	.4	.4	47.2
	Madie	1	.4	.4	47.6
	Mahesh	1	.4	.4	48.1
	Mahesh Shinde	1	.4	.4	48.5
	Manish Kanoo	1	.4	.4	48.9
	Manor Prajapati	1	.4	.4	49.4
	Manshila	1	.4	.4	49.8
	Manushree Kaul	1	.4	.4	50.2
	Mayank Vishwakarma	1	.4	.4	50.6
	Megha Sankhla	1	.4	.4	51.1
	Meghna	1	.4	.4	51.5
	Mehta Kumar	1	.4	.4	51.9
	Moin	1	.4	.4	52.4
	Muskan Kumari	1	.4	.4	52.8
	Naksh	1	.4	.4	53.2
	Navneet Kumar	1	.4	.4	53.7
	Nihar	1	.4	.4	54.1
	Nikita	1	.4	.4	54.5
	Niranjan Kumar Sharma	1	.4	.4	55.0
	Nishant Jaiswal	1	.4	.4	55.4
	Nishith Pawar	1	.4	.4	55.8
	Nitin Bhardwaj	1	.4	.4	56.3

Nitin kr.	1	.4	.4	56.7
Nityanand Tiwari	1	.4	.4	57.1
Omee Gupta	1	.4	.4	57.6
P Palei	1	.4	.4	58.0
Palak Patnecha	1	.4	.4	58.4
Parnab Singha	1	.4	.4	58.9
Pintu Kumar	1	.4	.4	59.3
Pooja	1	.4	.4	59.7
Poorvi	1	.4	.4	60.2
Prabhakar	1	.4	.4	60.6
Prabhat Kumar	1	.4	.4	61.0
Prachi Manoj Kumar	1	.4	.4	61.5
Prachi Pandey	1	.4	.4	61.9
Pradeep Kumar	1	.4	.4	62.3
Prakash Mehta	1	.4	.4	62.8
Prashant	1	.4	.4	63.2
Prateek Singh	1	.4	.4	63.6
Pratik Patil	1	.4	.4	64.1
Prikhit	1	.4	.4	64.5
Priyanka	1	.4	.4	64.9
Priyanka Das	1	.4	.4	65.4
Priyanka kumari	1	.4	.4	65.8
Priyanka Mazumdar	1	.4	.4	66.2
Priyanshi	1	.4	.4	66.7
Priyanshu Trivedi	1	.4	.4	67.1
Pruthvi Raj Modi	1	.4	.4	67.5
Puja Jadav	1	.4	.4	68.0
Raechal	1	.4	.4	68.4

	Rahul	1	.4	.4	68.8
	Rahul Kr	1	.4	.4	69.3
	Rahul Kumar	1	.4	.4	69.7
	Rahul Patel	1	.4	.4	70.1
	Raj	1	.4	.4	70.6
	Raj Thakur	1	.4	.4	71.0
	Rajiv Ranjan	1	.4	.4	71.4
	Ranjita Ghasari	1	.4	.4	71.9
	Rathod Rushika d.	1	.4	.4	72.3
	Raushani Kumari	1	.4	.4	72.7
	Rishabh	1	.4	.4	73.2
	Rithik Kumar	1	.4	.4	73.6
	Rohit	1	.4	.4	74.0
	Roushan Kumar	1	.4	.4	74.5
	Saloni	1	.4	.4	74.9
	Sameer Bharti	1	.4	.4	75.3
	Sandeep	1	.4	.4	75.8
	Sandeep Kumar	1	.4	.4	76.2
	Sanjana Choudhury	1	.4	.4	76.6
	Sanjana Jadav	1	.4	.4	77.1
	Sanya Khushalani	1	.4	.4	77.5
	Satya	1	.4	.4	77.9
	Satya Kami Reddy	1	.4	.4	78.4
	Saurav Kumar	1	.4	.4	78.8
	Saurav Kumar	1	.4	.4	79.2
	Sanju	1	.4	.4	79.7
	Shashank Agarwal	1	.4	.4	80.1

Shivalika Taragi	1	.4	.4	80.5
Shivam Kumar Gupta	1	.4	.4	81.0
Shivansh	1	.4	.4	81.4
Shobha Vishwakarma	1	.4	.4	81.8
Shrey Ahir	1	.4	.4	82.3
Shreya Agrawal	1	.4	.4	82.7
Shruti Tripathi	1	.4	.4	83.1
Shubham Kumar Mehta	1	.4	.4	83.5
Solanki Vidya	1	.4	.4	84.0
Sri Ram Keshri	1	.4	.4	84.4
Subham raj	1	.4	.4	84.8
Subhash Kumar	1	.4	.4	85.3
Subhash panther	1	.4	.4	85.7
Subhashree Ojha	1	.4	.4	86.1
Subhu	1	.4	.4	86.6
Sudhanshu Kumar	1	.4	.4	87.0
Sumit das	1	.4	.4	87.4
Suraj Kumar	1	.4	.4	87.9
Suraj Raj	1	.4	.4	88.3
Surya Yadav	1	.4	.4	88.7
Sushil Kumar	1	.4	.4	89.2
Swapnali Mitragotri	1	.4	.4	89.6
Swapnil Satapathy	1	.4	.4	90.0
Swayam Rajora	1	.4	.4	90.5
Tahejib	1	.4	.4	90.9
Tanmay Vaze	1	.4	.4	91.3
Tanush Salian	1	.4	.4	91.8
Tanushree	1	.4	.4	92.2

	Tina	1	.4	.4	92.6
	Udit Kumar	1	.4	.4	93.1
	Upadhyay Pratvi Chirag	1	.4	.4	93.5
	Varun Prakash Srivastava	1	.4	.4	93.9
	Verma Raj Suresh	1	.4	.4	94.4
	Vidya Solanki	2	.9	.9	95.2
	Vijay Prajapati	1	.4	.4	95.7
	Vikram Kumar	1	.4	.4	96.1
	Vikram Kumar	1	.4	.4	96.5
	Vinod Kumar	1	.4	.4	97.0
	Vishakha Sharma	1	.4	.4	97.4
	Vishal Vishwakarma	1	.4	.4	97.8
	Vivek Kumar	1	.4	.4	98.3
	Surya	1	.4	.4	98.7
	Yadav Pooja	1	.4	.4	99.1
	Yash Jangid	1	.4	.4	99.6
	Yukti	1	.4	.4	100.0
	Total	231	100.0	100.0	

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	159	68.8	68.8	68.8
	2	69	29.9	29.9	98.7
	3	1	.4	.4	99.1
	4	2	.9	.9	100.0
	Total	231	100.0	100.0	

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Age Group

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	208	90.0	90.8	90.8
	2	18	7.8	7.9	98.7
	3	2	.9	.9	99.6
	4	1	.4	.4	100.0
	Total	229	99.1	100.0	
Missing	System	2	.9		
Total		231	100.0		

Education Qualification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	53	22.9	23.2	23.2
	2	7	3.0	3.1	26.3
	3	138	59.7	60.5	86.8
	4	23	10.0	10.1	96.9
	5	7	3.0	3.1	100.0
	Total	228	98.7	100.0	
Missing	System	3	1.3		
Total		231	100.0		

Current Employment Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	34	14.7	14.8	14.8
	2	15	6.5	6.6	21.4
	3	20	8.7	8.7	30.1
	4	9	3.9	3.9	34.1
	5	151	65.4	65.9	100.0
	Total	229	99.1	100.0	
Missing	System	2	.9		
Total		231	100.0		

E. One-way

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Have you ever worked in a startup?	Between Groups	4.108	1	4.108	7.390	.007
	Within Groups	123.955	223	.556		
	Total	128.062	224			
If yes, how would you describe your experience working in a startup?	Between Groups	12.902	1	12.902	6.350	.013
	Within Groups	318.998	157	2.032		
	Total	331.899	158			
If no, would you consider working in a startup?	Between Groups	4.452	1	4.452	11.442	<.001
	Within Groups	84.434	217	.389		
	Total	88.886	218			
Do you think startups in Vadodara are creating sufficient job opportunities?	Between Groups	4.143	1	4.143	10.183	.002
	Within Groups	88.693	218	.407		
	Total	92.836	219			
Do you think government support for startups in Vadodara is sufficient?	Between Groups	2.078	1	2.078	5.422	.021
	Within Groups	82.766	216	.383		
	Total	84.844	217			

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ANOVA Effect Sizes[a,b]

			95% Confidence Interval	
		Point Estimate	Lower	Upper
Have you ever worked in a startup?	Eta-squared	.032	.002	.089
	Epsilon-squared	.028	-.002	.085
	Omega-squared Fixed-effect	.028	-.002	.085
	Omega-squared Random-effect	.028	-.002	.085
If yes, how would you describe your	Eta-squared	.039	.002	.113
	Epsilon-squared	.033	-.005	.107
If yes, how would you describe your experience working in a startup?	Eta-squared	.039	.002	.113
	Epsilon-squared	.033	-.005	.107
	Omega-squared Fixed-effect	.033	-.005	.107
	Omega-squared Random-effect	.033	-.005	.107
If no, would you consider working in a startup?	Eta-squared	.050	.009	.116
	Epsilon-squared	.046	.004	.112
	Omega-squared Fixed-effect	.046	.004	.112
	Omega-squared Random-effect	.046	.004	.112
Do you think startups in	Eta-squared	.045	.007	.108

Vadodara are creating sufficient job opportunities?	Epsilon-squared	.040	.002	.104
	Omega-squared Fixed-effect	.040	.002	.104
	Omega-squared Random-effect	.040	.002	.104
Do you think government support for startups in Vadodara is sufficient?	Eta-squared	.024	.000	.078
	Epsilon-squared	.020	-.004	.074
	Omega-squared Fixed-effect	.020	-.004	.074
	Omega-squared Random-effect	.020	-.004	.074

a. Eta-squared and Epsilon-squared are estimated based on the fixed-effect model.

b. Negative but less biased estimates are retained, not rounded to zero.

F. T-Test

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Current Employment Status	229	4.00	1.535	.101
Are you aware of the startup ecosystem in Vadodara?	226	1.36	.482	.032
Have you ever worked in a startup?	227	2.53	.754	.050
If yes, how would you describe your experience working in a startup?	161	3.02	1.451	.114
If no, would you consider working in a startup?	221	1.68	.639	.043

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One-Sample Test

	Test Value = 0						
	t	Df	Significance One-Sided p	Significance Two-Sided p	Mean Difference	95% Confidence Interval of the Difference Lower	Upper
Current Employment Status	39.399	228	<.001	<.001	3.996	3.80	4.20
Are you aware of the startup ecosystem in Vadodara?	42.516	225	<.001	<.001	1.363	1.30	1.43
Have you ever worked in a startup?	50.612	226	<.001	<.001	2.533	2.43	2.63
If yes, how would you describe your experience working in a startup?	26.394	160	<.001	<.001	3.019	2.79	3.24
If no, would you consider working in a startup?	39.161	220	<.001	<.001	1.683	1.60	1.77

One-Sample Effect Sizes

		Standardizera	Point Estimate	95% Confidence Interval Lower	Upper
Current Employment Status	Cohen's d	1.535	2.604	2.331	2.874
	Hedges' correction	1.540	2.595	2.323	2.865
Are you aware of the startup ecosystem in Vadodara?	Cohen's d	.482	2.828	2.536	3.119
	Hedges' correction	.483	2.819	2.527	3.109
Have you ever worked in a startup?	Cohen's d	.754	3.359	3.023	3.694
	Hedges' correction	.757	3.348	3.013	3.682
If yes, how would you describe your experience working in a startup?	Cohen's d	1.451	2.080	1.804	2.354
	Hedges' correction	1.458	2.070	1.795	2.343
If no, would you consider working in a startup?	Cohen's d	.639	2.634	2.354	2.913
	Hedges' correction	.641	2.625	2.346	2.903

a. The denominator used in estimating the effect sizes.
Cohen's d uses the sample standard deviation.
Hedges' correction uses the sample standard deviation, plus a correction factor.

G. Crosstabs

Case Processing Summary

Cases

	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Which industries do you think have the most startup growth potential in Vadodara? (Select all that apply) * Are you aware of the startup ecosystem in Vadodara?	**226**	**97.8%**	**5**	**2.2%**	**231**	**100.0%**
Which industries do you think have the most startup growth potential in Vadodara? (Select all that apply) * Have you ever worked in a startup?	**227**	**98.3%**	**4**	**1.7%**	**231**	**100.0%**
Which industries do you think have the most startup growth potential in Vadodara? (Select all that apply) * If yes, how would you describe your experience working in a startup?	**161**	**69.7%**	**70**	**30.3%**	**231**	**100.0%**
Which industries do you think have the most startup growth potential in Vadodara? (Select all that apply) * If no, would you consider working in a startup?	**221**	**95.7%**	**10**	**4.3%**	**231**	**100.0%**

Which industries do you think have the most startup growth potential in Vadodara? (Select all that apply) * Do you think startups in Vadodara are creating sufficient job opportunities?	222	96.1%	9	3.9%	231	100.0%
What factors influence your decision to work in a startup? * Are you aware of the startup ecosystem in Vadodara?	222	96.1%	9	3.9%	231	100.0%
What factors influence your decision to work in a startup? * Have you ever worked in a startup?	223	96.5%	8	3.5%	231	100.0%
What factors influence your decision to work in a startup? * If yes, how would you describe your experience working in a startup?	161	69.7%	70	30.3%	231	100.0%
What factors influence your decision to work in a startup? * If no, would you consider working in a startup?	219	94.8%	12	5.2%	231	100.0%
What factors influence your decision to work in a startup? * Do you think startups in Vadodara are creating sufficient job opportunities?	221	95.7%	10	4.3%	231	100.0%

Which industries do you think have the most startup growth potential in Vadodara? (Select all that apply) * Are you aware of the startup ecosystem in Vadodara?
Crosstabulation
Count

		Are you aware of the startup ecosystem in Vadodara?		
		1	2	Total
Which industries do you think have the most startup growth potential in Vadodara? (Select all that apply)		6	7	13
	1	34	19	53
	1, 2	8	2	10
	1, 2,	1	0	1
	1, 2, 3	3	0	3
	1, 2, 3, 4	3	0	3
	1, 2, 3, 4, 5	5	6	11
	1, 2, 3, 5	2	1	3
	1, 2, 4	3	2	5
	1, 2, 4, 5	1	2	3
	1, 2, 5	6	0	6
	1, 3	2	5	7
	1, 3, 4	1	0	1
	1, 3, 5	1	0	1
	1, 5	1	0	1
	1,2,3	1	0	1
	2	21	13	34
	2, 3	3	1	4
	2, 3, 4	1	2	3
	2, 3, 4, 5	0	1	1
	2, 3, 5	2	0	2
	2, 4	2	0	2
	2, 4, 5	0	2	2
	2, 5	2	0	2
	3	13	7	20
	3, 4	2	0	2
	3, 5	1	0	1
	4	12	6	18
	4,	0	1	1
	5	7	5	12
Total		144	82	226

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Which industries do you think have the most startup growth potential in Vadodara? (Select all that apply) * Have you ever worked in a startup? Crosstabulation

Count

		Have you ever worked in a startup?			
		1	2	3	Total
Which industries do you think have the most startup growth potential in Vadodara? (Select all that apply)		1	0	12	13
	1	9	6	39	54
	1, 2	1	2	7	10
	1, 2,	1	0	0	1
	1, 2, 3	0	0	3	3
	1, 2, 3, 4	0	0	3	3
	1, 2, 3, 4, 5	2	2	7	11
	1, 2, 3, 5	0	1	2	3
	1, 2, 4	0	0	5	5
	1, 2, 4, 5	0	1	2	3
	1, 2, 5	1	2	3	6
	1, 3	0	2	5	7
	1, 3, 4	0	0	1	1
	1, 3, 5	0	0	1	1
	1, 5	0	1	0	1
	1,2,3	0	1	0	1
	2	6	6	22	34
	2, 3	1	0	3	4
	2, 3, 4	0	0	3	3
	2, 3, 4, 5	0	0	1	1
	2, 3, 5	1	0	1	2
	2, 4	1	0	1	2
	2, 4, 5	0	0	2	2
	2, 5	0	0	2	2
	3	3	4	12	19
	3, 4	1	0	1	2
	3, 5	1	0	0	1
	4	4	4	10	18
	4,	0	0	1	1
	4, 5	0	0	1	1
	5	3	2	7	12
Total		36	34	157	227

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Which industries do you think have the most startup growth potential in Vadodara? (Select all that apply) * If yes, how would you describe your experience working in a startup? Crosstabulation

Count

		If yes, how would you describe your experience working in a startup?					Total
		1	2	3	4	5	
Which industries do you think have the most startup growth potential in Vadodara? (Select all that apply)	1	11	3	3	14	7	38
	1, 2	2	4	0	1	2	9
	1, 2,	0	1	0	0	0	1
	1, 2, 3	0	0	0	3	0	3
	1, 2, 3, 4	1	1	0	0	0	2
	1, 2, 3, 4, 5	3	2	1	3	0	9
	1, 2, 3, 5	0	2	0	0	0	2
	1, 2, 4	0	2	0	1	0	3
	1, 2, 4, 5	0	0	0	1	0	1
	1, 2, 5	2	1	0	0	1	4
	1, 3	0	2	0	0	1	3
	1, 3, 4	0	0	1	0	0	1
	1, 5	0	0	0	1	0	1
	1,2,3	0	0	0	1	0	1
	2	5	10	2	5	6	28
	2, 3	0	2	0	0	0	2
	2, 3, 5	1	0	0	0	1	2
	2, 4	1	0	0	0	0	1
	2, 4, 5	0	0	0	1	0	1
	2, 5	0	1	0	0	1	2
	3	1	3	4	6	2	16
	3, 4	0	0	0	1	0	1
	3, 5	0	0	0	1	0	1
	4	4	3	2	3	3	15
	4,	0	0	0	0	1	1
	4, 5	0	0	0	1	0	1
	5	1	1	0	4	1	7
Total		33	38	13	47	30	161

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Which industries do you think have the most startup growth potential in Vadodara? (Select all that apply) * If no, would you consider working in a startup? Crosstabulation

Count

		If no, would you consider working in a startup?			
		1	2	3	Total
Which industries do you		4	4	2	10
think have the most	1	27	22	4	53
startup growth potential in	1, 2	5	5	0	10
Vadodara? (Select all that apply)	1, 2,	1	0	0	1
	1, 2, 3	1	2	0	3
	1, 2, 3, 4	1	2	0	3
	1, 2, 3, 4, 5	5	6	0	11
	1, 2, 3, 5	1	2	0	3
	1, 2, 4	1	4	0	5
	1, 2, 4, 5	1	2	0	3
	1, 2, 5	2	3	1	6
	1, 3	2	5	0	7
	1, 3, 4	1	0	0	1
	1, 3, 5	0	1	0	1
	1, 5	0	1	0	1
	1,2,3	1	0	0	1
	2	13	16	5	34
	2, 3	2	2	0	4
	2, 3, 4	2	1	0	3
	2, 3, 4, 5	0	1	0	1
	2, 3, 5	2	0	0	2
	2, 4	1	1	0	2
	2, 4, 5	0	1	0	1
	2, 5	1	1	0	2
	3	4	12	4	20
	3, 4	2	0	0	2
	3, 5	1	0	0	1
	4	5	10	2	17
	4,	0	0	1	1
	4, 5	1	0	0	1
	5	4	5	2	11
Total		91	109	21	221

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Which industries do you think have the most startup growth potential in Vadodara? (Select all that apply) * Do you think startups in Vadodara are creating sufficient job opportunities? Crosstabulation

Count

		Do you think startups in Vadodara are creating sufficient job opportunities?			
		1	2	3	Total
Which industries do you think have the most startup growth potential in Vadodara? (Select all that apply)		3	4	2	9
	1	36	14	4	54
	1, 2	5	4	1	10
	1, 2,	1	0	0	1
	1, 2, 3	2	1	0	3
	1, 2, 3, 4	1	2	0	3
	1, 2, 3, 4, 5	7	3	1	11
	1, 2, 3, 5	2	1	0	3
	1, 2, 4	2	3	0	5
	1, 2, 4, 5	2	1	0	3
	1, 2, 5	3	3	0	6
	1, 3	2	4	0	6
	1, 3, 4	1	0	0	1
	1, 3, 5	0	1	0	1
	1, 5	1	0	0	1
	1,2,3	1	0	0	1
	2	20	10	4	34
	2, 3	2	2	0	4
	2, 3, 4	1	2	0	3
	2, 3, 4, 5	0	1	0	1
	2, 3, 5	2	0	0	2
	2, 4	0	1	1	2
	2, 4, 5	1	1	0	2
	2, 5	2	0	0	2
	3	9	9	2	20
	3, 4	1	1	0	2
	3, 5	1	0	0	1
	4	10	5	3	18
	4, 5	0	0	1	1
	5	6	5	1	12
Total		124	78	20	222

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What factors influence your decision to work in a startup? * Are you aware of the startup ecosystem in Vadodara? Crosstabulation
Count

		Are you aware of the startup ecosystem in Vadodara?		
		1	2	Total
What factors influence your decision to work in a startup?	1	39	23	62
	2	70	32	102
	3	9	6	15
	4	17	13	30
	5	7	6	13
Total		142	80	222

What factors influence your decision to work in a startup? *
Have you ever worked in a startup? Crosstabulation Count

		Have you ever worked in a startup?			
		1	2	3	Total
What factors influence your decision to work in a startup?	1	16	10	38	64
	2	11	15	76	102
	3	3	4	8	15
	4	5	3	21	29
	5	1	2	10	13
Total		36	34	153	223

What factors influence your decision to work in a startup? * If yes, how would you describe your experience working in a startup? Crosstabulation
Count

		If yes, how would you describe your experience working in a startup?					
		1	2	3	4	5	Total
What factors influence your decision to work in a startup?	1	20	9	3	9	9	50
	2	8	19	3	24	9	63
	3	2	3	4	2	1	12
	4	2	6	3	8	5	24
	5	1	1	0	4	6	12
Total		33	38	13	47	30	161

VIII. FINDINGS

1) Employment Generation: Startups in tech and e-commerce have notably increased job opportunities, particularly in skilled roles like software development and digital marketing, as well as entry-level positions for fresh graduates and unskilled workers.
2) Business Environment: Startups are boosting local competition and innovation while fostering collaborations with established companies for knowledge transfer, supported by increased investment and favourable infrastructure and government policies.
3) Economic Contribution: Startups have significantly contributed to Vadodara's GDP by creating new markets, diversifying the local economy, and enhancing productivity and economic resilience through innovation.
4) Challenges Faced by Startups: To address common challenges like limited funding, talent recruitment difficulties, regulatory hurdles, and market entry barriers, proposed solutions include establishing a dedicated venture capital fund, enhancing training programs, and simplifying regulatory processes.
5) Policy Recommendations: Actionable policy changes such as tax incentives for startups, streamlined business registration, and fostering public-private partnerships, along with collaborative efforts between educational institutions and startups, can help bridge the talent gap and support innovation.

IX. CONCLUSION

The study on the *"Penetration of Startups in Vadodara and Its Impact on Employment"* provides valuable insights into how emerging businesses contribute to job creation and economic development. The research found that the increasing number of startups in Vadodara has played a significant role in shaping the local job market by generating new employment opportunities across various sectors, particularly in technology, services, and manufacturing.

The findings suggest that startups not only create direct employment but also stimulate indirect job opportunities through their demand for ancillary services. Additionally, the survey results indicate that startups contribute to skill development, innovation, and a shift toward a more dynamic and competitive labour market. However, challenges such as job stability, salary disparities, and limited growth opportunities in early-stage startups were also identified.

From the hypothesis testing and statistical analysis, it is evident that the startup ecosystem in Vadodara has a *"positive correlation with employment growth"*, supporting the notion that entrepreneurial activity is a key driver of economic progress. Policymakers, investors, and educational institutions must work collaboratively to foster an environment that supports startup sustainability and workforce adaptability.

In conclusion, while startups in Vadodara significantly impact employment, ensuring their longterm success requires addressing challenges related to funding, skill gaps, and government support. Future research can explore sector-specific impacts and the long-term scalability of startup-driven employment growth in the region.

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QUESTIONNAIRE

A google form is created in order to figure out the Penetration of startups: Impact on employment in Vadodara.

1) Name

2) Age group
a) 18 – 24
b) 25 – 34
c) 35 – 44
d) 45 and above

3) Gender
a) male
b) female
c) other
d) prefer not to say

4) Education qualification
a) High school
b) Diploma
c) Bachelor's degree
d) Master's degree or higher
e) Other

5) Current employment status
a) Employed (full time)
b) Employed (part time)
c) Self employed
d) Unemployed
e) Student

6) Have you ever worked in a startup ?
a) Yes, currently working in a startup
b) Yes, worked in the past
c) No, never worked in a startup

7) If yes, how would you describe your experience working in a startup?
a) Exciting and dynamic
b) Challenging but rewarding
c) Fast paced and stressful
d) Great learning opportunity
e) Not a good experience

8) If no, would you consider working in a startup?
a) Yes, I am interested
b) Maybe, if the opportunity is good
c) No, I prefer a stable job

9) What factors influence your decisions to work in a startup ?
a) Salary and financial benefits
b) Learning and skill development opportunities

c) Work culture and flexibility
d) Career growth and promotions
e) Job security

10) What challenges you think startups in Vadodara face in hiring employees? (select all that apply)
a) Lack of awareness about startups
b) Low salaries compared to established companies
c) High risk and job insecurity
d) Lack of skilled professionals
e) Other

11) Do you think government support for startups in Vadodara is sufficient?
a) Yes, government initiatives are helpful
b) Somewhat, but more support is needed
c) No, there is not enough support

12) Which industries do you think have the most startup growth potential in Vadodara ? (select all that apply)
a) It and software
b) E-commerce and retail
c) Manufacturing and engineering
d) Healthcare and edtech
e) Finance and fintech
f) Other

13) Would you prefer working in a startup or an established company?
a) Startup
b) Established company
c) No preference

14) What is the biggest advantage of working in a startup compared to a corporate job?
a) Faster career growth
b) More learning opportunities
c) Greater work flexibility
d) More creative freedom
e) Other

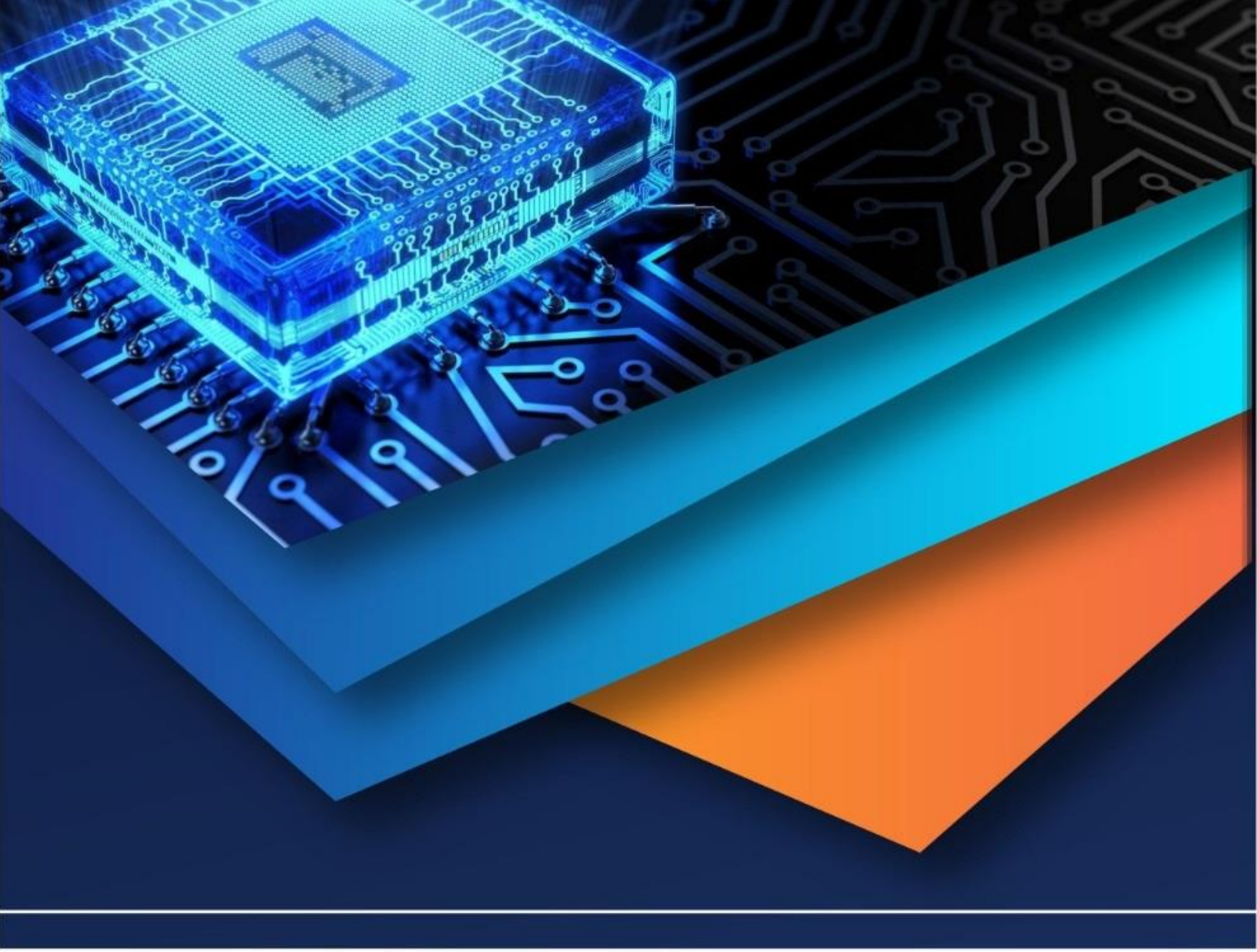
15) Would you consider launching your own startup in the future ?
a) Yes, definitely
b) Maybe, if I get the right opportunity
c) No, I prefer working for a company

16) Are you aware of the startup ecosystem in Vadodara?
a) Yes
b) No

17) Do you think startups in Vadodara are creating sufficient job opportunities?
a) Yes, they are significantly controlling
b) Somewhat, but not enough

c) No, they are not making much impact

18) What can be done to improve employment opportunities in startups?



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IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

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