



**SONOPANT DANDEKAR ARTS, V.S. APTE COMMERCE  
AND M.H. MEHTA SCIENCE COLLEGE, PALGHAR**

**Department of Commerce**

# **PROJECT REPORT**

**Master of Commerce**

**Academic Year 2022-2023**

Prepared by

**Department of Commerce**

**Sonopant Dandekar Arts, V.S. Apte Commerce and  
M.H. Mehta Science College, Palghar**

# INDEX

<b>Sr. No.</b>	<b>Content</b>
<b>1</b>	<b>Notice for Project Submission</b>
<b>2</b>	<b>Curriculum where course (subject where project work/ field work is required)</b>
<b>3</b>	<b>List Learners with Project titles</b>
<b>4</b>	<b>Sample Projects</b>



**Sonopant Dandekar Shikshan Mandali's**  
**Sonopant Dandekar Arts,**  
**V. S. Apte Commerce &**  
**M. H. Mehta Science College, Palghar**  
Estb.: 14 August 1968  
Dr. Kiran Save, Principal

Kharekuran Road, Palghar (W), Tal. & Dist. Palghar,  
Maharashtra - 401 404, INDIA  
Tel. : +91 - 2525 - 252163  
Principal : +91 - 2525 - 252317  
Email : [sdsmcollege@yahoo.com](mailto:sdsmcollege@yahoo.com)  
Web. : [www.sdsmcollege.com](http://www.sdsmcollege.com)

Ref No.:

Date: 08/05/2023

## Department of Commerce

# NOTICE

**M.Com. – II 2022–23**

## **Project submission**

All Master of Commerce Part-II students are hereby informed that submit the submission of your Master of Commerce project Soft Copy and Black-Book on and before dated - 29/05/2023. The guidelines for the project report format have been provided previously.

*S.S. Mishra*

**HOD**  
**Department of Commerce**  
**M.Com.**

*K. Save*

**PRINCIPAL Principal**  
**Sonopant Dandekar Arts College,**  
**V.S. Apte Commerce College &**  
**M.H. Mehta Science College**  
**PALGHAR (W.R.)**  
**Dist. Palghar, Pin-401404**

# University of Mumbai



## Master of Commerce (M.Com) Programme

### Guidelines for Project Work

at

## Second Year Semester III and IV

Under Choice Based Credit, Grading and  
Semester System

*(To be implemented from Academic Year 2017-2018)*

*Faculty of Commerce*

## Introduction

Inclusion of project work in the course curriculum of the M.Com. programme is one of the ambitious aspect in the programme structure. The main objective of inclusion of project work is to inculcate the element of research work challenging the potential of learner as regards to his/ her eager to enquire and ability to interpret particular aspect of the study in his/ her own words. It is expected that the guiding teacher should undertake the counselling sessions and make the awareness among the learners about the methodology of formulation, preparation and evaluation pattern of the project work.

- There are two modes of preparation of project work
  1. Project work based on research methodology in the study area
  2. Project work based on internship in the study area

## **Guidelines for preparation of Project Work**

### **Work Load**

Work load for Project Work is 01 (one) hour per batch of 15-20 learners per week for the teacher. The learner (of that batch) shall do field work and library work in the remaining 03 (three) hours per week.

### **1. General guidelines for preparation of project work based on research methodology**

- The project topic may be undertaken in any area of Elective Courses.
- Each of the learner has to undertake a Project individually under the supervision of a teacher-guide.
- The learner shall decide the topic and title which should be specific, clear and with definite scope in consultation with the teacher-guide concerned.
- University/college shall allot a guiding teacher for guidance to the students based on her / his specialization.
- The project report shall be prepared as per the broad guidelines given below:
  - Font type: Times New Roman
  - Font size: 12-For content, 14-for Title
  - Line Space : 1.5-for content and 1-for in table work
  - Paper Size: A4
  - Margin : in Left-1.5, Up-Down-Right-1
  - The Project Report shall be bounded.
  - The project report should be 80 to 100 pages

# Format

*1<sup>st</sup> page (Main Page)*

*Title of the problem of the Project*

A Project Submitted to  
University of Mumbai for partial completion of the degree of  
Master in Commerce  
Under the Faculty of Commerce

By

*Name of the Learner*

Under the Guidance of

*Name of the Guiding Teacher*

*Name and address of the College*

*Month and Year*

*2<sup>nd</sup> Page*

*This page to be repeated on 2<sup>nd</sup> page (i.e. inside after main page)*

*On separate page*

## **Index**

Chapter No. 1 (sub point 1.1, 1.1.1, .... And so on)	Title of the Chapter	Page No.
Chapter No. 2	Title of the Chapter	
Chapter No. 3	Title of the Chapter	
Chapter No. 4	Title of the Chapter	
Chapter No. 5	Title of the Chapter	

**List of tables, if any, with page numbers.**

**List of Graphs, if any, with page numbers.**

**List of Appendix, if any, with page numbers.**

**Abbreviations used:**

# **Structure to be followed to maintain the uniformity in formulation and presentation of Project Work**

## *(Model Structure of the Project Work)*

- **Chapter No. 1: Introduction**

In this chapter Selection and relevance of the problem, historical background of the problem, brief profile of the study area, definition/s of related aspects, characteristics, different concepts pertaining to the problem etc can be incorporated by the learner.

- **Chapter No. 2: Research Methodology**

This chapter will include Objectives, Hypothesis, Scope of the study, limitations of the study, significance of the study, Selection of the problem, Sample size, Data collection, Tabulation of data, Techniques and tools to be used, etc can be incorporated by the learner.

- **Chapter No. 3: Literature Review**

This chapter will provide information about studies done on the respective issue. This would specify how the study undertaken is relevant and contribute for value addition in information/ knowledge/ application of study area which ultimately helps the learner to undertake further study on same issue.

- **Chapter No. 4: Data Analysis, Interpretation and Presentation**

This chapter is the core part of the study. The analysis pertaining to collected data will be done by the learner. The application of selected tools or techniques will be used to arrive at findings. In this, table of information's, presentation of graphs etc. can be provided with interpretation by the learner.

- **Chapter No. 5: Conclusions and Suggestions**

In this chapter of project work, findings of work will be covered and suggestion will be enlisted to validate the objectives and hypotheses.

*Note: If required more chapters of data analysis can be added.*

- **Bibliography**
- **Appendix**



*On separate page*

*Name and address of the college*

## ***Certificate***

This is to certify that Ms/Mr has worked and duly completed her/his Project Work for the degree of Master in Commerce under the Faculty of Commerce in the subject of

\_\_\_\_\_ and her/his project is entitled, “\_\_\_\_\_”

\_\_\_\_\_ *Title of the Project* \_\_\_\_\_” under my supervision.

I further certify that the entire work has been done by the learner under my guidance and that no part of it has been submitted previously for any Degree or Diploma of any University.

It is her/ his own work and facts reported by her/his personal findings and investigations.



Name and Signature of  
Guiding Teacher

Date of submission:

*On separate page*

## ***Declaration by learner***

I the undersigned Miss / Mr. \_\_\_\_\_ *Name of the learner* \_\_\_\_\_ here by,  
declare that the work embodied in this project work titled “ \_\_\_\_\_  
\_\_\_\_\_ *Title of the Project* \_\_\_\_\_ ”,  
forms my own contribution to the research work carried out under the guidance of  
\_\_\_\_\_ *Name of the guiding teacher* \_\_\_\_\_ is a result of my own research work and has  
not been previously submitted to any other University for any other Degree/ Diploma  
to this or any other University.

Wherever reference has been made to previous works of others, it has been clearly  
indicated as such and included in the bibliography.

I, here by further declare that all information of this document has been obtained and  
presented in accordance with academic rules and ethical conduct.

Name and Signature of the learner

Certified by

Name and signature of the Guiding Teacher

*On separate page*

## ***Acknowledgment***

*(Model structure of the acknowledgement)*

To list who all have helped me is difficult because they are so numerous and the depth is so enormous.

I would like to acknowledge the following as being idealistic channels and fresh dimensions in the completion of this project.

I take this opportunity to thank the **University of Mumbai** for giving me chance to do this project.

I would like to thank my **Principal**, \_\_\_\_\_ for providing the necessary facilities required for completion of this project.

I take this opportunity to thank our **Coordinator** \_\_\_\_\_, for her moral support and guidance.

I would also like to express my sincere gratitude towards my project guide \_\_\_\_\_ whose guidance and care made the project successful.

I would like to thank my **College Library**, for having provided various reference books and magazines related to my project.

Lastly, I would like to thank each and every person who directly or indirectly helped me in the completion of the project especially **my Parents and Peers** who supported me throughout my project.

## 2. Guidelines for Internship based project work

- Minimum 20 days/ 100 hours of Internship with an Organisation/ NGO/ Charitable Organisation/ Private firm.
- The theme of the internship should be based on any study area of the elective courses
- Project Report should be of minimum 50 pages
- Experience Certificate is Mandatory
- A project report has to be brief in content and must include the following aspects:
  - **Executive Summary:**  
A bird's eye view of your entire presentation has to be precisely offered under this category.
  - **Introduction on the Company:**  
A Concise representation of company/ organization defining its scope, products/ services and its SWOT analysis.
  - **Statement and Objectives:**  
The mission and vision of the organization need to be stated enshrining its broad strategies.
  - **Your Role in the Organisation during the internship:**  
The key aspects handled, the department under which you were deployed and brief summary report duly acknowledged by the reporting head.
  - **Challenges:**  
The challenges confronted while churning out theoretical knowledge into practical world.
  - **Conclusion:**  
A brief overview of your experience and suggestions to bridge the gap between theory and practice.
- The project report based on internship shall be prepared as per the broad guidelines given below:
  - Font type: Times New Roman
  - Font size: 12-For content, 14-for Title
  - Line Space : 1.5-for content and 1-for in table work
  - Paper Size: A4
  - Margin : in Left-1.5, Up-Down-Right-1
  - The Project Report shall be bounded.
  - The project report should be 80 to 100 pages

## Evaluation pattern of the project work

The Project Report shall be evaluated in two stages viz.	
<b>• Evaluation of Project Report (Bound Copy)</b>	<b>60 Marks</b>
▪ Introduction and other areas covered	20 Marks
▪ Research Methodology, Presentation, Analysis and interpretation of data	30 Marks
▪ Conclusion & Recommendations	10 Marks
<b>• Conduct of Viva-voce</b>	<b>40 Marks</b>
▪ In the course of Viva-voce, the questions may be asked such as importance / relevance of the study, objective of the study, methodology of the study/ mode of Enquiry (question responses)	10 Marks
▪ Ability to explain the analysis, findings, concluding observations, recommendation, limitations of the Study	20 Marks
▪ Overall Impression (including Communication Skill)	10 Marks

**Note:**

- *The guiding teacher along with the external evaluator appointed by the University/ College for the evaluation of project shall conduct the viva-voce examination as per the evaluation pattern*

### Passing Standard

- Minimum of Grade E in the project component
- In case of failing in the project work, the same project can be revised for ATKT examination.
- Absence of student for viva voce: If any student fails to appear for the viva voce on the date and time fixed by the department such student shall appear for the viva voce on the date and time fixed by the Department, such student shall appear for the viva voce only along with students of the next batch.

Sonopant Dandekar Arts, V.S.Apte Commerce and M.H.Mehta Science College, Palghar  
M.com - II (Semester - IV) Advanced Accountancy Project Work Viva-voce Examination

Date - 31/05/2023  
Time - 09.00 AM to 10.30AM

Sr.No	Roll.No.	Name of the Student	Area of Study	Project Title	Signature
1	14001	Majgaonkar Rutuja	Accounting & Finance	Awareness of Financial Scam in NSE and BSE	<i>[Signature]</i>
2	14002	Chopde Vishaka	Accounting & Finance	Women Awareness and Investment Preference	<i>[Signature]</i>
3	14003	Gupta Sanskriti	Accounting & Finance	A Study on Indian Taxation System	<i>[Signature]</i>
4	14004	Patil Yashashwi	Accounting & Finance	A study on consumer behavior towards Amul products with reference to palghar city	<i>[Signature]</i>
5	14005	Rajput Mamta	Accounting & Finance	A Study Of Mutual Funds in India	<i>[Signature]</i>
6	14006	Jain Karishma	Accounting & Finance	A Study of increasing of Gold loan	<i>[Signature]</i>
7	14007	Tale Pranali	Accounting & Finance	A study of Public Finance since 2014	<i>[Signature]</i>
8	14008	Sankhe Bhavik	Accounting & Finance	A Study on financial problems faced by start - up	<i>[Signature]</i>
9	14009	Patil Janhavi	Accounting & Finance	A Study on online payment Applications in India with reference to Amazon Pay	<i>[Signature]</i>
10	14010	Save Siddhi	Accounting & Finance	a study on financial problems faced by the start ups	<i>[Signature]</i>
11	14011	Machhi Payal	Accounting & Finance	Merger and acquisition in Indian banking sector	<i>[Signature]</i>
12	14012	Gharat Vedika	Accounting & Finance	Comparative Study Between Private Sector and Public Sector Banks	<i>[Signature]</i>
13	14013	Gharat Amisha	Accounting & Finance	Evolution of Cryptocurrencies: Effect on consumer Demand	<i>[Signature]</i>
14	14014	Chaudhari Nirmithi	Accounting & Finance	Import and export trade	<i>[Signature]</i>
15	14015	Raut Rutvik	Accounting & Finance	A study on Indian Money Market	<i>[Signature]</i>
16	14016	Jhanwar Harshit	Accounting & Finance	A Study of Financial Analysis of Atul Auto Ltd.	<i>[Signature]</i>
17	14017	Zha Karishma	Accounting & Finance	Study On E Banking	<i>[Signature]</i>
18	14018	Kautikkar Rinku	Accounting & Finance	Analysis of housing finances schemes of HDFC Bank, ICICI Bank and SBI	<i>[Signature]</i>
19	14019	Khandekar Shruti	Accounting & Finance	"SAVING AND INVESTMENT PATTERN OF YOUTH"	<i>[Signature]</i>
20	14020	Vavadra Manoj	Accounting & Finance	A study of financial analysis of housing development finance corporation	<i>[Signature]</i>
21	14021	Jadhav Ruchita	Accounting & Finance	A study on financial performance of HDFC Life Insurance	<i>[Signature]</i>
22	14022	Kalla Taniya	Accounting & Finance	A Study On the Financial Performance of the Cadbury Company	<i>[Signature]</i>
23	14023	Singh Lata	Accounting & Finance	study of financial statement using ratio analysis	<i>[Signature]</i>
24	14024	Rathod Asha	Accounting & Finance	A Study on Plastic Money	<i>[Signature]</i>
25	14025	Patel Sonal	Accounting & Finance	A STUDY ON AWARENESS OF NEW TAX REGIME AMONG INDIVIDUAL.	<i>[Signature]</i>

SONOPANT DANDEKAR SHIKSHAN MANDALI, PALGHAR								
MCOM PART - 2 (ADVANCE ACCOUNTANCY COURSE), SEMESTER - IV, PROJECT VIVA MARKS, ACADEMIC YEAR 2022-23								
SUBJECT : PROJECT WORK, GUIDE NAME : DR. SUNIL KHATRI (BMS,BAF,BCOM,MCOM)								
SR NO.	ROLL NO	SURNAME	FIRST NAME	FATHER NAME	COURSE	TITLE OF THE PROJECT	MARKS	SIGN
1	14026	DHENDE	PALLAVI	RAMESH	ADVANCE ACCOUNTANCY	ANALYSIS OF BANK FRAUDS IN INDIA	55	<i>[Signature]</i>
2	14027	PATIL	BHAGYASHRI	KISHOR	ADVANCE ACCOUNTANCY	COMPARITIVE STUDY ON SERVICE PROVIDED BY ICICI AND HDFC BANK	50	<i>[Signature]</i>
3	14028	YADAV	ANITA	HARINATH	ADVANCE ACCOUNTANCY	Investors Perception towards stock Market	65	<i>[Signature]</i>
4	14029	YADAV	PRATIBHA	VINOD	ADVANCE ACCOUNTANCY	FINANCIAL INSTITUTION IN INDIA: ROLES AND RESPONSIBILITIES	60	<i>[Signature]</i>
5	14030	TIWARI	NEHA	RAMESH	ADVANCE ACCOUNTANCY	STUDY OF TRENDS OF GOLD LOAN IN PUBLIC SECTOR BANKS & NON-BANKING FINANCIAL COMPANY	60	<i>[Signature]</i>
6	14031	PUJARI	DHANURAJ	JAGATNARAYAN	ADVANCE ACCOUNTANCY	A STUDY ON INVESTOR'S PREFERENCES TOWARDS MUTUAL FUNDS IN PALGHAR DISTRICT	45	<i>[Signature]</i>
7	14032	TAVIZWALA	FAIZAN	SHAUKATALI	ADVANCE ACCOUNTANCY	A STUDY ON VENTURE CAPITAL FINANCING IN INDIA	45	<i>[Signature]</i>
8	14033	GUPTA	ANJALI	JAINARAYAN	ADVANCE ACCOUNTANCY	FINANCIAL ANALYSIS OF HDFC BANK	50	<i>[Signature]</i>
9	14034	BEHERA	PRITIPRIYADARSHANI	GANGADHAR	ADVANCE ACCOUNTANCY	IMPACT OF BLACK MONEY ON INDIAN ECONOMY AND GOVERNMENT INITIATIVES	76	<i>[Signature]</i>
10	14035	MACHHI	JYOTI	GANESH	ADVANCE ACCOUNTANCY	A STUDY ON INVESTMENT AVENUES OF WORKING WOMEN'S	70	<i>[Signature]</i>
11	14036	YADAV	POONAM	LALAI	ADVANCE ACCOUNTANCY	HOME LOAN PROVIDED BY THE INDIAN BANKS	50	<i>[Signature]</i>

12	14037	MUKADAM	RISHIKESH	MAHESH	ADVANCE ACCOUNTANCY	A STUDY OF GST MODEL IN INDIA	70	Rising
13	14038	MORE	PRAJWALI	VANRAJ	ADVANCE ACCOUNTANCY	A STUDY AND ANALYSIS OF MUTUAL FUND WITH A SPECIAL FOCUS ON HDFC MUTUAL FUND	65	Purose
14	14039	DESALE	CHINMAY	VISHWAS	ADVANCE ACCOUNTANCY	A STUDY ON INDIAN MONEY MARKET	60	Desale
15	14040	VARTHA	RUTIKA	MADHUKAR	ADVANCE ACCOUNTANCY	STUDY ON INDIAN ACCOUNTING STANDERDS	55	Rutiker
16	14041	RAMESH	GANPAT	DHONDGA	ADVANCE ACCOUNTANCY	AWARENESS OF FINANCIAL KNOWLEDGE AND BEHAVIOR AMONG PEOPLE IN PALGHAR DISTRICT	55	Ramesh
17	14042	VATAS	SATISH	BHIVA	ADVANCE ACCOUNTANCY	A STUDY ON ELECTRONIC BANKING FRAUDS AND SAFETY AWARENESS OF CUSTOMERS IN PALGHAR DISTRICT	45	Stavater
18	14043	GUPTA	AARTI	ANIL KUMAR	ADVANCE ACCOUNTANCY	FINANCIAL SERVICES OF KOTAK MAHINDRA BANK	55	Asupta
19	14044	CHURI	VIJETA	CHARUDATTA	ADVANCE ACCOUNTANCY	A STUDY OF INDIAN CAPITAL MARKET	60	Deekisi
20	14045	CHAUHAN	SACHIN	MUNDRIKA	ADVANCE ACCOUNTANCY	FINANCIAL ANALYSIS OF IDBI BANK	65	sachinchauhan
21	14046	GHARAT	BHAVIK	VINOD	ADVANCE ACCOUNTANCY	CYBER CRIME IN BANKING SECTOR	50	Garat
22	14047	SHAIKH	TARANNUM	MOHAMMED ABBAS	ADVANCE ACCOUNTANCY	Absent	Absent	AB
23	14048	KANWAL	MAMTA	RAJENDRA	ADVANCE ACCOUNTANCY	A STUDY OF INTERNET BANKING IN FINANCIAL DEVELOPMENT IN INDIA	55	Mamta
24	14049	DARJI	VRUTTI	JATIN	ADVANCE ACCOUNTANCY	A STUDY ON DIFFERENT TYPES OF BANK LOAN IN INDIA	85	Deeji
25	14050	CHAUDHARI	AKASH	SAKHARAM	ADVANCE ACCOUNTANCY	A STUDY OF CUSTOMERS PERCEPTION AND AWARENESS ABOUT E-BANKING IN PALGHAR DISTRICT	50	Akhil



**SONOPANT DANDEKAR ARTS, V.S. APTE COMMERCE AND M.H. MEHTA SCIENCE COLLEGE, PALGHAR**

**DEPARTMENT OF M.COM (ADVANCED ACCOUNTANCY)**

**ATTENDANCE SHEET - 2022-23**

SR. NO.	ROLL NO.	SURNAME	NAME	MIDDLE NAME	PROJECT TITLE	SIGNATURE
1	14051	PAWAR	VISHAL	TULSHIRAM	IMPACT OF CYBER SECURITY AND FORENSIC ACCOUNTING TECHNIQUES ON FRAUD DETECTION IN PALGHAR DISTRICT	<u>Dishant P.</u>
2	14052	LADE	DIPALI	KIRAN	IMPACT OF GST ON SMALL AND MEDIUM ENTERPRISES S.M.E.S IN PALGHAR TALUKA	<u>Lade</u>
3	14053	MANDAL	PRIYANKA	SURENDRA	A STUDY ON HOME LOAN PROVIDED THROUGH DIFFERENT BANKS IN PALGHAR DISTRICT	<u>Priyanka M.</u>
4	14054	RINJAD	AVINASH	MAHENDRA	AN EMPIRICAL INVESTIGATION OF BURNOUT IN FINANCIAL SERVICE SECTOR IN PALGHAR DISTRICT	<u>A. Rinjad</u>
5	14055	GOTARNA	NAMRATA	VIJAY	COMPARATIVE ANALYSIS OF PRODUCTS AND SERVICES FOR AXIS BANK IN PALGHAR DISTRICT	<u>G. Namrata</u>
6	14056	GADAG	RUPALI	PRAKASH	A COMPARATIVE STUDY OF INVESTOR'S PREFERENCE TOWARDS BANKING AND STOCK MARKET	<u>R. Prakash</u>
7	14057	JAISWAL	HITANKSHI	ARVIND	A CASE STUDY ON ROLE OF TECHNOLOGY IN BANKING BUSINESS IN BOISAR CITY	<u>H. Jaiswal</u>
8	14058	BAMBAL	VIJAY KUMAR	ISHWARSINGH	A CASE STUDY OF DIGITAL TRANSFORMATION IN BANKING: THE FUTURE OF BANKING IN PALGHAR DISTRICT	<u>V. Bambal</u>
9	14059	GUPTA	SONALI	RAMHARSH	A CASE STUDY ON ROLE OF TECHNOLOGY IN BANKING BUSINESS IN PALGHAR DISTRICT	<u>Sonali G.</u>
10	14060	MAHALE	SULBHA	GOVIND	A STUDY ON INVESTMENT IN FINANCIAL MARKET OF FIXED DEPOSIT IN PALGHAR DISTRICT	<u>Sulbha M.</u>
11	14061	MADI	DIVETA	NANU	A STUDY OF MUTUAL FUND SCHEMES IN PALGHAR CITY	<u>Diveta Mad</u>
12	14062	TIWARI	UPMA	KAMLESH	A STUDY ON INSURANCE AND IT'S AWARENESS IN PALGHAR DISTRICT	<u>Thirvi</u>
13	14063	GAIKWAD	ARCHANA	PRASHANT	A STUDY OF CUSTOMER SATISFACTION TOWARDS ELECTRONIC BANKING SERVICES IN PALGHAR	<u>Gaikwad. A.</u>
14	14064	JADHAV	SAKSHI	BIMBESH	STUDY OF VASAI VIKAS SAHAKARI BANK IN BOISAR	<u>Sadhav</u>
15	14065	HEMADA	CHHAYA	BABU	A CASE STUDY ON CYBER CRIME IN BANKING SECTOR PALGHAR DISTRICT	<u>Hemada</u>

16	14066	MOHITE	PRITESH	MORESHWAR	ABSENT	—
17	14067	VALAVI	ROSHAN	DUNDAJI	ABSENT	—
18	14068	BIST	GOPINI	BHIMBAHADUR	A CASE STUDY ON INCOME TAX AWARENESS AND TAX PLANNING ON WEALTH CREATION OF INDIVIDUAL ASSESSES IN PALGHAR DISTRICT	Gust.
19	14069	PATIL	DAKSHAL	DAYANAND	A STUDY ON ANALYSIS OF FINANCIAL STATEMENTS OF ICICI BANK	D.Patil
20	14070	GUPTA	MUKESH	ASHOK	A COMPARITIVE STUDY ON SERVICE PROVIDED BY ICICI AND HDFC BANK	Gupta M
21	14071	GUPTA	MAHAVIR	RAGHUNATH	A STUDY ON CUSTOMER SATISFACTION AT HDFC BANK IN PALGHAR AREA	MR Gupta
22	14072	SINGH	KRISHNA	ARVIND	A STUDY ON CURRENT ACCOUNT IN HDFC BANK IN PALGHAR DISTRICT	Singh.
23	14073	SINGH	NISHA	RAMBAHADUR	A STUDY ON FINANCIAL FACED BY THE START-UP	Nisha. Singh.
24	14074	GHADI	AMIT	PANDURANG	A STUDY ON AWARENESS OF FINANCIAL KNOWLEDGE AND BEHAVIOR AMONG PEOPLE IN PALGHAR DISTRICT	G. Amit
25	14075	SAHU	POOJA	MOHAN	A STUDY ON INDIVIDUALS AWARENESS ABOUT INVESTMENT AVENUES IN PALGHAR DISTRICT	Pooja



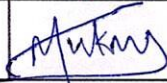


SIGNATURE OF PROJECT GUIDE  
ASST. PROF. MAQSOOD MEMON

## M.COM ( ADVANCE ACCOUNTANY )

### RESEARCH PROJECT NAME LIST ACADEMIC YEAR 2022-2023

Sr. No	Name of the student	Project Title	Signature
1	Neelam Mahindra Sahu	A study on foreign direct investment and it's impact on economy	Neelam?
2	Bhavesh Nitin Patil	Working capital Management	Bhavesh Patil
3	Kasim N Patel	Role of e-commerce in reducing operational cost	KPatel
4	Shital Shirke	A project report on customers perception towards insurance in palghar district.	Shirke
5	Sudesh A Bhoir	A detail study of investment option in india & their risk factor	Sudesh Bhoir
6	Diyesh Surti	A study on comparison between e banking services provided by SBI and HDFC bank.	Diyesh
7	Sanya Jadhav	Credit analysis of personal loan (hdfc bank)in boisar	Sanya
8	Tanya Jadhav	A study on vehicle loan of state bank of india in boisar.	Tanya
9	Savitri Kevat	A study on Investment awareness among women in Boisar area	Savitri
10	Shweta Yadav	A study on preference towards plastic money and E-Wallet	Shweta
11	Rajkumar Prajapati	A study on consumer perception about life insurance policies in Palghar City	Rajkumar
12	Saurabh Singh	Comparison between Muthoot finance and Muthoot fincorp	Saurabh Singh
13	Charan Gopal Laxman		AB
14	Kashish Dixit	A study on Demat Accountholders & success rate of demat in ubergaon	Kashish
15	Dhiksha Singh	A detailed study project on Establishment of a Bakery unit	Dhiksha Singh
16	Ramesh Kevat	A study on customer satisfaction among e-buyers	Ramesh Kevat
17	Shaikh Hasan Farid		AB
18	Shubham Singh	A comparative e-banking of icici & hdfc bank in dahanu	Shubham
19	Ibrahim Shaikh	A study on plastic money in palghar	Ibrahim
20	Amrita Yadav	A study on perception of individual towards retirement planning	Amrita
21	Anita Singh	A study on awareness of financial knowledge and behaviour among people in palghar area	Anita

Sr. No	Name of the student	Project Title	Signature
22	Bhardwaj Saroj	Study of safety and occupational health at JSW in Boisar	
23	Tiwari Ankit	A study of increasing of gold loan	
24	Gawai Trunal		AB
25	Mukul R Mule	Role of IT in banking sector	

**PROJECT REPORT**  
**ON**  
**“CYBER CRIME IN BANKING SECTOR”**

**SUBMITTED TO THE UNIVERSITY OF MUMBAI IN THE PARTIAL FULFILLMENT  
OF THE DEGREE MASTER OF COMMERCE.**

**SUBMITTED BY:**  
**BHAVIK VINOD GHARAT**  
**M.COM-II**  
**ACADEMIC YEAR: 2022-23**

**PROJECT GUIDE:**  
**DR. SUNIL KHATRI.**  
**M.COM (Accountancy), Ph.D. (Commerce)**

**SUBMITTED TO:**  
**UNIVERSITY OF MUMBAI**



**SONOPANT DANDEKAR ARTS, V.S.APTE COMMERCE AND M.H.MEHTA COLLEGE, R.H.SAVE  
INSTITUTE OF MANAGEMENT, PALGHAR DIST: PALGHAR PIN: 401404**

**UNIVERSITY OF MUMBAI**

## **DECLARATION**

I, **BHAVIK VINOD GHARAT** A STUDENT OF SONOPANT DANDEKAR ARTS, V.S.APTE COMMERCE AND M.H.MEHTA SCIENCE COLLEGE ,PALGHAR DIST:- PALGHAR, PIN:- 401 404 STUDYING IN M.COM-II HEREBY DECLARE THAT I HAVE COMPLETED THIS PROJECT ON “**CYBER CRIME IN BANKING SECTOR**” DURING THE ACADEMIC YEAR 2022-23. THE INFORMATION SUBMITTED IS TRUE AND ORIGINAL TO THE BEST OF MY KNOWLEDGE.

**DATE:**

**PLACE:** PALGHAR



**SIGNATURE OF STUDENT**

## CERTIFICATE

I, DR. SUNIL KHATRI, HEREBY CERTIFY THAT **BHAVIK VINOD GHARAT** OF SONOPANT DANDEKAR ARTS, V.S.APTE COMMERCE AND M.H.MEHTA SCIENCE COLLEGE, PALGHAR DIST:- PALGHAR, PIN:- 401 404 OF M.COM-II HAS COMPLETED **HIS** PROJECT ON **“CYBER CRIME IN BANKING SECTOR”** DURING THE ACADEMIC YEAR 2022-23. THE INFORMATION SUBMITTED IS TRUE AND ORIGINAL TO THE BEST OF MY KNOWLEDGE.

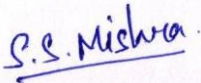


DR. SUNIL KHATRI

SIGNATURE OF PROJECT  
GUIDE



SIGNATURE OF THE  
PRINCIPAL OF THE COLLEGE



SIGNATURE OF CO-ORDINATOR

SIGNATURE OF  
EXTERNAL EXAMINER

## **ACKNOWLEDGEMENT**

If words are considered as a symbol of approval and token of appreciation then let the words play the heralding role expressing my gratitude. My successful completion of this project report involved more than just my desire to earn a valued degree working on this project has presented me with many insights and challenges.

I would like to thank the University of Mumbai for introducing master of commerce course, thereby giving its student a platform to abreast with changing business scenario, with the help of theory as a base and practical as a solution- I am also thankful to the management of S.D.S.M College of PALGHAR for making all the facilities available and espousing the cause of the research. I would like to thank our honorable principal Dr.Kiran Save.

I would like to express my earnest gratitude to Dr. Sunil Khatri for his superlative guidance and unflinching support throughout the project work. No development would have been feasible had it not been for their excellent supervision, constant encouragement and careful perusal, in completion of the project successfully.

Last but not the least; I would like to thank my parents & teachers for giving the best education and friends for their support and feelings without which this project would have not been possible. Many others without whose invaluable help and expert advice this project would not have been the same ought to be cited.

With the completion of my project entitled “**CYBER CRIME IN BANKING SECTOR**”



**BHAVIK VINOD GHARAT.**



## INDEX

Chapter No	Chapter Name	Page No.
<b>1</b>	<b>1.1 INTRODUCTION</b>	<b>7</b>
	<b>1.2 Origin of cybercrime</b>	<b>7</b>
	<b>1.3 What Is Online Banking?</b>	<b>8</b>
	<b>1.4 Understanding Online Banking</b>	<b>8</b>
	<b>1.5 Advantages of Online Banking</b>	<b>9</b>
	<b>1.6 Disadvantages of Online Banking</b>	<b>9</b>
	<b>1.7 Grounds of cybercrime in India</b>	<b>9</b>
	<b>1.8 Keywords:</b>	<b>10-12</b>
	<b>1.9 Effects of Cybercrime on Society</b>	<b>12</b>
	<b>1.10 Internet Banking</b>	<b>13</b>
	<b>1.11 Mobile Banking-</b>	<b>14-15</b>
	<b>1.12 What is Cyber Risk in the Banking Sector?</b>	<b>15</b>
	<b>1.13 Reasons for the Growth of Cybercrime in India</b>	<b>15-16</b>
	<b>1.14 Characteristics of Cybercrime</b>	<b>17</b>
	<b>1.15 Viruses</b>	<b>17</b>
	<b>1.16 Watering hole</b>	<b>18</b>
	<b>1.17 Malware based-attacks</b>	<b>18-24</b>
	<b>1.18 Defining cybercrime</b>	<b>24</b>
	<b>1.19 How cybercrime works</b>	<b>25</b>
	<b>1.20 Cyber Crime in Banking Industry</b>	<b>26</b>
	<b>1.21 Effects of cyber crimes</b>	<b>26</b>
	<b>1.22 Reasons for cybercrimes:</b>	<b>27</b>
	<b>1.23 Types of cybercrimes connected with banking sector:</b>	<b>28</b>
	<b>1.23.1 Types of Cyber Crime :</b>	<b>29-31</b>
	<b>1.24 Cyber-attacks in India</b>	
	<b>1.24.1 Cosmos Bank Cyber Attack in Pune :</b>	<b>32</b>
	<b>1.24.2 ATM System Hacked</b>	<b>32</b>
	<b>1.24.3 RBI Phishing Scam :</b>	<b>33</b>
	<b>1.24.4 The Bank NSP Case :</b>	<b>33</b>
	<b>1.25 Cyber Crime Images</b>	
	<b>1.25.1 Types of Cyber-Attacks :</b>	<b>33</b>
	<b>1.25.2 Online Banking Fraud Most Common Cyber Crime</b>	<b>34</b>
	<b>1.25.3 Threats for Cybersecurity in Digital Banking</b>	<b>34</b>
	<b>1.25.4 Cyber Crime Reported in India</b>	<b>35</b>
	<b>1.25.5 The Highest Number of Cyber Crime in 2021</b>	<b>35</b>
	<b>1.26 Analysis Of Algorithm Of Cyber Crime</b>	<b>35-36</b>
<b>1.27 Major threats to the sector</b>	<b>37</b>	
<b>1.28 Challenges faced by the sector</b>	<b>37</b>	
<b>1.29 Some quick tips for the sector</b>	<b>38</b>	
<b>1.30 Preventive measures:</b>	<b>38-41</b>	
<b>1.31 Impact of Cybercrime on Bank</b>	<b>41-42</b>	
<b>1.32 Cyber Security in Banking Sector</b>	<b>43</b>	
<b>1.33 Importance of Cyber Security in Banking Sectors</b>	<b>43</b>	
<b>1.34 How to Make Banking Institution Cyber Secure</b>	<b>44</b>	
<b>1.35 How to Report</b>	<b>44</b>	
<b>1.36 Here are numerous ways to reduce the danger of cyberattack :</b>	<b>45</b>	

<b>2</b>	<b>RESEARCH METHADODOLOGY</b> 2.1 Objective of study 2.2 Scope of the study 2.3 Evolution of Cyber Threats 2.4 Limitations of the study	<b>46</b> <b>46</b> <b>47</b> <b>47</b>
<b>3</b>	<b>REVIEW OF LITERATURE</b>	<b>48-50</b>
<b>4</b>	<b>DATA ANALYSIS &amp; DATA INTERPRETATION</b>	<b>51-62</b>
<b>5</b>	<b>CONCLUSION &amp; RECOMMENDATIONS</b> 5.1 CONCLUSION 5.2 RECOMMENDATIONS	<b>63</b> <b>64</b>
<b>6</b>	<b>BIBILOGRAPHY</b>	<b>65-66</b>

## CHAPTER 1 INTRODUCTION

### What is Cybercrime?

**[1] Computer crime, or cybercrime, refers to any crime that involves a computer and a network, where the computers may or may not have played an instrumental part in the commission of a crime. Net crime refers, more precisely, to criminal exploitation of the Internet.**



#### 1.1 INTRODUCTION:

Online banking or e-banking refers to the banking facility through information and communication technology. Traditionally, banking required a customer to stand in a long queue even to withdraw his money or to perform other ancillary functions. Now banking facility is available 24×7 through ATMs (Automated Teller Machines), internet banking, transfer through NEFT and RTGS etc., which has narrowed down the gap between the bank and the customer. E-banking is not only limited to banking facility through computer related systems. In the modern era, with the increase of users of smartphones e-banking covers mobile banking also. Because of liberalization, privatization and globalization, it became necessary for the banks to start with e-banking facility. The paper will provide an introduction to the concept of e-banking and its advantages in India. Further the author will provide statistics of the increase in use of e-banking services in India. The paper shall also highlight the role of Reserve Bank of India in strengthening internet banking. The paper shall then delve into the drawbacks of e-banking by explaining various cyber-crimes related to banking, focusing on Information Technology Act, 2000 with the help of statistics on cyber-crime reported in the past few years. Lastly, the author shall highlight the role of Cyber Appellate Authority in combating cyber- crime in banking sector. The liability of both the bank and the customer depending upon the facts and circumstances of the case shall also be discussed. Finally the author shall suggest the safeguards a customer and a bank should undertake while dealing electronically.

#### 1.2 Origin of cybercrime

Despite the fact that the internet is only roughly 30 years old, experts believe the 1834 hack to be the first cyber-attack in history. Two crooks infiltrated the French Telegraph System and gained access to financial markets, conducting data theft.

Some early cyber-attacks, which began in the late 1800s and the early 20th century, saw cybercriminals target telephone infrastructure. Only two years after the invention of the telephone, adolescent guys stole into Alexander Graham Bell's telephone firm and wreaked havoc by misleading calls. Phone hacking, also known as phreaking, became popular in the 1960s and 1980s.

Rene Carmille, a French computer scientist, broke into the Nazi data registry in 1940 to disrupt their intentions to identify and monitor Jews.

The introduction of email in the 1980s brought with it phishing schemes and viruses sent via attachments. Web browsers, like computer viruses, had grown prevalent by the 1990s. Because of the nature of these platforms, the broad use of social media in the 2000s only exacerbated cybercrime, particularly data theft. Malware infections and data theft have surged rapidly over the last 10 years and show no indications of slowing down anytime soon. With the evolution of the internet, hackers now have a plethora of novel attack vectors at their disposal. As more and more ordinary devices — refrigerators, washing machines, heating systems, light bulbs, and so on — go online, cybercriminals gain new weaknesses and possibilities.

### **1.3 What Is Online Banking?**

Online banking allows a user to conduct financial transactions via the Internet. Online banking is also known as Internet banking or web banking.

Online banking offers customers almost every service traditionally available through a local branch including deposits, transfers, and online bill payments. Virtually every banking institution has some form of online banking, available both on desktop versions and through mobile apps.

### **1.4 Understanding Online Banking**

With online banking, consumers aren't required to visit a bank branch to complete most of their basic banking transactions. They can do all of this at their own convenience, wherever they want—at home, at work, or on the go.

Online banking requires a computer or other device, an Internet connection, and a bank or debit card. In order to access the service, clients need to register for their bank's online banking service. In order to register, they need to create a password. Once that's done, they can use the service to do all their banking.

Banking transactions offered online vary by the institution. Most banks generally offer basic services such as transfers and bill payments. Some banks also allow customers to open up new accounts and apply for credit cards through online banking portals. Other functions may include ordering checks, putting stop payments on checks, or reporting a change of address.

Checks can now be deposited online through a mobile app. The customer simply enters the amount before taking a photo of the front and back of the check to complete the deposit. Online banking does not permit the purchase of traveler's checks, bank drafts, certain wire transfers, or the completion of certain credit applications like mortgages. These transactions still need to take place face-to-face with a bank representative.

### **1.5 Advantages of Online Banking**

- ❖ Convenience is a major advantage of online banking. Basic banking transactions such as paying bills and transferring funds between accounts can easily be done 24 hours a day, seven days a week, wherever a consumer wishes.
- ❖ Online banking is fast and efficient. Funds can be transferred between accounts almost instantly, especially if the two accounts are held at the same institution. Consumers can open and close a number of different accounts online, from fixed deposits to recurring deposit accounts that typically offer higher rates of interest.
- ❖ Consumers can also monitor their accounts regularly closely, allowing them to keep their accounts safe. Around-the-clock access to banking information provides early detection of fraudulent activity, thereby acting as a guardrail against financial damage or loss.

### **1.6 Disadvantages of Online Banking**

- ❖ For a novice online banking customer, using systems for the first time may present challenges that prevent transactions from being processed, which is why some consumers prefer face-to-face transactions with a teller.
- ❖ Online banking doesn't help if a customer needs access to large amounts of cash. While he may be able to take a certain amount at the ATM—most cards come with a limit—he will still have to visit a branch to get the rest.
- ❖ Although online banking security is continually improving, such accounts are still vulnerable when it comes to hacking. Consumers are advised to use their own data plans, rather than public Wi-Fi networks when using online banking, to prevent unauthorized access.
- ❖ Additionally, online banking is dependent on a reliable Internet connection. Connectivity issues from time to time may make it difficult to determine if banking transactions have been successfully processed.

### **1.7 Grounds of cybercrime in India**

Even though it is unlawful, cybercriminals frequently select an easier approach to generate money. They target cash-rich organisations, like banks and other financial institutions, where large sums of money are handled on a daily basis. They hack sensitive information by taking advantage of flaws in IT security mechanisms. The following are the reasons why IT platforms are so vulnerable:

- ❖ **Accessibility**– Due to the complexity of technology, there are several ways to breach a computer system. Hackers can obtain access codes, sophisticated voice recorders, retina scans, and other data that can be used to circumvent security measures.
- ❖ **Complex codes**– Operating systems are used to run computers, and these operating systems are made up of millions of lines of code. Because the human mind is flawed, errors can occur at any time and in such cases, cybercriminals take advantage of every code error.
- ❖ **Ability to store data in a relatively small space**– A computer has the unique ability to store data in a very tiny space. This makes it easier for someone to take data from other storage devices and utilise it for personal gain.
- ❖ **Carelessness**– One of the hallmarks of human behaviour is negligence. As a result, there is a chance that when securing the computer system, we may make a mistake that allows cyber-criminal access and control over the computer system.
- ❖ **Evidence loss**– Data relating to the crime can be readily deleted. As a result, evidence loss has become a very widespread and evident problem that paralyses the mechanism behind the cyber-crime investigation.

### **1.8 Keywords:**

e-banking, cyber-crime, IT Act, 2000, communication device, computer resource

Introduction Economy is one of the pillars which defines the progress and growth of a nation. Banking sector is considered as the backbone of the economy. For our day-to-day transactions, we enter into monetary transactions in the form of cash payments, cheques or demand drafts. However, this trend has paved the way to a modern system of payment in the form of swiping of debit cards or credit cards. On the recommendation of the Committee on Financial System (Narasimham Committee) 1991-1998, information and technology in banking sector was used. On one hand, technology has created advantage for banks and financial institutions but on the other hand, there have been risks involved in it as well. Technology risks not only have a direct impact on a bank as operational risks but can also exacerbate other risks like credit risks and market risks. Given the increasing reliance of customers on electronic delivery channels to conduct transactions, any security related issues have the potential to undermine public confidence in the use of e-banking channels and lead to reputation risks to the banks.

Inadequate technology implementation can also induce strategic risk in terms of strategic decision making based on inaccurate data/information. Banking sector has witnessed expansion of its services and strives to provide better customer facility through technology but cyber-crime remains an issue. Information which is available online is highly susceptible to be attacked by cyber criminals.<sup>4</sup> Cyber-crimes result in huge monetary losses which are incurred not only by the customer but by the banks also which affects economy of a nation.

Non-monetary cyber-crime occurs when viruses are created and distributed on other computers or confidential business information is posted on Internet. The most common of it is phishing and pharming. Concept Of E-Banking Electronic Banking or e-banking refers to a system where banking activities are carried out using informational and computer technology over human. In comparison to traditional banking services, in e-banking there is no physical interaction between the bank and the customers. E-banking is the delivery of bank's information and services by banks to customers via different delivery platforms that can be used with different terminal devices such as personal computer and a mobile phone with browser or desktop software, telephone or digital television.

The first initiative in the area of bank computerization was stemmed out of two successive Committees on Computerization (Rangarajan Committee). The first committee was set up in 1984 which drew the blueprint for the mechanization and computerization in banking industry. The second Committee was set up in 1989 which paved the way for integrated use of telecommunications and computers for applying fully the technological breakthroughs to the banking operations. The focus shifted from the use of Advanced Ledger Posting Machines (ALPMs) for limited computerization to full computerization at branches and to integration of the branches. Till 1989, banks in India had 4776 ALPMs at the branch level, over 2000 programmers/ systems personnel and over 12000 Data Entry Terminal Operators. E-banking is also known as Cyber Banking, Home Banking and Virtual Banking. E-banking includes Internet Banking, Mobile Banking, RTGS, ATMs, Credit Cards, Debit Cards, and Smart Cards etc. Some of the forms of E-banking are explained below: Automated Teller Machines (ATMs) An ATM is a device which is located on or off the bank's premises. It enables a customer to withdraw cash, obtain statement of last few transactions in his/her account, deposit cash and to transfer funds from one account to another. A person can withdraw cash 24x7 from ATMs subject to the limit provided. This system is also known as „Any Time Money“ or „Anywhere Money“. To have access of ATM a person must have an ATM card.

The ATM card is inserted into the machine and the client is required to enter a personal identification number (PIN). PIN is the numeric password which is separately mailed or handed over or sent by post to the customer by the bank while issuing the card. Most of the banks require that customers change their PIN after first use. Banks also send alerts to the customers not to disclose their PIN to anybody, including to bank officials. Customers should change the PIN at regular intervals. The transactions carried out using ATM machines are quite easy. There are two types of ATMs, one, exterior ATMs which are located in shopping centers, railway stations, airports etc. and second, interior ATMs which are located within the bank premises. The limits on cash withdrawal at ATMs and for purchase of goods and services are decided by the issuer bank. Nowadays a customer can

use ATM of another bank also to withdraw cash. However, in case of such withdrawal at other bank's ATM, there is a limit of cash withdrawal. Real Time Gross Settlement System (RTGS) RTGS is a system where funds are transferred from one bank to another on „real time“ and on „gross basis“. RTGS transactions are carried through either interbank or it can be between customers through bank accounts. 'Real Time' means the processing of instructions at the time they are received rather than at some later time; 'Gross Settlement' means the settlement of funds transfer instructions occurs individually (on an instruction by instruction basis). The transactions are settled individually in RTGS. RTGS transactions are processed throughout the business hours of banks. The timings of business hours at different bank branches are decided by the banks on their own terms and policies. Generally RTGS transactions for customers are available from 9:00 hours to 16:30 hours on weekdays and from 9:00 to 14:00 hours on Saturdays where settlement is to be done at the RBI end. In the RTGS system, mainly large value transactions are processed. The minimum amount that can be remitted through RTGS is Rs. 2 Lakhs. Only minimum limit is provided for payment transaction through RBI settlement. No maximum limit is prescribed for RTGS transactions. Credit card and Debit Card Banks issue debit cards that are linked to a customer's bank account. Debit Cards can be used to transfer funds only for domestic purposes from one person to another person. At present, a customer can use his Debit Card to withdraw money, know the monthly statement etc by using another bank's ATM, not being the ATM of the bank which issued such debit card. In case a customer transacts through an ATM of another bank from his savings bank account using his debit card then he is not charged by his/her bank upto five transactions which includes both nonfinancial & financial transactions in a month. However, this five free transaction limit for transactions done at ATM of another bank is restricted to three transactions in six metro cities which includes, Delhi, Mumbai, Chennai, Bengaluru, Kolkata and Hyderabad. Like Debit cards, it is the banks/other entities permitted by RBI who issue credit cards to a customer. A Credit card has dimension of about 8.5 cm by 5.5 cm. It is a small rectangular shape plastic card bearing the name of the holder of the card i.e., the customer and the account number is printed over it. In addition, the date up to which the card is valid will also be embossed and a specimen signature panel on the reverse. A card holder is also given the list of shops and establishments in each city where the card will be accepted in lieu of cash. The limit up to which the card holder can make purchases in a month is also informed to the card holder, this limit is called card limit

### **1.9 Effects of Cybercrime on Society**

Cybercrime can take numerous forms, be it online scams for petty thefts or serious threats like terrorism. Whatever it is, its impact can be incredibly harmful to society. Let us understand the effect or impact of cybercrime on society with examples.



#### ❖ **Effects of cybercrime on businesses**

Assume an e-commerce business collects customers' card details when the customer makes an online payment. This giant corporation has millions of customers. Now say, at least 70% of their customers make payments using debit cards, credit cards, UPIs, digital wallets, etc. This means that the business has built a massive online customer database. If the company does not take adequate measures to secure and encrypt its customers' sensitive financial information, hackers can take advantage of the tiniest of vulnerabilities and hack into internal systems. They can access customers' card information and track it back to their bank accounts and steal money. This can cause financial loss to many people, leading to a massive uproar in society.

#### ❖ **Effects of cybercrime on infrastructure**

Cyber terrorism also poses a significant threat to society. Cyber terrorists can break into systems that control infrastructures like air traffic control and endanger millions of lives. The more technologically developed a nation, the higher the cyber terrorism risk it possesses.

Cybercriminals can also target healthcare websites. They can expose patients' and hospital staff's sensitive data. These cybercrimes can range from malware and denial-of-service. Cyberattacks on the healthcare industry can have ramifications that surpass financial losses, i.e. they can pose risks to patients' lives.

#### ❖ **Effects of cybercrime on individuals**

Cyberbullying involves blackmailing internet users by threatening to leak false information. Like attacks on healthcare, the consequences of cybercrime are not limited to financial loss. Victims can suffer from conditions like anxiety and depression, leading to suicidal tendencies.

### **1.10 Internet Banking-**

Internet Banking is a result of computerization of banking sector. It was necessary for the banks to open up internet banking activities because of cut-throat competition. Furthermore, Internet banking facility being available at all time has created an advantage for the customers. There has been a paradigm shift from „bricks and mortar“ to „click and mortar“ in the banking sector. The first bank to start with internet banking facility was ICICI followed by IndusInd Bank and HDFC Bank respectively in 1999. Internet Banking is beneficial because it is convenient and easy to do banking business from home or at office desk. One can avoid standing in long queues or delays. Simply by logging using User ID and Password one can experience Internet Banking. With a click on the internet, a customer can check his account statement, transfer funds from one account to another, open FD (fixed deposit), pay electricity or telephone bills or pay rent, can recharge his/her postpaid or prepaid bills etc.

### **1.11 Mobile Banking-**

The importance of mobile phones for providing banking services has increased. We have become dependent on our mobile phones these days. Because of the growth of mobile phone subscribers in India, banking services have been extended for the customers to be availed through their mobile phones. Mobile banking is when transactions are carried out using a mobile phone by the customers that involve credit or debit to their accounts. In 2014, RBI had set up a Committee on Mobile Banking under the Chairmanship of B Sambamurthy. The Committee is required to study the problems faced by the banks in providing mobile banking to the customers and to examine the options including the feasibility using encrypted SMS-based funds transfer. Mobile banking facility has witnessed tremendous growth in our country. In the financial year (2016-2017), mobile wallets overtook mobile banking in number of transactions. Mobile wallets transactions; from phone recharges to paying for cabs or shopping online; trebled to almost 400 million through April-November 2016. Mobile wallet system is there in Apps like Jugnoo, Ola, Uber, Mobikwik, Paytm etc. It has been reported by Times of India that the number of transactions in mobile banking has more than doubled from 98 million to 265 million in the first eight months in the fiscal year of 2016-2017. If the growth continues at such a rate then it is clear that mobile based transactions; be it mobile wallet or mobile-banking transaction, will surpass cheque payment system in some months only.

In the present scenario, mobile based transactions added up to 602 million i.e., 83% of the 723 million cheques cleared during April, 2015 to November, 2015. However, the proportion of m-banking was less than 30% till last year. Approximately Rs. 1.26 lakh crore was spent by a customer in 2015 through mobile payments that resulted in a growth of 87% in mobile payment volumes. If we look at the rise of E-banking it is clear that people have started using this facility more in comparison to the traditional form of banking as evident from the table below for transaction in April November, 2016 (in millions).

RTGS	59.3	64.0	Retail Electronic Clearing	890.4	1922.3	Mobile Wallets	133.9	399.1
Mobile Banking	97.7	203.1	Source: RBI Payment System Indicators.					

Cyber Crime: Types And Its Impact on Banking Sector Neither crime nor cyber-crime has been defined in IPC or Information Technology Act, 2000 (hereinafter referred as IT Act), but only provides punishment for certain offences. The word „cyber“ is synonymous with computer, computer systems and computer network. Thus, it can be said that cybercrime occurs when any illegal activity is committed using a computer or computer resource or computer network.

Douglas and Loader have defined cybercrime as a computer mediated activity which is conducted through global electronic networks that are either considered illicit or illegal by certain parties.<sup>25</sup> Cybercrimes have been classified into four categories by Wall. They are cyber-deceptions, cyber-violence, cyber-pornography and cybertrespass.<sup>26</sup> The frauds in e-

banking sector are covered under cyber-deception. Cyber-deception is further defined as an immoral activity which includes theft, credit card fraud, and intellectual property violations. Mostly frauds are committed because of two goals, one, to gain access to the users account and steal his/her personal information and transfer funds from one account to another. Second is to undermine the image of the bank and block the bank server so that the customer is unable to access his/her account. In terms of number of cybercrime incidents in ransom ware, an identity theft and phishing attack, India has been ranked among the top 5 countries. According to Global Economic Crime Survey 2014, conducted by PwC, cybercrime was one of the top economic crimes which were reported by various organizations across the world, including India. National Crime Records Bureau (NCRB) reported that a total of 5,752 persons were arrested for committing cybercrimes during 2014 as compared to 3,301 persons arrested in 2013 registering 74.3% increase over the previous year. Uttar Pradesh (1,223) was reported with the maximum number of persons arrested under such crimes.

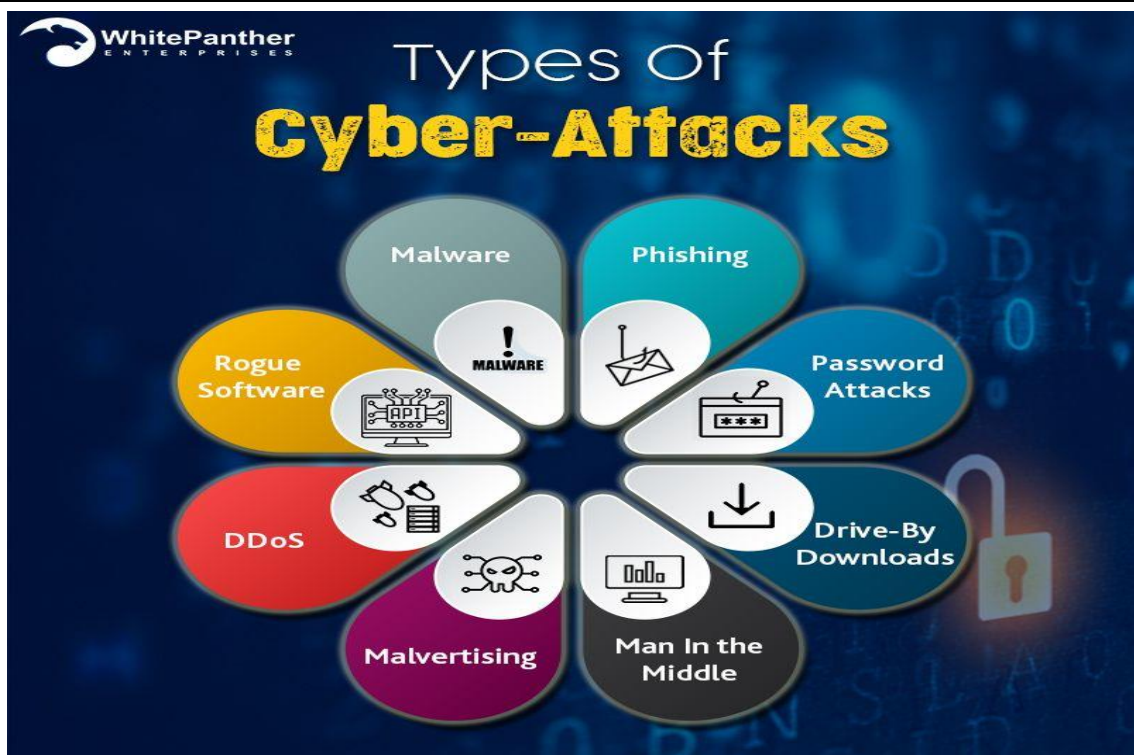
### 1.12 What is Cyber Risk in the Banking Sector?

According to the different cybersecurity in banking cells across the globe, deliberate or impugned exploitation of networks, computer systems, and technology-dependent enterprises is now known as a cyber-attack or cyber risk. Cybercriminals or cyber attackers induce malicious acts to obtain the bona fide banking codes, convert them to software compromised data and then drive out financial information, banking confidentialities, and system infiltration under the nose of authorities. A report of 2013 under the Information technology Act, 2000 convenes that one of the critically dominated information centers under the eagle eyes of hackers is the banking and financial services sector.

### 1.13 Reasons for the Growth of Cybercrime in India



Banking sector too has suffered an impact of cybercrimes. RBI has defined bank fraud as, 'A deliberate act of omission or commission by any person, carried out in the course of a banking transaction or in the books of accounts maintained manually or under computer system in banks, resulting into wrongful gain to any person for a temporary period or otherwise, with or without any monetary loss to the bank' Cyber Crimes Related With Banking Sector Hacking Hacking is a crime, which means an unauthorized access made by a person to cracking the systems or an attempt to bypass the security mechanisms, by hacking the banking sites or accounts of the customers. The Hacking is not defined in the amended IT Act, 200032. But under Section 43(a) read with section 66 of Information Technology (Amendment) Act, 2008 and under Section 379 & 406 of Indian Penal Code, 1860, a hacker can be punished. Before the 2008 Amendment Act, Hacking was punishable under Section 66 of the IT Act with upto three years of imprisonment or fine which may extend upto two lakh rupees, or both. If such crime is proved then for such hacking offence, the accused is punished under IT Act, for imprisonment, which may extend to three years or with fine, which may be extended to five lakh rupees or both. Hacking offence is considered as a cognizable offence, it is also a bailable offence. Credit Card Fraud Online credit card frauds take place when customers use their credit card or debit card for any online payment and another person, with malafide intentions, use such card details and password by hacking and misusing it for online purchases using the customers hacked card details or action of a fraud made by an devil<sup>34</sup>. The hacker can misuse the credit card by impersonating the credit card owner when electronic transactions are not secured. Keystroke Logging or Keylogging Key logging is a method by which fraudsters record actual keystrokes and mouse clicks. Key loggers are "Trojan" software programs that target computers operating system and are "installed" via a virus. These can be particularly dangerous because the fraudster captures user ID and password, account number, and anything else that has been typed



### 1.14 Characteristics of Cybercrime

- ❖ **Specialized Knowledge:** To commit a cybercrime a person needs to be having a good knowledge about the computers and internet. Many a times cybercrime is committed by the very educated people as they have the accurate knowledge about the same. And times it becomes very hard to trace them.
- ❖ **Collection of evidence:** Collecting evidence in a cybercrime is very difficult as the crime committed is in the virtual world.
- ❖ **Geographical Challenges:** Since the crime can be done globally without being physically present at the place. The distance does not matter in cybercrimes. A person sitting in Indian can target a person sitting in Australia.

### **1.15 Viruses**

A virus is a program that infects an executable file and after infecting it causes the file to function in an unusual way. It propagates itself by attaching itself to executable files like application programs and operating system. Running the executable file may make new copies of the virus. On the other hand, there are programs that can copy themselves, called worms which do not alter or delete any file, but only multiply itself and send the copy to other computers from the victim computer. Spyware is the number one way that online banking credentials are stolen and used for fraudulent activities. Spyware works by capturing information either on the computer, or while it is transmitted between the computer and websites. Often times, it is installed through fake “pop up” ads asking to download software. Industry standard Antivirus products detect and remove software of this type, usually by blocking the download and installation before it can infect the computer.

### **1.16 Watering hole**

“Watering hole” cyber fraud is considered to be a branch arising from phishing attacks. In watering hole, a malicious code is injected onto public web pages of a website which is visited only by a small group of people. In a watering hole attack situation, when the victim visit the site injected with malicious code by attackers, the information of such victim is then traced by the attacker. In phishing attack, victim himself gives away information innocently whereas in watering hole the attacker waits for the victim to visit the site. There can be an increase in watering hole incidents when there is more misuse and exploitation of zero-day vulnerabilities in various software programs like Adobe Flash Player or Google Chrome.

Cyber criminals in watering hole use the kits available in black market to infect, inject and configure a website which may be new or updated to lure people to provide them details. The site which is to be used for an attack is usually hacked by the attackers“ months before the actual attack. They use professional methods to perform such act. Therefore it becomes difficult for cyber-crime cells to locate such infected website. Watering hole is thus a method of surgical attack where the hackers aim to hit only certain specific group of people in the internet and in comparison to phishing, it is less earsplitting. Credit Card Redirection and Pharming Pharming is linked with the words, „farming“ & „phishing“. In Pharming a bank“s URL is hijacked by the attackers in such a manner that when a customer log in to the bank website they are redirected to another website which is fake but looks like an original website of the bank. Pharming is done over Internet and Skimming is another method which occurs in ATMs. DNS Cache Poisoning DNS servers are deployed in an organization“s network to improve resolution response performance by caching previously obtained query results. Poisoning attacks against a DNS server are made by exploiting vulnerability in DNS software. That causes the server to incorrectly validate DNS responses that ensure that they“re from an authoritative source. The server will end up caching incorrect entries locally, and serve them to other users that make the same request. Victims of a banking website could be redirected to a server managed by criminals who could use it to serve malware, or to induce bank customers to provide their credentials to a copy of a legitimate website. If an attacker spoofs an IP address; DNS entries for a bank website on a given DNS server, replacing them with the IP address of a server they control, makes an attacker able to hijack customers.

### **1.17 Malware based-attacks**

Malware based-attacks are one of the most among hazardous cyber threats related to electronic banking services. In such attacks, a malicious code is designed. Now-a-days, the number of malware attacks in banking sector has been increasing. Some of the infamous banking malware are Carbep, Tinba, Spyeye, Zeus and KINS. Zeus is the oldest out of these

malware. It was detected in July 2007 when the information was lost and stolen from United States Department of Transportation. There are other malwares which have been identified in previous years to commit bank fraud on a large scale.<sup>42</sup> It has been noticed that almost every virus has two features, one, that they secure a backdoor entry into the system and they steal credential information of a user. Recommendations to Prevent Cyber Crime Banking sector is the backbone of our economy. The increasing number of cyber-crime cases has resulted in huge losses to our economy. Cyber-attacks should be prevented by ensuring suitable legislation which is implemented effectively. Both the banks and the customer should be made aware about the risk involved and safeguard measures. There needs to be cooperation between the various stakeholders to counter cyber-crime.

The Indian Government established an Inter Departmental Information Security Task Force (ISTF) with the National Security Council as the nodal agency for the coordination of all matters relating to effective implementation of its cyber security strategy. Indian Computer Emergency Response Team (CERT-In) is the national nodal agency which is made to respond to computer security incidents whenever they occur. Few of the activities undertaken by CERT-In in implementing cyber security include coordination of responses to security incidents and other major events; issuance of advisories and time bound advice regarding imminent threats; product vulnerabilities analysis; conducting trainings on specialized topics of cyber security; and evolution of security guidelines on major technology platforms. One of the main issues related with cybercrime is of jurisdiction. Cyber-crime can be committed in any part of the globe having its impact in any corner. Every citizen should be able to identify and report cybercrimes from anywhere regardless of the country they reside in. The existing systems present in India for reporting cyber related offences involves registering complaints with the local police stations or cybercrime cells. Many Indian states have setup cybercrime cells, which monitor such crimes. In several instances, where the victims of cybercrime may not be able to report a cybercrime due to several reasons, such as staying in a remote location, unawareness regarding the place to report and privacy related issues. This tends to result in many cybercrime cases going unreported since there is no centralized online cybercrime reporting mechanism.

Also, for law enforcement agencies at various levels such as national, state, and local level, there is no centralized referral mechanism for complaints relating to cybercrime.<sup>44</sup> IT Act should be amended accordingly to define cybercrime and also specify the cases where the Act will have extra-territorial jurisdiction. The scope of the IT Act needs to be broadened to include legal framework relating to cyber laws in India. The responsibility of the intermediaries is vague and must be made more clear and explicit. Conclusion The present conceptual framework has provided a birds eye view of ongoing efforts to prevent and control highly technological and computer based crimes, and highlighting general trends

and developments within and without the Indian banking sector. This study has described deeply a number of common electronic crimes, identified in the specific areas of Indian banking sector. The study has provided an overview to the concept of E-banking by discussing deeply various cyber-crimes, identified specifically in the banking sector. The Banking system is the lifeblood and backbone of the economy. Information Technology has become the backbone of the banking system. It provides a tremendous support to the ever increasing challenges and banking requirements. Presently, banks cannot think of introducing financial product without the presence of Information Technology. However Information Technology has had an adverse impact too on our banking sector where crimes like, phishing, hacking, forgery, cheating etc. are committed. There is a necessity to prevent cybercrime by ensuring authentication, identification and verification techniques when a person enters into any kind of banking transaction in electronic medium. The growth in cyber-crime and complexity of its investigation procedure requires appropriate measures to be adopted. It is imperative to increase the cooperation between the stakeholders to tackle cyber-crime. According to National Crime Records Bureau, it was found that there has been a huge increase in the number of cyber-crimes in India in past three years.

Electronic crime is a serious problem. In cases of cyber-crime, there is not only financial loss to the banks but the faith of the customer upon banks is also undermined. Indian banking sector cannot avoid banking activities carried out through electronic medium as the study suggest that there has been an increase in the number of payments in e-banking. However, the change in the banking industry must be such the suits the Indian market. Banks are required to be updated and ahead with the latest developments in the IT Act, 2000 and the rules, regulations, notifications and orders issued therein pertaining to bank transactions and emerging legal standards on digital signature, electronic signature, data protection, cheque truncation, electronic fund transfer etc. as part of overall operational risk management process. It is the need of the hour to increase cooperation between the countries, over the tools and techniques, which will help them effectively to counter global electronic crime.

In developing countries, like India, cyber and electronic crime poses a serious problem because there is a lack of training on the subjects related to investigation of electronic and cybercrimes. Lastly, it can be concluded that to eliminate and eradicate cybercrime from the cyber space is not a seemingly possible task but it is possible to have a regular check on banking activities and transactions. The only propitious step is to create awareness among people about their rights and duties and to further making the implementation of the laws more firm and stringent to check crime. 1. Introduction Banking and financial sector Institution (BFSI) is huge sector with large number of customers spread across the globe. The accessibility of banking services to the weaker sections/vulnerable groups of the society has been PJAE, 17 (6) (2020) 4657 increasing over the years. Nearly 1.2 billion adults



having accounts in banks since 2011 as per Global Findex database 2017 . A study said most of the Indians switching to digital approach with 51% of them preferring online banking channels where in 26% of them access services via their bank websites and use mobile banking services. With the exceptional growth of digitization in banks, cyber risks have emerged as a major area of concern. Banking sector only accounts for 22% of the cyber-attacks that took place in India, as per the statement of Gulshan Rai . There has been humongous increase of cyber intrusions and attacks over the last decade. This unprecedented growth in crime has not only caused serious damage to the critical banking processes but has also caused huge financial loss to the system. Globally USD 114 Billion is lost nearly every year due to cybercrimes and the cost to spend in combating the crimes is amount to USD 274 billion .

Evolution of cyber threats happened in India majorly in 1998 post privatization of banking industry with virus attacks, followed by hacking websites, sending malicious codes, advanced worm and Trojan, identity theft (Phishing), Denial of Service (DOS) and Distributed Denial of Service (DDOS) in subsequent years and now a days with cyber espionage and cyber warfare. Some of the past cyber-attacks on Indian banking industries such as July 2016 phishing email attack on union bank of India swindling of \$171 million, May 2017 Ransom ware attack causing several thousands of computers getting locked down etc. India had 42 million cyber-crime victims, 52% of whom suffered financial or some other kind of loss due to hacking, scams, frauds and thefts. Major Cyber security challenges are inherent vulnerabilities in the system and software used by banks, innumerable entry points to internet, and outdated defines technologies that are highly vulnerable to advanced attack technologies used by hackers. However, mandatory cyber security preparedness is the most basic objective of banking institutions. Conscious of rising threats of the cyber infrastructure in its regulated entities, a good number of regulatory mechanisms and cyber security technologies have been evolved during these years. Therefore, recognizing the increased frequency and complexity of cyber security incidences, there is a need to conduct an ongoing review of cyber security landscape and emerging threats. Bankers' progress in strengthening cyber security resilience and response is to be monitored.

Cyber-crimes in the 21st Century has emerged to be one of the most lethal revengeful weapon that any person can use to threaten or cheat someone. The active internet users as per the latest reports of January 2021, were around 4.66 billion and this growth has led to the increase in the chances of a user being trapped in this malicious method of crimes which has been in surge during the past few decades.

Although it is understandable that computers have become an essential part of one's existence, they have also developed an environment conducive to cyber-crime. Cyber-

crimes pose a major challenge in light of the fast-changing environment and the significant contribution of the IT industry. Cybercrime is typically carried out by offenders who have technological skills who can outstrip and think one step ahead of the law in order to gain access to computers and commit crimes.

The economy is among the foundations that determines a country's development and growth. The banking sector is regarded as the economy's backbone. We use cash, cheques, and demand draughts to conduct our daily business. This pattern, however, has paved the way for a new payment system based on swiping debit or credit cards. The Narasimha Committee (1991-1998) which was for the recommendation on financial matters, suggested that IT shall be used in the banking sector as well to make it more efficient in the functioning.

While the banking sector has expanded its services and aims to provide excellent customer service via innovation, cyber-crime continues to be a problem. Cyber criminals can easily get in touch that is accessible on the internet. Cyber-crime causes massive monetary losses that are borne not only by customers, but also by banks affecting a country's economy. When viruses are produced and spread on other devices, or when sensitive business information is posted on the Internet, non-monetary cybercrime exists. Phishing and pharming are the most popular examples.

Due to enhanced online recognition through alternative platforms such as the internet, ATMs, and mobile banking, India has seen an increase in the amount of debit/credit cards. This amount will gain momentum in the coming days as the young generations enters the financial tumult.

The objective of this study is to scrutinize the concerns about cyber threats to the banking sector by highlighting the underlying tactics. It focuses on how well financial institutions are equipped to deal with cyber-crime events.

Information technology revolutionizes the financial services industry and provides them the opportunity to extend their services to the general public and provide substantial benefits for performing financial transactions (Owusu, Abiew, Ben, & Vormawor, 2018).The growing trends of internet access and smartphones have transformed the ultimate consumer choices to interact through digital means for information sharing, online shopping, and transferring or receiving funds ( Kaygin, Topcuoglu, & Ozkes, 2019).

Moreover, mobile phone banking creates new opportunities for unbanked people to participate and utilize banking services directly.

It offers many convenient facilities such as online deposits, bill payments, and money transfers without a physical visit to the local branch (Lenka & Barik, 2018). Financial institution also taking interest in technology to make the financial innovation system more robust and effective such as electronic fund transfer, interbank financial telecommunication, internet, and mobile banking, crowdfunding, and cryptocurrency (Wonglimpiyarat, 2017). They are also pondering on such website designs where it would be easier for the online users to recall the information.

The emergence of robust and novel digital platforms substantially Changed technological innovations and transformed the organization's working environment. These irreversible changes generate both challenges and opportunities that leaders must encounter (Cortellazzo, Bruni, & Zampieri, 2019). For example, several small and medium-sized enterprises and low-income cash receivers are gradually moving towards digital payment mechanism that is anticipated to grow rapidly in the future (Zimmerman & Baur, 2016). However, customers' primary concern is their online transactions' security and privacy due to the abrupt rise in cybercrimes.

Cybercrime incidents and the security breaches that are taking place in almost every corner of the world are much more alarming and one of the most serious threats (Campbell, 2018). Although the ease and convenience of e-banking encourage individuals to make electronic transactions, however, using e-bank services and payments through credit cards also expose them to cybercriminal and it can lead to their financial losses as well (Blut, 2016; Bressolles, Durrieu, Senecal, & Services,

LINGUISTICA ANTVERPIENSIA, 2021 Issue-2

[www.hivt.be](http://www.hivt.be)

ISSN: 0304-2294

3510

LINGUISTICA ANTVERPIENSIA

2014). Such transactions may be defined as a factor creating risk and privacy issues (Grewal & Dharwadkar, 2002), and the hackers can use various techniques to steal their money from the same channel. Although, Hosseini and Barkhordari (2013) defined credit cards as the most reliable way of online payment. However, innovative approaches of hackers still remain consistent threat for both privacy issues and

financial losses. It must be ensured that data is available to only those who have the authority to access it (Qayyum, Rehman, Saleemi, Ilyas, & Rafiq, 2018).

There are around 700 million people who have been suspected of some cyber-attacks in 2018 and cyber-attackers generate around \$1.5 trillion annually, an intrusion occurs every 39 seconds (Bera, 2019). If it is measured as an economy it would be placed third largest economy by 2021, predicted as \$6 trillion by 2021 and its growth rate is forecasted 15% per year till 2025 (Sausalito, 2020). Around 60% of those online frauds are exercised through smartphones as its users are consistently growing from 2.5 billion in 2016 to 3.2 billion in 2019 and 3.8 by 2021. This medium threatens not only individuals but business as well and 43% of the cyberattacked had targeted small business as per its weak protection (Chachak, 2019). Moreover, the fast-changing nature of cyber-crime industry and lack of individuals' knowledge encourage its consistent expansion (Calderaro & Craig, 2020). The damage caused by worldwide cyber-crimes is estimated to cost \$10.5 trillion per year by 2025. Therefore, it is crucial for financial institutions and practitioners to implement more preventive strategies and updated secure technologies for safe and secure transactions.

Although banking institutions have made efforts to prevent fraud in e-services, still large losses continue to be associated with frauds over e-banking mediums, indicating that financial scams continue to be a significant threat for the banking institutions. This study identified the online threats and the most effective cybercrime prevention tools to prevent fraud in e-banking services. The timely access to information and strict control could prove vital for reducing e-banking fraud. Exposure to such threats and prevention tools provides regulators and bank management teams insight into areas that may require increased emphasis and improve their expertise to use novel approaches to their clients. Moreover, the explored areas of cyber fraud will provide a basis for further exploration to new researchers.

### **1.18 Defining cybercrime**

The U.S. Department of Justice (DOJ) divides cybercrime into three categories:

1. crimes in which the computing device is the target -- for example, to gain network access;
2. crimes in which the computer is used as a weapon -- for example, to launch a denial-of-service (DoS) attack; and
3. crimes in which the computer is used as an accessory to a crime - for example, using a computer to store illegally obtained data.

The Council of Europe Convention on Cybercrime, to which the U.S. is a signatory, defines cybercrime as a wide range of malicious activities, including the illegal interception of data, system interferences that compromise network integrity and availability, and copyright infringements.

The necessity of internet connectivity has enabled an increase in the volume and pace of cybercrime activities because the criminal no longer needs to be physically present when committing a crime. The internet's speed, convenience, anonymity and lack of borders make computer-based variations of financial crimes -- such as ransomware, fraud and money laundering, as well as crimes such as stalking and bullying -- easier to carry out.

Cybercriminal activity may be carried out by individuals or groups with relatively little technical skill, Or by highly organized global criminal groups that may include skilled developers and others with relevant expertise. To further reduce the chances of detection and prosecution, cybercriminals often choose to operate in countries with weak or nonexistent cybercrime laws.

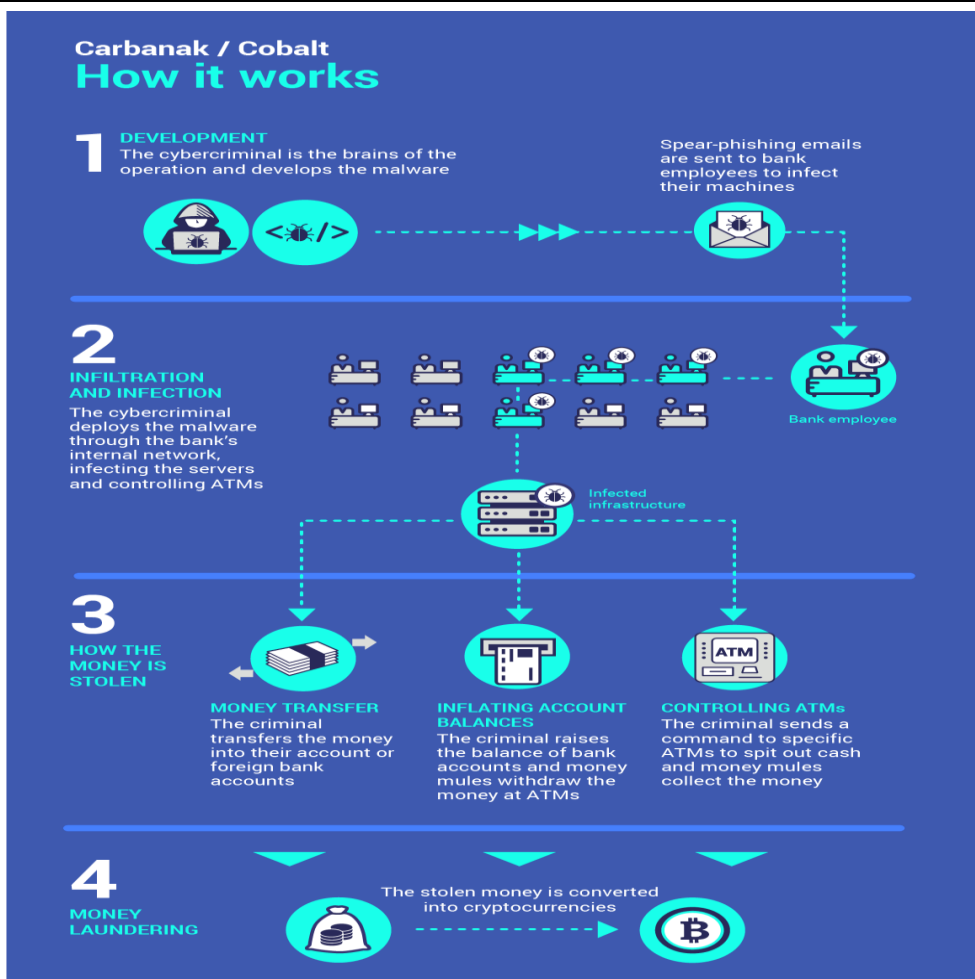
### **1.19 How cybercrime works**

Cybercrime attacks can begin wherever there is digital data, opportunity and motive. Cybercriminals include everyone from the lone user engaged in cyberbullying to state-sponsored actors, like China's intelligence services.

Cybercrimes generally do not occur in a vacuum; they are, in many ways, distributed in nature. That is, cybercriminals typically rely on other actors to complete the crime. This is whether it's the creator of malware using the dark web to sell code, the distributor of illegal pharmaceuticals using cryptocurrency brokers to hold virtual money in escrow or state threat actors relying on technology subcontractors to steal intellectual property (IP).

Cybercriminals use various attack vectors to carry out their cyberattacks and are constantly seeking new methods and techniques for achieving their goals, while avoiding detection and arrest.

Cybercriminals often carry out their activities using malware and other types of software, but social engineering is often an important component for executing most types of cybercrime. Phishing emails are another important component to many types of cybercrime but especially so for targeted attacks, like business email compromise (BEC), in which the attacker attempts to impersonate, via email, a business owner in order to convince employees to pay out bogus invoices.



### 1.20 Cyber Crime in Banking Industry

Cybercrime refers to any criminal activity carried out on a computer or over the internet. In other words digital misconduct is referred to as cybercrime where the criminal exercises a number of wrongdoings such as money transfers and withdrawals via unauthorized access by using the computer or any other electronic devices and the internet.

To narrow down the landscape in today's globalised world, the banking industry offers many services to their clients and consumers, such as online banking and credit card services. "Online payment with a debit card Customers can access all types of bank facilities 24 hours a day, and they can conveniently transact and run their accounts from anywhere in the world using the internet and cell phones." As we all know, these services are useful to customers, but they also have a dark side, which includes hackers and robberies.

They take advantage of those services by breaking into banking websites and customers' accounts, causing chaos in accounts and theft of money from customers' accounts, the best example was "in which one hacker took one rupee from each account but received a large sum of money with that one rupee."

### 1.21 Effects of cyber crimes

Cybercrime may have long-term consequences on those who are attacked. Cyber attackers carry out cyber threats such as taking out loans, incurring credit, hacking, and so on,

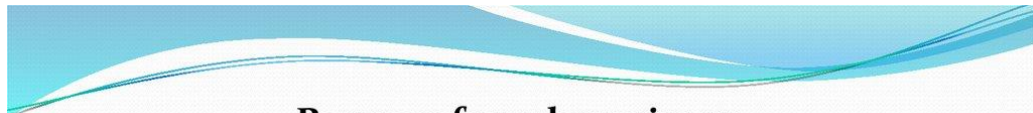
which may have devastating effects in the banking business.

**The below are the effects:**

1. Financial loss
2. Infringement of confidential information
3. Legal consequences
4. Sabotage and theft to identifiable information
5. Exposed to reputation risks
6. Operational risks

**1.22. Reasons for cybercrimes:**

To earn a huge amount of money, Cyber-criminals always choose an easy way. Banks, casinos, companies, and, financial firms are the prosperous organizations and their target centers where an enormous amount of money runs daily and has diplomatic information. It's very difficult to catch those criminals. Hence, the number of cyber-crimes are increasing day-by-day across the globe. We require so many laws to protect and safeguard them against cyber-criminals since the devices we use everyday for businesses and communication might have vulnerabilities that can be exploited. We have listed some of the reasons :



**Reasons for cyber crimes:**

- Hart in his work “The Concept of Law” has said ‘human beings are vulnerable so rule of law is required to protect them’. Applying this to the cyberspace we may say that computers are vulnerable so rule of law is required to protect and safeguard them against cyber crime. The reasons for the vulnerability of computers may be said to be:
  - 1. Capacity to store data in comparatively small space
  - 2. Easy to access
  - 3. Complex
  - 4. Negligence
  - 5. Loss of evidence

**1. Easy access to data:**

Once a cyber attacker is able to gain access into a computer system, they may have access to personal data, including private financial documents from customers, which can be copied or transferred into a small removable device. Since information technology powers

the operations of banks, individuals, corporations, government agencies, etc., the insecure storing of confidential data and information processed on their computers presents a serious danger.

## **2. User's Negligence:**

All the authorities who use computer systems should remain very careful and cautious in order to safeguard their confidential data and information stored in the computers.

Through proper usage of Passwords and Personal Identification Numbers (PIN) they can limit the access. Any negligence on their part will facilitate cybercriminals' easy access to certain devices and records.

## **3.Lack of internal control in organizations and banks:**

Banks use a variety of operating systems for their day-to-day activities; hence banks must ensure that they have in place ongoing internal control and IT audit systems otherwise it can result in computerized environment lapses due to the availability of inefficient software and hardware systems.

## **4. Complexity of Code:**

The computers can run on operating systems and these operating systems are programmed with millions of codes. There might be mistakes in the code. The human brain is defective so that they can commit mistakes at any stage. The cyber-criminals take advantage of these loopholes.

## **5. Negligence of the user:**

Human beings always neglect things. So, if we make any negligence in protecting our computer system which leads the cyber-criminal to the access and control over the computer system.

### **1.23 Types of cybercrimes connected with banking sector:**

As mentioned above, there are many different types of cybercrime. Most cybercrimes are carried out with the expectation of financial gain by the attackers, though the ways cybercriminals aim to get paid can vary. Some specific types of cybercrimes include the following:



## Types of Cybercrime



### Malware

- Ransomware
- Viruses
- Worms
- Spyware



### Bots

- DoS (denial of service)
- DDoS (distributed denial of service)
- Credential theft



### Social engineering

- Phishing
- Baiting
- Swatting



### Physical cyberattacks

- USB driver with virus
- Attacker pretends to be an employee
- Identity theft

### 1.23.1 Types of Cyber Crime :

#### ❖ Hacking :

Hacking is a cybercrime that involves a person gaining illegal access to a system or attempting to circumvent security mechanisms by hacking into customers' accounts or banking sites. "A hacker, however, can be prosecuted under Sections 379 and 406, and also u/s 43(a) read with Section 66 of the Information Technology (Amendment) Act, 2008." If the crime of hacking is proven, the convicted may be sentenced to three years in prison or a fine of up to five lakh rupees, or both, under the IT Act.

#### ❖ Key logging :

It is referred to as "keystroke logging or keyboard capturing". It is the process of secretly recording (logging) the keys pressed on a keyboard so that the person using it is oblivious that their activities are being tracked and these are incredibly harmful for stealing confidential information such as banking details etc.

#### ❖ Viruses :

It is a kind of self replicating program that infects executable code or documents by inserting copies of itself. A virus is a programme that afflicts an executable file and causes the file to behave abnormally after infection. It spreads by linking itself to executable files such as programme files and operating systems. Loading the executable file could result in new copies of the virus being created. Worms, on the other hand, are programmes that can replicate themselves and send copies to other computers from the victim's computer. Worms do not change or remove any files; instead, they multiply and send copies to other computers from the user's computer.

❖ **Spyware :**

Spyware is the most common approach of stealing online banking credentials and using them for fraudulent purposes. Spyware operates by collecting or transmitting information between computers and websites. It is mostly installed by bogus 'pop up' advertisements to have software downloaded. Industry standard Antivirus products detects and removes this type of software, primarily by blocking the download and installation before it infects the PC.

❖ **Phishing :**

Phishing is a kind of swindle in which private information such as Debit/Credit Card number Customer ID, IPIN, CVV number, Card expiry date, and so on is stolen via emails that seem to be from a genuine source. Phishing is accomplished through the use of instant messaging and email spoofing.

In this type of crime, hoaxers act like officials of banks and they create a direct link that directs the targeted customers to a fake page which looks alike to the actual bank website. The acquired confidential information is then used to commit deceitful transactions on the customer's account. Phishers these days also use SMS (Smashing) and mobile (voice phishing) to commit such crimes.

❖ **Pharming:**

Pharming is carried out through the internet. When a customer logs in to a bank's website, the attackers hijack the URL in such a way that they are routed to another website that is false but appears like the bank's original website.

❖ **ATM Skimming and Point of Sale Crimes:**

Installing a skimming device atop the machine keypad to appear as a real keypad or a device made to be affixed to the card reader to appear as a part of the machine is a tactic for compromising ATM machines or POS systems. Malware that directly steals credit card data may also be installed on these devices. Skimmers that are successfully installed in ATM machines retrieve personal identification number (PIN) codes and card numbers, which are then copied to perform deceitful transactions.

❖ **DNS Cache Poisoning:**

DNS servers are used in a company's network to increase resolution response times by caching query results previously received.] Poisoning attacks on DNS servers are carried out by exploiting a flaw in DNS software. As a result, the server validates DNS

responses mistakenly to ensure that they are from an authoritative source. Incorrect entries will be cached locally by the server and served to all users who make the same request. Bank customers could be routed to a server controlled by criminals, which could be used to serve malware or trick bank customers into providing their credentials to a spoof of a legitimate website. An attacker can hijack clients by spoofing an IP address; DNS entries for a bank website on a given DNS server and replacing them with the IP address of a server they control.

❖ **Malware based-attacks:**

One of the most dangerous cyber threats to electronic banking services is malware-based attacks. A malicious code is created in such attacks. The number of malware attacks in the banking industry is on the rise these days. Zeus, Spyeye, Carbep, KINS, and Tinba, are some of the most well-known banking malware. Nearly every virus has two characteristics: one, it secures a backdoor entry into the system, and the other, it steals a user's credential information.

❖ **Cyberextortion:**

A crime involving an attack or threat of an attack coupled with a demand for money to stop the attack. One form of cyberextortion is the ransomware attack. Here, the attacker gains access to an organization's systems and encrypts its documents and files -- anything of potential value -- making the data inaccessible until a ransom is paid. Usually, this is in some form of cryptocurrency, such as bitcoin.

❖ **Cryptojacking :**

An attack that uses scripts to mine cryptocurrencies within browsers without the user's consent. Cryptojacking attacks may involve loading cryptocurrency mining software to the victim's system. However, many attacks depend on JavaScript code that does in-browser mining if the user's browser has a tab or window open on the malicious site. No malware needs to be installed as loading the affected page executes the in-browser mining code.

❖ **Exit scam:**

The dark web, not surprisingly, has given rise to the digital version of an old crime known as the *exit scam*. In today's form, dark web administrators divert virtual currency held in marketplace escrow accounts to their own accounts -- essentially, criminals stealing from other criminals

## **1.24 Cyber-attacks in India**

### **1.24.1 Cosmos Bank Cyber Attack in Pune :**

Cosmos Bank in Pune was the target of a recent cyber-attack in India in 2018, when hackers stole Rs. 94.42 crores from Cosmos Cooperative Bank Ltd situated in Pune, it rattled the entire banking industry in India. Hackers gained access to the bank's ATM server and stole the personal information of rupee debit cardholders and visas in large number. Money was wiped out, and hacker gangs from as many as 28 nations withdrew the funds as soon as they were notified. It can be avoided by hardening surveillance measures and assisting approved individuals.

In 2018 again a massive data breach involving 1.1 billion Aadhar card users occurred. The hacked data contained personal information such as Aadhar, cellphone, PAN, and bank account numbers, as well as IFSC codes. Surprisingly, unknown merchants were quickly selling Aadhar information on WhatsApp for Rs 500 per individual. In addition, for a meagre Rs 300, one could obtain a printout of anyone's Aadhar card.

Canara bank's ATM servers were attacked in a cyber assault in mid-2018. The crooks have over Rs 20 lakhs stashed away in several bank accounts. Skimming devices were used by hackers to acquire information from 300 debit cards. The imposters targeted 50 people and took money ranging from Rs 10,000 to Rs 40,000.

Pegasus spyware is a type of malicious software that infiltrates a device, collects data, and then sends it to a third-party provider without the user's permission. NSO Group, an Israeli cyber weaponry company, designed it. It mostly needed links to function. When a consumer clicks on one of these links, Pegasus is instantly installed on their phone. According to the Indian news portal The Wire, a leaked global database of 50,000 telephone numbers alleged to have been provided by different government clients of NSO Group includes over 300 verified Indian mobile telephone numbers, including those used by ministers, opposition leaders, journalists, the legal community, businesses, government employees, scientists, rights activists, and others.

### **1.24.2 ATM System Hacked :**

The ATM servers of Canara Bank was targeted in 2018 for cyber-attack. Twenty lakh rupees were cleared from numerous bank accounts. According to sources, cyber criminals had access to ATM information for more than 300 users, resulting in a overall 50 victims. Hackers used skimming machines to capture information from debit cardholders. Transactions involving stolen information varied in amount from Rs. 10,000 to Rs. 40,000. [20] It can be avoided if the protection mechanisms in ATMs can be improved to avoid data misuse.

### 1.24.3 RBI Phishing Scam :

The Reserve Bank of India was not spared by the fraudsters in a bold phishing attempt of its kind. The phishing email, which purported to come from the RBI, promised the recipient prize money of Rs.10 lakhs within 48 hours if they clicked on a connection that took them to a website that looked exactly like the RBI's official website, complete with the same logo and web address. After that, the user is asked to disclose personal details such as his password, I-pin, and savings account number. The RBI, on the other hand, issued an alert about the fake phishing e-mail on its official website.

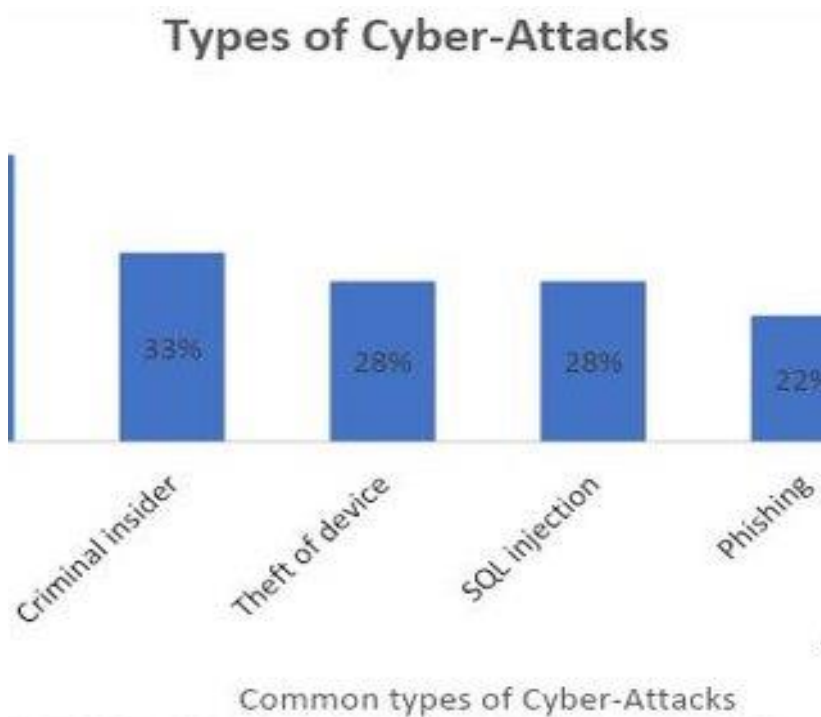
### 1.24.4 The Bank NSP Case :

In this particular case a bank management trainee was hitched to be married. Using the company's computers, the couple exchanged numerous emails. They had broken up their marriage after some time, and the young lady made some fake email ids, such as "Indian bar associations," and used them to send emails to the boy's international clients. She did this via banks computer. The boy's business lost a large amount of customers and went to court against the bank. The court decided and made the bank liable because the emails were sent using the banks system.

The aforementioned cyber-attacks in India should act as an alert to all individuals and companies who are already prone to cyber threats. It is crucial for the banking industry and organizations to adopt cyber security measures and adhere to security guidelines.

## 1.25. Cyber Crime Images :

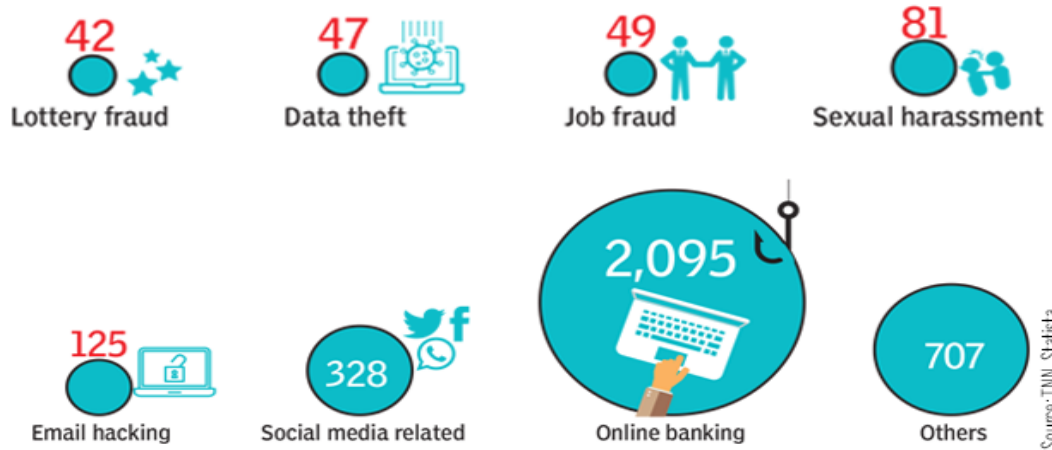
### 1.25.1. Types of Cyber-Attacks :



### 1.25.2 Online Banking Fraud Most Common Cyber Crime

# ONLINE BANKING FRAUD MOST COMMON CYBER CRIME

Number of cyber crimes across India in 2017



Source: TNN, Statista

TOI

FOR MORE INFOGRAPHICS DOWNLOAD TIMES OF INDIA APP

Available on the App Store

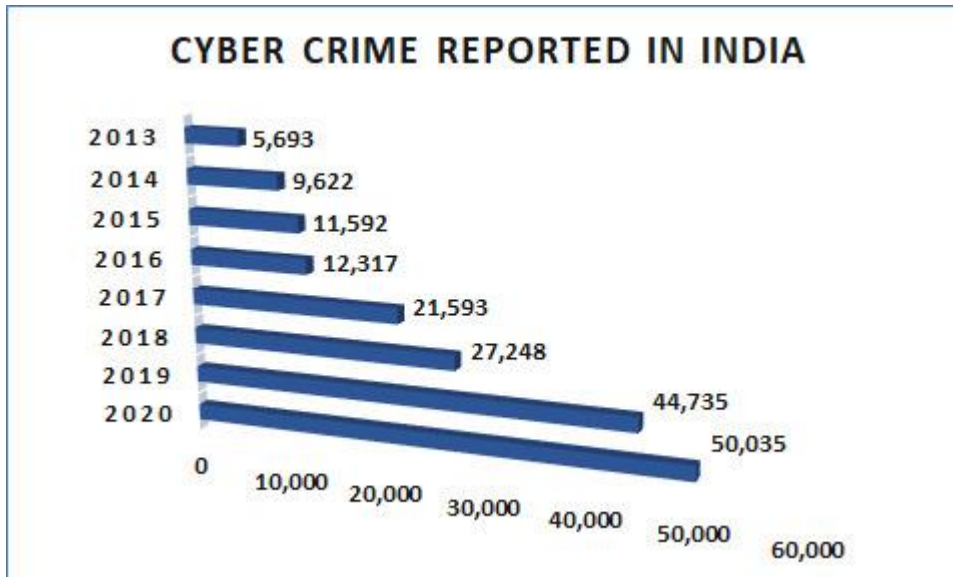
Google play

Windows Phone

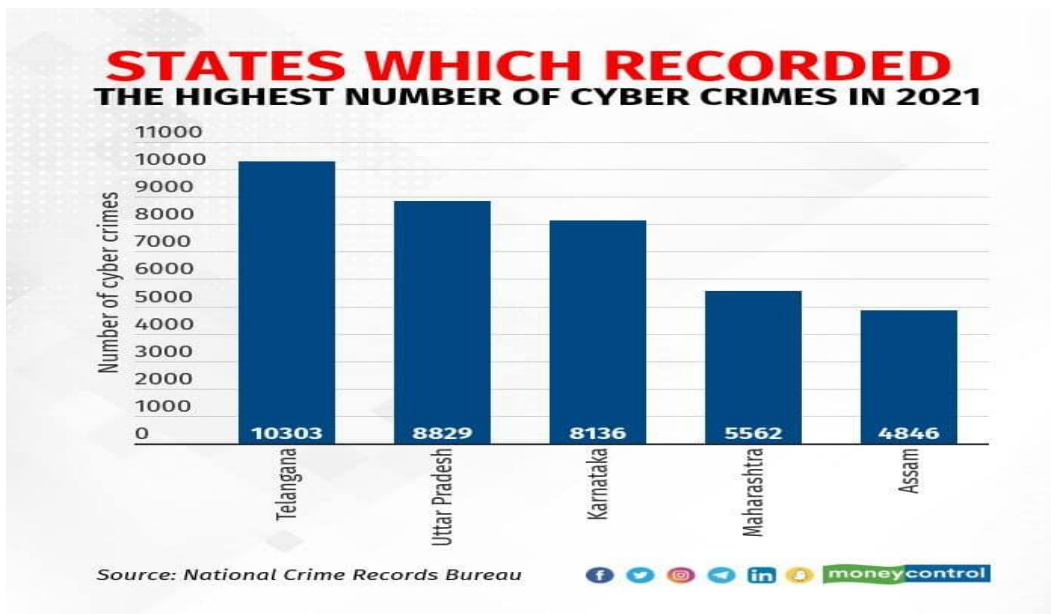
### 1.25.3. Threats for Cybersecurity in Digital Banking



### 1.25.4 Cyber Crime Reported in India



### 1.25.5 The Highest Number of Cyber Crime in 2021



### 1.26 ANALYSIS OF ALGORITHM OF CYBER CRIME

Computer-enabled cyber-crimes include traditional crimes that can be enhanced in scale and reach using computers and networks. For example, cyber-fraud and data theft using hacking, key-logging, and social engineering can be classified as computer-enabled crimes.

- ❖ Hacking is an unauthorised access or control over computer network security systems for some illegal or criminal purpose. (ET)
- ❖ Identity Theft is by gaining access to one's personally identifiable information (PII) and to commit fraud (Norton).
- ❖ Cyber stalking - When online activities of a person are observed closely without his/her knowledge this is called cyber stalking. It is a breach of his/her privacy too.
- ❖ Credit/debit card theft over a phone call/e mail/sms occurs when an authorized user of credit/debit card shares its information over, email, sms or call with an

unauthorized person with a belief that the caller is an authorized person from the bank.

The Data mining algorithms are finding towards the accuracy of analysis and pattern discovering for given training data set. The process of clustering and classification are may fit into some special set of data that are evaluated in real time. There are two approach of Data mining technique for discovering analysis that is Supervised and Unsupervised. The crime analysis data are already classified by supervised learning with class label prediction. The decision tree mechanism and naive bays theorem and support vector mechanisms are evaluate the analysis in crime. The crime analyses are engaged by two ways. One form computer system level data security and Network level security. Computer security was depends on Virus, worms, Threads are affected our authenticated files or data. But the network level, it is very complex type of attacks, like intruders, eavesdroppers, hackers, crackers they affect our data at the time of network communication.

In this work to improve the security levels on network using high secure algorithms. Because of in financial sectors are highly affected by network level security. The data mining algorithm with analyze crime and give the best prediction of attack on the network. The big data analytics are the huge volume of data can be operated through online with a separate server. All the transaction and communication on financial sectors are fully handled in online. To analyse the crime factor and provide the security for the communication are discussed with data mining classification algorithms.

### **B. Indian banking sector at forefront of cyber-attacks: What are major threats and way ahead**

The government data establish the sharp rise in attacks on the banking and financial sector. Between June 2018 and March 2022, India's banks recorded 248 successful data breaches by hackers and criminals, central government notified Parliament on 2 August Ahead of Diwali, Uttar Pradesh cyber police arrested techies and a former bank employee involved in a Rs 145 crore illegal withdrawal from the Cooperative bank's account in Lucknow.

Another report claims that an Android malware named Drinik – operating under the guise of the Income Tax Dept of India – targeted 18 banks in the country.

Similarly, a carding website on the dark web called BidenCash shot to the limelight after hackers uploaded the credit card details of over nine million individuals for free on the website. Most compromised cards came from the United States, according to data analysis. However, a massive data dump originated in India, the United Kingdom, Brazil, Mexico, Turkey, Spain, Italy, and China.

Indian Banking Finance Services and Insurance (BFSI) sector has been at the forefront of cyber-attacks – targeted at the Asian region. Even the government data establish the sharp rise in attacks on the banking and financial sector. Between June 2018 and March 2022,



India's banks recorded 248 successful data breaches by hackers and criminals, central government notified Parliament on 2 August. Of the 248 successful data breaches, 41 were reported by public sector banks, 205 by private sector banks, and two by overseas banks. Cloud SEK, a Singapore headquartered cyber security firm, in its Whitepaper, said 7.4% of the targeted attacks in the year 2022 were towards the Indian subcontinent. Whether it is on account of Nationalized banks, Crypto exchanges or wallets, NBFCs, or Credit card information leaks, India has emerged as the newfound hotbed for cyber-attacks in Asia. The cyber intelligence firm attributes growing digitalisation and online banking systems for catapulting crime instances. "Digitalisation and ubiquitous banking services have accelerated the growth of threats against the banking sector. The unprecedented growth of blockchain and cryptocurrency has further given threat actors access to the sector like never before. This, coupled with newer and evolving phishing mechanisms, have given access to targeting the banking industry with new and improved Tactics, Techniques, and Procedures (TTPs). The scattered nature of stakeholders also makes the Banking and Finance Industry a risky proposition," said a CloudSEK researcher to *FirstPost*.

### **1.27 Major threats to the sector**

Data breaches and digital banking threats were the two major attacks targeting this sector. CloudSEK's analysis shows that in 2021 and 2022, more than half of the reported cases involved the leak or sale of databases, which is called a "data breach." Cybercriminals use everything from simple scraping, web injection commands, and taking advantage of exposed endpoints to complex malware attacks, taking advantage of CVEs, etc., to steal information from different organisations.

About 20% of reported events concerning threats to digital banking mostly comprised selling, buying, compromising, and bypassing access to various digital payment systems, banking accounts, and digital wallets (crypto or otherwise).

### **1.28 Challenges faced by the sector**

Speaking about the latest banking fraud case cracked by his team, Triveni Singh, SP, Cyber Crime said cyber criminals are looking for newer ways to attack you. So it is not only banks and their officials' responsibility to ensure security but every customer has to be equally aware of the security features.

"All the cybercrime starts with data of bank employees. So it is important to keep your credentials secure. The best is to go for two-factor authentication or multi-layered security pins. It is a thumb rule to not trust anyone on phone or the internet and do not share details. Double-check the authenticity of the message or post before sharing any sensitive information," Triveni Singh highlighted.

Other cyber experts and banking professionals pointed out following challenges being faced by the sector:

- ❖ A severe lack of talent is a problem that can hurt the security perimeter of this industry.
- ❖ Credentials used by workers and outside contractors can have a significant impact on a company's security system if they are too weak.
- ❖ It is difficult for most organisations to set aside sufficient funds for security.
- ❖ Employees without adequate knowledge who tamper with the system and risk damaging it
- ❖ Third-party users who need training and insecure third-party services.
- ❖ The industry's problems are compounded by its lagging infrastructure and dispersed stakeholders.

### **1.29 Some quick tips for the sector**

- ❖ Employees, customers, and third-party users should all participate in ongoing security awareness training covering cyberattacks, online scams/phishing, and more.
- ❖ Multi-factor authentication and strict password regulations should be implemented (MFA).
- ❖ Maintain a consistent schedule of software, system, and network updates and patches
- ❖ Keep numerous copies of your data stored in different, safe locations; this includes both online and offline copies.
- ❖ Keep an eye on server and application logs for signs of anything out of the ordinary.
- ❖ Network firewalls should be used to prevent access to unauthorised IP addresses and to disable port forwarding.
- ❖ Cybercriminals use exploits like misconfigured programs, exposed data, and leaking credentials to launch widespread attacks, thus, it's important to monitor the internet to detect and eliminate these threats.

### **1.30 Preventive measures:**

**a) Hacking:** It is a technique to gain illegal access to a computer or network in order to steal, corrupt, or illegitimately view data.

#### **❖ Preventive measures**

- ❖ Always keep your systems/devices (desktop, laptop, mobile) updated with latest patches and Protect systems/devices through security software such as anti-virus with the latest version.
- ❖ Always download software or applications from known trusted sources only. Never use pirated software on your systems/devices.
- ❖ Ensure all devices/accounts are protected by a strong PIN or pass code. Never share the PIN or password with anyone.
- ❖ Computers/laptops should have a firewall and antivirus installed, enabled and updated with latest versions.

- ❖ Never download or install pirated software, applications etc. on your computer, laptops or handheld devices.
- ❖ Always scan external devices for viruses, while connecting to the computer.
- ❖ Be careful while browsing through a public Wi-Fi and avoid logging in to personal and professional accounts while using public Wi-Fi systems.

**b) Phishing:** It is a technique to obtain confidential information such as usernames, passwords, and debit/credit card details, by impersonating as a trustworthy entity in an electronic communication and replay the same details for malicious reasons.

**Preventive measures**

- ❖ Ensure all devices/accounts are protected by a strong PIN or pass code. Never share your PIN or password with anyone.
- ❖ Do not share your net-banking password, One Time Password (OTP), ATM or phone banking PIN, CVV number etc. with any person even if he/she claims to be an employee or a representative of the bank and report such instances to your bank.

**c) Vishing:** It is the criminal practice of using social engineering over the telephone system to gain access to private personal and financial information from the public for the purpose of financial reward

- ❖ Remember bank never asks for card number/CVV number/OTP.
- ❖ Never share the ATM card number, CVV, OTP or any other confidential banking credentials with anyone over a phone call/SMS/WhatsApp.

**d) Spamming:** Unwanted and unsolicited e-mails usually sent in bulk in an attempt to force the message on people who would not otherwise choose to receive it are referred to as Spam E-mails.

**Preventive measures**

- ❖ Never give out or post your email address publicly
- ❖ Think before you click and do not reply to spam messages
- ❖ Download spam filtering tools and anti-virus software
- ❖ Avoid using your personal or business email address

**e) Denial of Service:** This attack is characterized by an explicit attempt by attackers to prevent legitimate users of a service from using that service by "flooding" a network to disallow legitimate network traffic, disrupt connections between two machines to prohibit access to a service or prevent a particular individual from accessing a service.

**Preventive measures**

- ❖ Buy more Bandwidth
- ❖ Build redundancy into the Infrastructure
- ❖ Configure your network hardware against DDos attacks

**f) ATM Skimming and Point of Sale Crimes:** It is a technique of compromising the ATM machine or POS systems by installing a skimming device atop the machine keypad to appear as a genuine keypad or a device made to be affixed to the card reader to look like a part of the machine. Additionally, malware that steals credit card data directly can also be installed on these devices. Successful implementation of skimmers cause in ATM machine to collect card numbers and personal identification number (PIN) codes that are later replicated to carry out fraudulent transactions.

**Preventive measures**

- ❖ Observe the surroundings for skimmers or people observing the PIN before using an ATM and Cover the keypad when entering the PIN.
- ❖ Check your bank and credit card statements often
- ❖ Enter the PIN yourself taking due care to hide the PIN
- ❖ Physically check the keypad to ensure it does not have an overlay device.
- ❖ Do not allow anyone to stand beside or behind you while carrying out transaction with ATM/Debit card/Credit card.
- ❖ Do not keep a PIN which can be guessed easily. Keep changing the PIN.
- ❖ Ensure you get transaction receipt or confirmation through SMS.
- ❖ Ensure that any part of the ATM machine is open or loosely attached.

**g) Virus, worms & Trojans:** Computer Virus is a program written to enter to your computer and damage/alter your files/data and replicate them. Worms is malicious programs that make copies of themselves again and again on the local drive, network shares, etc. A Trojan horse is not a virus. It is a destructive program that looks as a genuine application. Unlike viruses, Trojan horses do not replicate themselves but they can be just as destructive. Trojans open a backdoor entry to your computer which gives malicious users/programs access to your system, allowing confidential and personal information to be theft.

**Preventive measures**

- ❖ Get a good anti-virus
- ❖ Be wary of e-mail attachment
- ❖ Avoid the Third Party Downloads
- ❖ Have a Hardware-based firewall and deploy DNS

**h) Impersonation and Identity theft:** Impersonation and identity theft is an act of fraudulently or dishonestly making use of the electronic signature, password or any other unique identification feature of any other person.

**Preventive measures**

- ❖ Never provide details or copy of identity proofs (e.g. PAN Card, Aadhaar Card, Voter Card, Driving License, Address Proof) to unknown person/organization.

- ❖ Be careful while using identity proofs at suspicious places.
- ❖ Do not share sensitive personal information (like Date of Birth, Birth Place, Family Details, Address, Phone Number) on public platforms.
- ❖ Always strike out the photo copy of the identity proof; write the purpose of its usage overlapping the photo copy. This way, it becomes difficult to reuse the photo copy.
- ❖ Do not leave your credit, debit or ATM card receipts behind, in places such as a bank/ATM or a store; never throw them away in public.

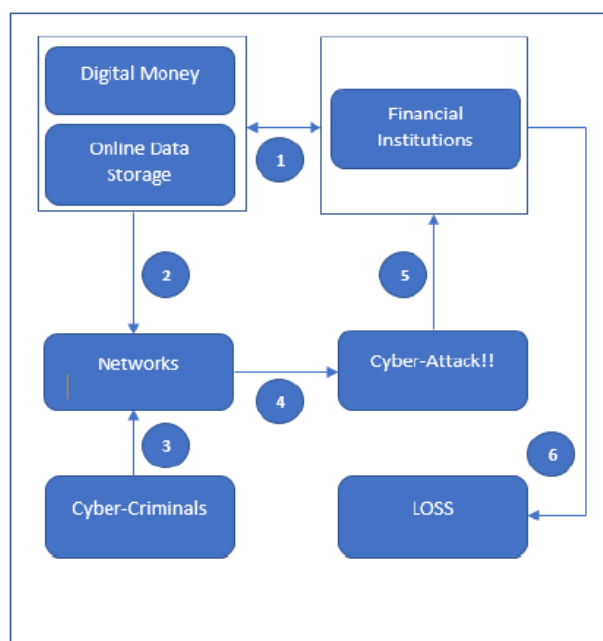
**i) Fraud by request money QR code/link on Google pay/Phonepe/Paytm:** Cyber fraudsters send debit links or QR codes to victims to scan and receive money in their bank accounts through Google Pay/PhonePe/Paytm. But instead of receiving money, it actually gets debited from the victim's account as fraudsters actually send a request money QR code/link.

#### **Preventive measures**

- ❖ Never accept/click on any link or scan any QR code from unverified sources as they may send you a manipulated one.
- ❖ For receiving money, there is no need to enter MPIN or UPI PIN.

### **1.31 Impact of Cybercrime on Bank**

**Figure 1: Demonstrating the impact of Cyber-Attacks on Financial Institutions.**



Due to geopolitical and global macroeconomic conditions, the banking industry in the world is facing a difficult situation that is thought-provoking. In order to better analyse and mitigate risks, the banking industry is being forced to review its existing practices. For risk management, technology-driven approaches have been used.

Financial services have been expanded to the masses as a result of the development of

information and technology (IT), as well as the penetration of mobile networks in daily life. However, technology advancement has made the banking services accessible and affordable but this in turn has augmented the likelihood of being a target of cyber-attacks.

Cyber thieves have developed sophisticated methods to not only steal money, but also to spy companies and gain access to vital business information, which has an indirect effect on the bank's finances. To combat such cybercrimes, the banking industry must work with national authorities and watchdog organizations to create a model that will aid in control.

The major source of interest here is the lack of an efficient compilation service in the banking industry that can detect patterns in cybercrime and compile a model based on them.

The banking industry across the globe is facing a tough scenario which is thought provoking due to the geopolitical and global macro-economic conditions. The banking sector is forced to assess its current practices in order to analyse and manage their risks effectively. Technology-driven approaches have been adopted for the management of risk. Due to the growth of IT, penetration of mobile networks in normal life, the financial services have extended to masses. Technology has made sure that banking services reach masses as it made these services expensive and accessible (KPMG, 2011).

However, this has also elevated the risk of turning into objectives of cyber attacks. Cybercriminals have developed advanced strategies to not only cause theft of finances and finances information but also to espionage businesses and access important business information which indirect impacts the bank s finances. Globally, USD 114 Billion is lost nearly every year because of cybercrimes, and the cost spend to combat cybercrimes is double is amount i.e. USD 274 billion (Symantec Cyber Crime Report, 2012). On an average, banking facilities take 10 days to fully recover from a cyber act which further adds to the cost of operation. Comparing the financial losses faced by the Indian Banking Sector, it is nearly 3.5% of the loss in cash in comparison to global loss. USD 4 billion is lost in recovering from the crime and USD 3.6 billion is spent to combat such crimes from happening in future. The average time taken to resolve the crime in Indian banking sector is also higher in comparison to global scenario i.e. 15 days (Muthukumaran B., 2008). In order to fight these cybercrimes, the banking sector needs to collaborate with global authorities and watchdog organizations so that a model can be developed which can help in controlling and dealing with such threats. The main issue of concern here is that there is absence of effective compilation service in the banking sector which can identify the trends in cyber-crime and compile a model according to it.

### 1.33 Cyber Security in Banking Sector

#### 1. What is Cyber Security in Banking?

Cyber security refers to the organization of technologies, procedures, and methods designed to prevent networks, devices, programs, and data from attack, damage, malware, viruses, hacking, data thefts or unauthorized access.

The main objective of Cyber security in banking is to safeguard the user's assets. As individuals go cashless, further actions or transactions are done online. Individuals use their digital money like debit cards and credit cards for transactions that require to be safeguarded under Cyber security.

#### 1.34 Importance of Cyber Security in Banking Sectors

Cyber security is not only restricted to IT organisations, it is important for every single business. But, for banks, it holds important value. Banks deal in millions of transactions on a regular basis. Hence, it is very important for banks to take protective security procedures to safeguard their data against cyber attacks. Here are some reasons why cyber security is essential for banks:



##### a) Loss to Customers

When a bank confronts a cyber attack, it not only affects the bank's status but also causes loss to its customer's assets. Normally, when a user loses money due to card fraud, it can be retrieved from the bank. But, in circumstances like data infringement, it takes time to retrieve the funds, which is very worrying for customers. To keep customer's data safe, every bank needs to execute cyber security methods that can safeguard their customers' data.

##### b) Bank's Reputation

Data infringement is a crucial problem for banks, as it leads to losing users data. If the customers' data of a bank is breached, then it becomes hard for customers to have confidence in the bank. Data breaches generally happen because of weak cyber security

approaches. Thus, it is required to have cyber security necessities for banks to evaluate the current security measures and protect crucial data.

### **c) Digitization**

As we know, nearly everything has been digitized now. From ordering products to making meetings and sending money, we trust on various digital platforms. This makes it highly important for banks to advance their banking functions utilized by customers, as hackers can swiftly access banking apps if proper cyber security methods are not applied.

### **1.35 How to Make Banking Institution Cyber Secure**

The main goal of Cyber security in banking is to safeguard the customer's data and assets. As more and more people are going cashless, more and more banking transactions are done online. Here are some ways to make banking institutions cyber secure:

#### **a) Combined Security**

As BFSI is highly structured, banks put in time, money, and work in utilizing the finest technology which might be sometimes hard to handle altogether. Moving towards united security where all elements work and connect is more advantageous.

#### **b) Multi-factor authentication**

Multi-factor authentication (MFA) is a verification technique in which access is only given once a customer gives two or more login credentials. Login credentials can consist of passwords, opts, or fingerprints. When establishing MFA, make sure that login credentials do not come from a similar resource (two passwords) as this will diminish security. MFA is a need for banks as it includes an extra layer of security when trying to access important information.

### **1.36. How to Make Banking Institution Cyber Secure**

The main goal of Cyber security in banking is to safeguard the customer's data and assets. As more and more people are going cashless, more and more banking transactions are done online. Here are some ways to make banking institutions cyber secure:

#### **a) Combined Security**

As BFSI is highly structured, banks put in time, money, and work in utilizing the finest technology which might be sometimes hard to handle altogether. Moving towards united security where all elements work and connect is more advantageous.

#### **b) Multi-factor authentication**

Multi-factor authentication (MFA) is a verification technique in which access is only given once a customer gives two or more login credentials. Login credentials can consist of passwords, opts, or fingerprints. When establishing MFA, make sure that login credentials do not come from a similar resource (two passwords) as this will diminish security. MFA is



a need for banks as it includes an extra layer of security when trying to access important information.

#### **c) Cyber insurance**

Cyber insurance makes sure that an organization is economically secure in the event of a cyberattack, making it an essential element of a cyber security plan. Along with containing legal costs, cyber insurance hauliers also inform customers of infringements so that organisations are in agreement with data breach regulations. Furthermore, cyber insurance will also help to pay to fix damaged systems and rebuild the data.

#### **d) Consumer Awareness**

It is one of the key aspects where the user has to be made aware of not revealing their user credentials to anyone. They should testify to the cyber security cell in case of any questionable developments in their operations or in their bank account as quickly as possible.

#### **e) Antivirus and Anti-malware Applications**

A firewall will improve protection, but it will not prevent attack unless revised anti-virus and anti-malware products are utilized. Renewing to the latest application can prevent potentially devastating attacks on your system.

### **1.37 How to Report**

With the increase in the digital world, especially when it comes to banking transactions, the risk of financial frauds cannot be ignored. A fraudulent online transaction in one's bank account, debit or credit card could be because of e-mail spoofing, phishing or it could have been an act committed by cloning one's card.

If you a fraud related to net banking or ATM transactions, or any other online transaction happens, you have to raise a complaint. But, before filing a written complaint with the bank or the card issuer, the victim must have following documents.

- ❖ Bank statement of the last six months of the concerned bank.
- ❖ Make a copy of SMSs received related to the alleged transactions.
- ❖ Take copy of your ID proof and address proof as shown in the bank records.
- ❖ Lodge a complaint in your nearest police station explaining the complete incidence along with the above documents.

There are several fake apps being floating around in the cyber world. In case of any financial fraud committed through an app, in addition to the above mentioned documents, also furnish the screenshot of the malicious app and the location from where it was downloaded

### **1.38 Here are numerous ways to reduce the danger of cyber-attack :**

1. Every single employee should have their own user account, with a policy requiring password changes in every three months. Employees must not be allowed to download or install unauthorized software.
2. All employees must be informed about the dangers of opening or uploading email attachments from unidentified sources. Educate personnel about the importance of not leaking or sharing sensitive information about the institute.
3. The IT department of a bank must ensure that a firewall is enabled on every workstation and Internet-connected device in the organization because firewall blocks all communication from unauthorized sources.
4. Banks must use 'two-factor authentication (2FA)' apps or physical security keys and, wherever possible, enable 2FA on all online accounts.
5. The Department would make sure that all PCs' operating systems receive regular security updates.
6. To find out if there is any ransomware or malicious software on the network, anti-spyware and anti-virus software must be installed on all PCs. All passwords and wireless networks must be kept secured and well-protected.
7. Banks must employ verification methods such as dynamic device authentication and web-based transaction verification as more consumers use mobile devices.
8. Customers must receive notifications and automated messages from their banks confirming the validity of their transactions.
9. Customers must be given instructions on how to verify the legitimacy of any sources that are asking information of personal accounts. Customers must also be given instructions on how to stay safe when using the bank's websites.

When using banking application or internet banking, use a secure network.

### RESEARCH METHODOLOGY

#### Research Methodology

##### 2.1 Objective of study

The main objective of Cyber security in banking is to safeguard the user's assets. As individuals go cashless, further actions or transactions are done online. Individual use their digital money like debit cards and credit cards for transactions that require to be safeguarded under Cyber security.

Hence the objective of this paper is to review the threats inherent in the existing and emerging technologies, studying adoption of mechanisms to

- ❖ Conduct an ongoing review of the cyber security landscape and emerging threats.
- ❖ Analyse impact of cybercrimes on banking sector
- ❖ Intends to study the emerging technologies to meet the challenges due cyber threats .
- ❖ Suggest adoption of various security protocols/standard interfacing with stake holders and suggesting appropriate policy intervention.
- ❖ To identify the various cybercrimes in E- banking sector in India.
- ❖ To provide the preventive measures to control the cybercrimes in India.
- ❖ The objective of this study is to scrutinize the concerns about cyber threats to the banking sector by highlighting the underlying tactics. It focuses on how well financial institutions are equipped to deal with cyber-crime events.

##### 2.2 Scope of the study

To carry out this study existing information/ data available through the various sources are collected and analysed on a comparative basis for arriving at logical findings/answer to the research question. The sources are mostly the white papers, government documents, published academic papers, journals, print media and findings of RBI, NCRB, NITI Aayog and CERT-IN, statistical data bank plus historical records.

In this case, secondary method of collection and analysis of data is followed because a good collection of data already exists in a documented form. Conducting direct study may not be a feasible initiative keeping in mind the subject matter and the time factor. Here a historical perspective is taken in finding out accounts of earlier cyber-crime scenario and listing of preventive measure to provide an anti-cybercrime platform. Further steps have been taken to analyse the impact of cyber-attacks through case study approach. The scope of the research is to study impact of cyber-attacks on Indian banking system only thereby narrowing focus to bank fraud cases in India with the objective to standardize the points in banking process more prone to attack and identifying the types of cyber-attacks that the banks are likely to encounter every day.

### **2.3 Evolution of Cyber Threats**

Threats Evolution of cyber-attacks started with a simple computer virus during the 1980s. Virus is called set of self-replicating computer programs modifying other computer programs and inserting its own code to infect the system. In the late 1990s, hacking websites evolved as a threat to system with some applied research. During 2004, malicious code as an attack resurfaced which was an application security that could not be controlled with conventional antivirus alone. These codes are a wide category of system security terms that consists of attack scripts, viruses, Trojan horses, worms, and malicious content. Then with the rapid advancement of attacks resurfaced advanced Trojans and worms in late 2008 and attacks such as identity thefts and phishing during 2012. Then in the late 2015, attackers evolved with significant threats such as DOS and DDOS attacks and then later towards 2015 until today cyber espionage and cyber warfare are widely used as a type of attack. DDOS attacks are more pervasive and dangerous than DOS attack because of the use of multiple internet connections, victim cannot identify the origin of attack .

### **2.4 Limitations of the study**

This study focuses on the cybercrimes related only to the Indian E- banking sector. It does not cover the whole financial sector. All aspects area and measures covered are limited to the Mobile and Internet Banking users.

## CHAPTER 3

### REVIEW OF LITERATURE

#### **Literature Review:**

1. The emergence of a new era in banking technology that eliminated the need of physical presence at the bank for many transactions and other banking services by accessing electronic devices has led to the spike cyber-crimes. There has been a major and exceptional contribution by e-banking for this upsurge because of the increased dependency of the consumers over the internet for simplest monetary transactions to large financial affairs. As per a survey, conducted the losses due to fraud in e banking hiked in the year 2014 by 48% as compared to 2013. The proliferation of the cyber world with the evergrowing demands of customers for convenience access from multiple devices for transaction purpose in India, play an inevitable role in attracting cyber offenders who target online banking malware.
2. A study conducted in the year 2014 says India holds third rank after countries like Japan and the US in the list of countries most affected by online banking malware. According to reports, out of the total cyber fraud occurrences worldwide, 7% of it is carried out in India .Indian banks have been witnessing persistent attacks from possible state and non-state actors, organized criminals and hacktivists. The case of cyber-attack on Canara Bank in the year 2016 explains this better. where bank's e payments were attempted to be blocked by vandalizing its site through the insertion of malicious software by a hacker from Pakistan . Union Bank of India also fell prey to an attack in July 2017, where close to USD 170 million was looted from its Nostro account. According to reports the offenders gained entry by using spear phishing. In a survey conducted by KPMG in 2017 on cybercrime, it has been pre-supposed that initially banks were not well equipped with adequate cyber security mechanism, because of which they were succumbed to rampant cyber threats.
3. Cyber-crimes cases increased from 89% to 94% and the financial losses due to it had also increased from 45% to 63%. It also revealed that around 70% believed that their institution was ill equipped to fight cyber fraud. According to a report by Deloitte in 2015 on cyber-crime: 93 percent respondents suggested that there has been an increase in fraud cases in banking industry in the last two years and less than 25 percent of the fraud losses were capable of being recovered because the time lag between cyber-attacks and detection of the threat and attackers is very large. Despite warnings from fraud cases around the globe, large percentage of banks in India did not put adequate emphasis on Fraud and Risk Management solutions. Unfortunately, only 20% of all banks thought of Fraud Risk Management an effective method of fraud control and a large number of these banks only realized after those banks somehow became victims of cyber-attacks.

4. The catastrophic impact of cybercrime on the performance of banking institute and stringent effort undertaken to protect the banking industry from the clutches of cyber-attacks and growing competition among banks, have drawn the attention of researcher, policy makers and cyber experts to identify and analyze the cyber-crime zones, intentions of cyber criminals and vulnerable points susceptible to cyber-attack. *PJAEE*, 17 (2020) 4659. The intention of the study mostly centers on developing a robust world class cyber security mechanism to prevent loss and facilitate growth and production. Although, a lot of studies have been carried out on cyber-crime on banking platforms still, there is a lot of debate and confusion. Some argue that excessive digitization has led to the emergence of cyber-crime platform and prescribe for a defensive safety protocol. Others encouraging digitization as a modern technology emphasizes on having an aggressive world class uniform cyber security protocol to meet the need of digitization. Due to lack of consensus a vast literature has been generated in this field. But substantial progress has not been achieved either in eliminating/curbing cyber-crimes in financial institutions, particularly Banks. Rather research gaps and gaps in study of crucial issues are widening. In this context, this study is an initiative to supplement the existing literature and fill the research gap by investigating into critical loopholes, mostly omitted by the bankers in their banking process and investigating into developing a common platform to throw a frontal attack on cyber-crimes and attitudinal poverty attached to it.
5. Cybercrime according to Douglas and Loader (2000) can be described computer mediated activities conducted via global cyber networks which are either illegal or considered illicit with the aid of certain parties. In the banking sector, the cybercrimes which are committed using online technologies to illegally remove or transfer money to distinctive account are tagged as banking frauds (Wall, 2001). The cybercrimes according to Wall (2001) can be classified into four major categories i.e. cyber-deceptions, cyberpornography, cyber-violence and cyber-trespass. The banking frauds are sub-classified in cyber-deception which can be defines as an immoral activities such as stealing, credit card fraud, and intellectual property violations (Anderson et al., 2012). There are number of frauds or cybercrimes witnessed in the banking sector, like ATM frauds, Cyber Money Laundering and Credit Card Frauds. However, in general all the frauds are executed with the ultimate goal of gaining access to user s bank account, steal funds and transfer it to few other bank accounts.
6. In some cases the cyber criminals uses the banking credentials like PIN, password, certificates, etc. to access accounts and steal meager amount of money; whereas in other cases they may want to steal all the money and transfer the funds into mule accounts. Sometimes, the intention of cybercriminals is to just harm the image of the bank and therefore, they block the bank servers so that the clients are unable to access their accounts (Claessens et al., 2002; Hutchinson & Warren, 2003). As a lot of vulnerabilities exist in the

defense system of banking sector, thus there is a need to investigate the ways to increase awareness about the measures that can be undertaken to combat cybercrimes in the banking sector. However, not many studies in the past have been conducted in this area which would suggest ways to mitigate the risks and fight such crimes (Florêncio & Herley, 2011; McCullough & Caelli, 2005).

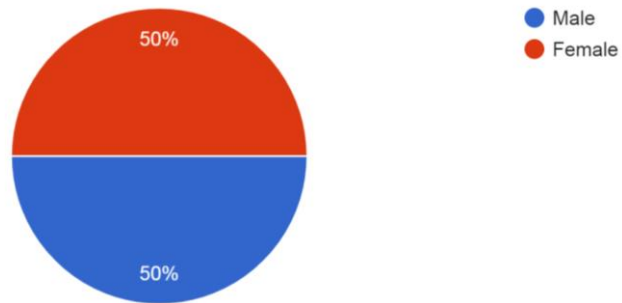
7. RBI, Cybercrime fraud 2019, The total value of bank frauds more than doubled in 2019-20. Total cases of frauds have increased 159% by value to Rs 1.85 lakh crore, compared to Rs 71,543 crore in 2018-19. Similarly, the frauds increased 28% by volume to 8,707 cases in 2019-20, compared to 6,799 instances in the previous year, as per data released by Reserve Bank of India (RBI) in its annual report. Balasubramanian et al, (2014) analysed the success of Information System in internet banking and its security challenges. 52 respondents were surveyed customers have fear that information sent by them through internet is not protected also have threat of their banks website getting hacked. The customers also have the fear of the malware attacks. The customers have the doubt about the security system of being reliable for internet banking services.
8. Literature studies are the most critical element in every field of study as they present a description of the facts required for future research studies, policies and procedures (Andreini & Bettinelli, 2017). Systematic Literature Review (SLR) is a research method that critically appraises various studies and synthesizes both qualitative and quantitative findings (Burgers, Brugman, & Boeynaems, 2019). Its purpose is to investigate, categorize, evaluate and synthesize the prevailing literature relevant to specific topics or areas using a transparent, replicable process and applying inclusion and exclusion techniques (Kitchenham et al., 2009; Tranfield, Denyer, & Smart, 2003). It can be defined as "a reliable, scientific overview of extant research on a subject area of the topic (Petticrew & Roberts, 2008). It provides a transparent, replicable and auditable trail of the reviewer's decision, procedure and conclusion. The literature review is carried out in three key steps: Planning, Conducting and Reporting, as adopted by the existing study.

## CHAPTER 4

### DATA ANALYSIS & INTERPRETATION

#### 1. Gender

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
MALE	25	50%
FEMALE	25	50%
TOTAL	50	100%



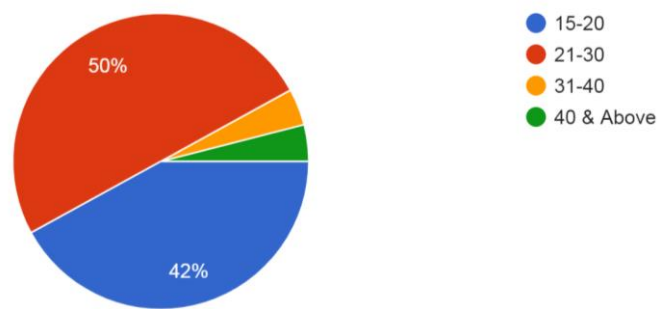
#### According to survey

- ❖ **50% respondents are male.**
- ❖ **50% respondents are female**



## 2. Age Group:

AGE	NO. OF RESPONDENTS	PERCENTAGE
15-20	21	42%
21-30	25	50%
31-40	2	4%
40 & Above	2	4%
TOTAL	50	100%

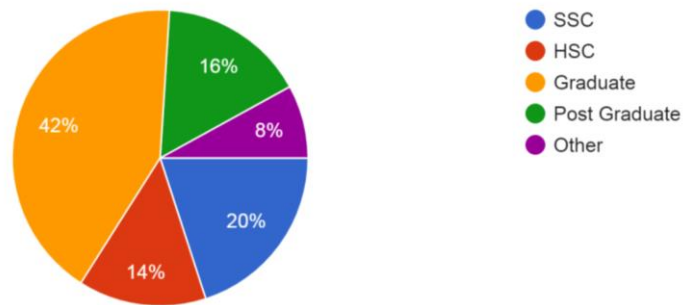


### According to survey,

- ❖ 42% respondents are belongs to the age group of 15-20
- ❖ 50% respondents are belongs to the age group of 21-30.
- ❖ 4% respondents are belongs to the age group of 31-40.
- ❖ 4% respondents are belongs to the age group of 40 & Above.

### 3. Qualification:

QUALIFICATION	NO. OF RESPONDENTS	PERCENTAGE
SSC	10	20%
HSC	7	14%
GRADUATE	21	42%
POST-GRADUATE	8	16%
OTHER	4	8%
TOTAL	50	100%

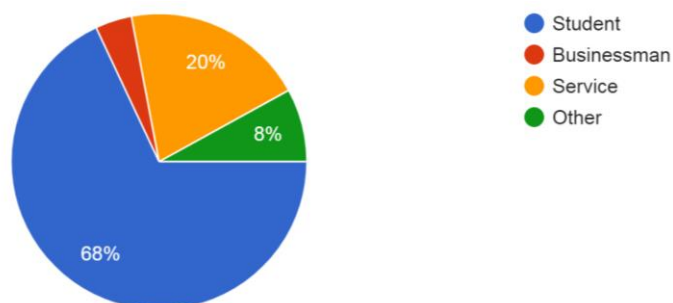


According to survey,

- ❖ 20% of respondents are SSC
- ❖ 14% of respondents are HSC
- ❖ 42% of respondents are Graduate
- ❖ 16% of respondents are Post-Graduate
- ❖ 8% of respondents are Other

#### 4. Occupation:

OCCUPATION	NO. OF RESPONDENTS	PERCENTAGE
STUDENT	34	68%
BUSINESSMAN	2	4%
SERVICE	10	20%
OTHER	4	8%
TOTAL	50	100%

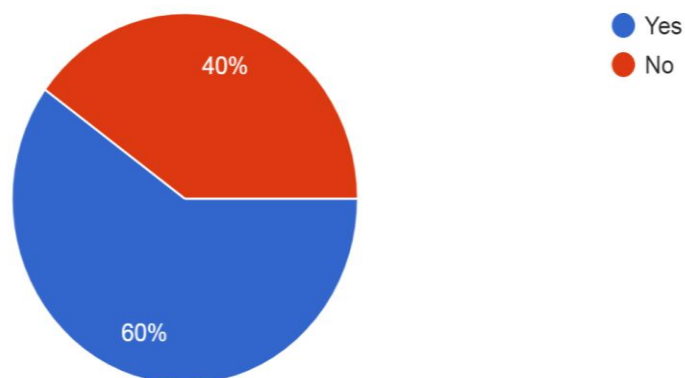


According to survey,

- ❖ **68% of respondents are Student**
- ❖ **4% of respondents are Businessman**
- ❖ **20% of respondents are Service**
- ❖ **8% of respondents are Other**

### 5. Do you have an antivirus software installed on your PC/Mac?

PARTICULARS	NO. OF RESPODENTS	PERCENTAGE
YES	30	60%
NO	20	40%
TOTAL	50	100%

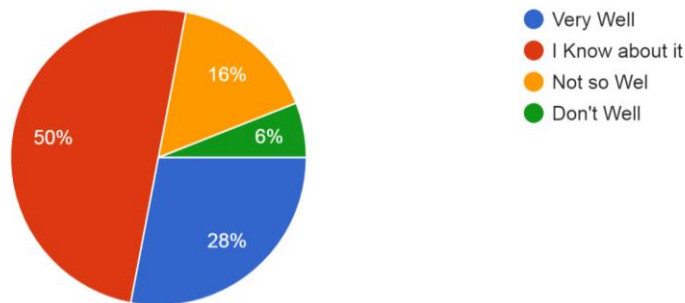


According to survey,

- ❖ **60% of respondents have an antivirus software installed on PC/Mac**
- ❖ **40% of respondents have not an antivirus software installed on PC/Mac**

## 6. How aware are you about cyber crime?

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
VERY WELL	14	28%
I KNOW ABOUT IT	25	50%
NOT SO WELL	8	16%
DON'T WELL	3	9%
TOTAL	50	100%

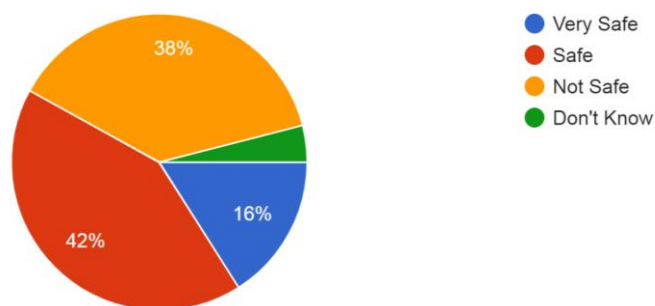


According to survey,

- ❖ **28% of respondents are aware about cyber crime Very Well**
- ❖ **50% of respondents are know about aware of Cyber Crime**
- ❖ **16% of respondents are not so well about aware of Cyber Crime**
- ❖ **9% of respondents are don't well about aware of Cyber Crime**

### 7. How Safe do you feel about your information, when you are online?

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
VERY SAFE	8	16%
SAFE	21	42%
NOT SAFE	19	38%
DON'T KNOW	2	4%
TOTAL	50	100%

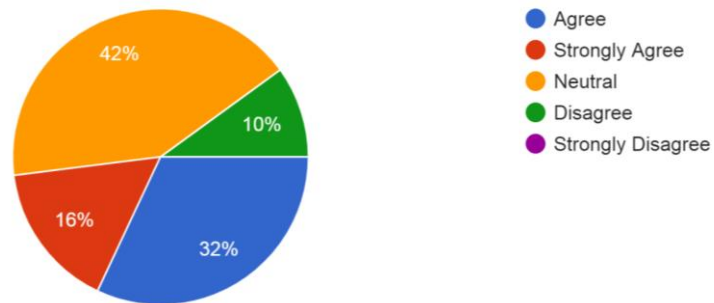


According to survey,

- ❖ 16% of respondents feel very Safe when are online.
- ❖ 42% of respondents feel safe when are online.
- ❖ 38% of respondents are feel not safe when are online.
- ❖ 4% of respondents are confused about when are online.

**8. Do you feel it is essential to be safe online?**

<b>PARTICULARS</b>	<b>NO. OF RESPONDENTS</b>	<b>PERCENTAGE</b>
AGREE	16	32%
STRONGLY AGREE	8	16%
NEUTRAL	21	42%
DISAGREE	5	10%
STRONGLY DISAGREE	0	0%
TOTAL	50	100%

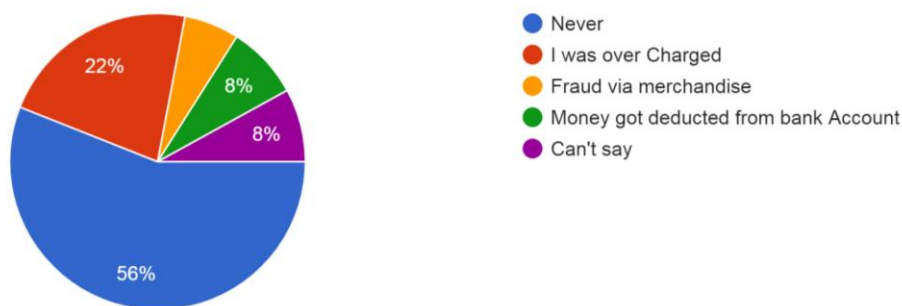


**According to survey,**

- ❖ 32% of respondents are agree to essential to be safe Online**
- ❖ 16% of respondents are strongly agree to essential to be safe Online**
- ❖ 42% of respondents are neutral to essential to be safe Online**
- ❖ 10% of respondents are disagree to essential to be safe online**

**9. Have you ever lost money due to cyber Crime?**

<b>PARTICULARS</b>	<b>NO. OF RESPODENTS</b>	<b>PERCENTAGE</b>
NEVER	28	56%
I WAS OVER CHANGED	11	22%
FRAUD VIAMERCHANDISE	3	6%
MONEY GOT DEDUCTED FROM BANK ACCOUNT	4	8%
CAN'T SAY	4	8%
TOTAL	50	100%



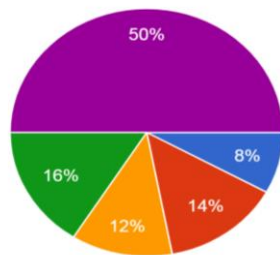
**According to survey,**

- ❖ **56% of respondents are never ever lost money due to Cyber Crime**
- ❖ **22% of respondents are over Changed lost money due to Cyber Crime**
- ❖ **6% of respondents are lost money due to Cyber Crime due to Fraud Via Merchandise**
- ❖ **8% of respondents are lost money due to Cyber Crime due to money got deducted from bank account**
- ❖ **8% of respondents are can't say lost money due to Cyber Crime**



**10. Have you ever experienced any of these situations?**

<b>PARTICULARS</b>	<b>NO. OF RESPONDENTS</b>	<b>PERCENTAGE</b>
TROJAN OR MALWARE	4	8%
AUTO GENERATED MAILS TO INBOX	7	14%
PUBLISHING OBSCURE MATERIAL ON YOUR PROFILE	6	12%
CONFIDENTIAL REPORTS/ INFORMATION BEING HACKED	8	16%
NEVER EXPERIENCED SUCH SITUATIONS	25	50%
<b>TOTAL</b>	<b>50</b>	<b>100%</b>



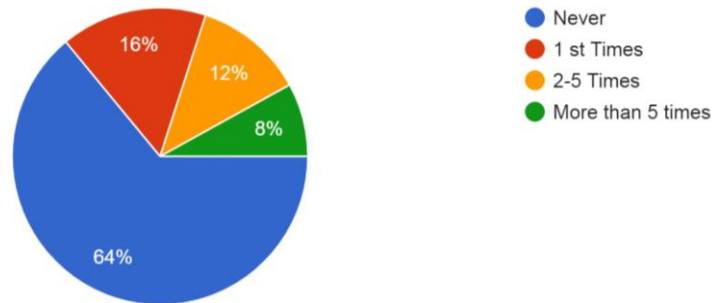
- Trojan or Malware
- Auto generated mails to inbox
- Publishing obscure material on your profile
- Confidential reports/information being hacked
- Never Experienced such situations

**According to survey,**

- ❖ **8% of respondents are experienced on Trojan or Malware**
- ❖ **14% of respondents are experienced on auto generated mails to inbox**
- ❖ **12% of respondents are experienced on publishing obscure material on your profile**
- ❖ **16% of respondents are experienced confidential reports/ information being hacked**
- ❖ **50% of respondents are never experienced such situations**

**11. How many time have you been a victim of a cybercrime?**

<b>PARTICULARS</b>	<b>NO. OF RESPODENTS</b>	<b>PERCENTAGE</b>
NEVER	32	64%
1 ST TIMES	8	16%
2-5 TIMES	6	12%
MORE THAN 5 TIMES	4	8%
TOTAL	50	100%

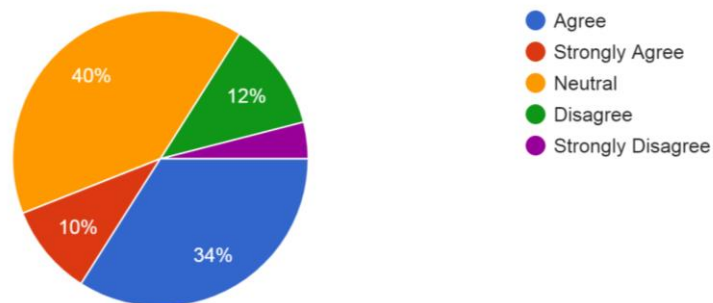


**According to survey,**

- ❖ **64% of respondents are never have been a victim of cybercrime**
- ❖ **16% of respondents are 1<sup>st</sup> time a victim of cybercrime 12% of respondents are have been a victim of cybercrime**
- ❖ **12% of respondents 2-5 times have a victim of cybercrime**
- ❖ **8% of respondents more than 5 times are have been a victim of cybercrime**

**12. Do you think that the laws in effect are able to control cyber criminals?**

<b>PARTICULARS</b>	<b>NO. OF RESPONDENTS</b>	<b>PERCENTAGE</b>
AGREE	17	34%
STRONGLY AGREE	5	10%
NEUTRAL	20	40%
DISAGREE	6	12%
STRONGLY DISAGREE	2	4%
TOTAL	50	100



**According to survey,**

- ❖ 34% of respondents are agree about the laws in effect are able to control cyber criminals.**
- ❖ 10% of respondents are strongly agree about the laws in effect are able to control cyber criminals.**
- ❖ 40% of respondents Neutral about the laws in effect are able to control cyber criminals.**
- ❖ 12% of respondents disagree about the laws in effect are able to control cyber criminals.**
- ❖ 4% of respondents strongly disagree about the laws in effect are able to control cyber criminals.**

## **CHAPTER 5**

### **CONCLUSION & SUGGESTIONS**

#### **5.1 Conclusion**

Awareness of e-banking frauds and their corresponding preventions and Countermeasure has increased after multiple instances of digital frauds were exposed in the 21<sup>st</sup> century. Security and privacy issues are the main barriers to e-banking and E-commerce activities among customers. Although digital banking system bring more Comfort and increase accessibility of clients. However, this digital era also exposed them to cybercriminals, and this facility can be converted to serious threats in form of financial or personal information loss. The rapid expansion of cybercrime industry motivated us to identify all those threats that are attached with e-banking system and to investigate various types of prevention tools that may reduce the risk. The study applied SLR technique to collect relevant knowledge published in various articles. Initially 1404 articles were extracted from six different databases and were scanned through tollgate approach in five different stages and finally 55 articles were filtered. The selected articles summarized 51 types of different threats which can cause financial losses while using e-banking services. The most serious cited threat is trojan by 16.36 percent studies. Malware is declared as second sever threat by 14.55 percent studies, followed by social engineering, pharming, phishing, password cracking, port scanners and sever bugs are in the top list. To reduce e-banking risk and safeguard against these threats, 42 types of prevention tools are summarized from the selected articles. More focused has been placed on security techniques and relevant education/awareness. Financial institutions should adopt a reliable, trusted, and updated security system and should focused on training and education to overcome and mitigate these threats.

## **5.2 Recommendation :**

1. Though security measures are taken by the bank, lot more to keep the customer account safe. It is suggested to hire employee with strongly IT Background with proper training, skill and updated knowledge.
2. It is suggested that all transactions have two steps authentication to keep the customers' accounts in safety aspect. It is necessary to have an update Anti-virus software to safeguard against virus attacks should be used and also to keep a backup so as to avoid data loss in case of virus threat.
3. It is further suggested to the bank to conduct training and orientation programs for the bank employees. The employers should be made mindful about fraud anticipation measures. It very well may be done through bulletins or magazines illuminating cheats related parts of banks by senior functionaries, setting up 'Rules and regulations in the work environment of the representatives, security tips being streaked on screen at the hour of signing into Core Banking arrangement programming, having conversations on factors causing cybercrime and activities needed to be embraced in taking care of them.
4. Employees who go beyond their call of duty to prevent cyber frauds if rewarded will also enhance the work dedication. Bank frauds also shows that customers engage in internet banking are not alert and not have sufficient knowledge on cyber threats. It is the duty and responsibility of banks to aware and educates the customers time to time about prevailing threats in the market. The study has proved that lack of preparedness is one of the reasons for cybercrime. Hence, it is high time, suggested for both banks and customers in the adoptions of new technological changes.
5. The society should report these cases to the Digital Wrongdoing Branch rather than involving the branches for quick and strict activities.
6. Projects should be started to aware the public about the continuous situations and forthcoming situations.
7. Punishments should be practiced completely to stop these issues and punish the assailants.
8. The legislature should keep a track on the working system of Huge information banks.
9. There should be quick dispose of cases, to meet the complaints and fabricate certainty among the general public.
10. The law implementation should be strict and occasionally monitor such wrongdoings.

## CHAPTER 6

### BIBLIOGRAPHY

#### REFERENCES

1. Akbar, M. A., Shameem, M., Ahmad, J., Maqbool, A., & Abbas, K. (2018). Investigation of Project Administration related challenging factors of Requirements Change Management in global software development: A systematic literature review. Paper presented at the 2018 International Conference on Computing, Electronic and Electrical Engineering (ICE Cube).
2. Andreini, D., & Bettinelli, C. (2017). Business Model Definition and Boundaries. In Business Model Innovation (pp. 25-53): Springer.
3. Barker, R. (2018). Knowledge management to prevent fraudulent e-banking transactions. *Communitas*, 23, 71-86.
4. Bera, A. (2019). Terrifying Cybercrime Statistics. Retrieved from <https://safeatlast.co/blog/cybercrime-statistics/>
5. Blut, M. J. J. o. R. (2016). E-service quality: development of a hierarchical model. 92(4), 500-517.
6. Bressolles, G., Durrieu, F., Senecal, S. J. J. o. R., & Services, C. (2014). A consumer typology based on e-service quality and e-satisfaction. 21(6), 889-896.
7. Burgers, C., Brugman, B. C., & Boeynaems, A. (2019). Systematic literature reviews: Four applications for interdisciplinary research. *Journal of Pragmatics*, 145, 102-109. doi:<https://doi.org/10.1016/j.pragma.2019.04.004>
8. Calderaro, A., & Craig, A. J. S. (2020). Transnational governance of cybersecurity: policy challenges and global inequalities in cyber capacity building. *Third World Quarterly*, 41(6), 917-938. doi:10.1080/01436597.2020.1729729
9. Campbell, C. (2018). Solutions for counteracting human deception in social engineering attacks.
10. Chachak, E. (2019). Cybercrime is moving towards smartphones – this is what you could do to protect your company.
11. Chaimaa, B., Najib, E., & Rachid, H. (2021). E-banking Overview: Concepts, Challenges and Solutions. *Wireless Personal Communications*, 117(2), 1059-1078. doi:10.1007/s11277-020-07911-0

## References

1. The Narsimham Committee was first set up in 1991 under the chairmanship of Mr. M. Narasimham the then 13th governor of RBI. Since all of its recommendations were not implemented second committee in 1998 was set up.
2. RBI Guidelines on Information Security, Electronic Banking, Technology Risk management and Cyber Frauds, 2012.
3. Soni RR and Soni Neena, An Investigative Study of Banking Cyber Frauds with Special Reference to Private and Public Sector Banks, Vol. 2(7), 22-27, July (2013), Research Journal of Management Sciences, Available online at: [www.isca.in](http://www.isca.in)
4. Dr. B R Sharma and Dr. R P Nainta, Banking Law & Negotiable Instruments Act, 4th Edn, Allahabad Law Agency, p 183.
5. Alwar S P, (1999), National Seminar on Computer Related Crime, Inaugural address by Shri S P Talwar, Deputy Governor, Reserve Bank of India, February 24, 1999.
6. Dheenadhayalan V., Automation of Banking sector in India, Yojana, February, (2010) p.32.
7. Dr. Roshan Lal & Dr. Rajni Saluja, E-Banking: The Indian Scenario, December (2012), Vol (1)(4),
8. Harun R Khan, Digital India: Emerging Challenges and Opportunities for the Banking Sector, Federation of Indian Banks Association (2014)
9. Douglas, T., & Loader, B. D. Cybercrime: Security and surveillance in the information age: Routledge Publisher 13 April 2000
10. Wall, Cybercrimes and the Internet, 4th Edn, Routledge, (2001)
11. [http://articles.economictimes.indiatimes.com/2014/11/05/news/55798224\\_1\\_malwarevirusbanking](http://articles.economictimes.indiatimes.com/2014/11/05/news/55798224_1_malwarevirusbanking)

**PROJECT REPORT**

**ON**

**“A STUDY ON FINANCIAL FACED BY THE START-UP”**

**SUBMITTED TO THE UNIVERSITY OF MUMBAI IN THE PARTIAL  
FULFILLMENT OF THE DEGREE MASTER OF COMMERCE.**

**SUBMITTED BY:**

**NISHA RAMBAHADUR SINGH**

**M.COM-II**

**ACADEMIC YEAR: 2022-23**

**PROJECT GUIDE:**

**MR. MAQSOOD H. MEMON.**

**PhD. (Pursuing), L.L.B., G.SET (Commerce), M.COM (Accounts & Finance), M.COM  
(Management)**

**SUBMITTED TO:**

**UNIVERSITY OF MUMBAI**



**SONOPANT DANDEKAR ARTS, V.S. APTE COMMERCE AND M.H. MEHTA COLLEGE, R.H.  
SAVE INSTITUTE OF MANAGEMENT, PALGHAR DIST: PALGHAR PIN: 401404**

**UNIVERSITY OF MUMBAI**



## DECLARATION

I, , A STUDENT OF SONOPANT DANDEKAR ARTS, V.S. APTE COMMERCE AND M.H. MEHTA SCIENCE COLLEGE, PALGHAR DIST: - PALGHAR, PIN: - 401 404 STUDYING IN M.COM-II HEREBY DECLARE THAT I HAVE COMPLETED THIS PROJECT ON "A STUDY ON FINANCIAL FACED BY THE START-UP." DURING THE ACADEMIC YEAR 2022-23. THE INFORMATION SUBMITTED IS TRUE AND ORIGINAL TO THE BEST OF MY KNOWLEDGE.

*Alisha Singh*

**DATE: 15<sup>th</sup> FEBRUARY, 2023**

**SIGNATURE OF STUDENT**

**PLACE: PALGHAR**

**CERTIFICATE**

I, MR. MAQSOOD H. MEMON, HEREBY CERTIFY THAT **NISHA RAMBAHADUR SINGH** OF SONOPANT DANDEKAR ARTS, V.S. APTE COMMERCE AND M.H. MEHTA SCIENCE COLLEGE, PALGHAR DIST: - PALGHAR, PIN: - 401 404 OF M.COM-II HAS COMPLETED **HER PROJECT ON “A STUDY ON FINANCIAL FACED BY THE START-UP.”** DURING THE ACADEMIC YEAR 2022-23. THE INFORMATION SUBMITTED IS TRUE AND ORIGINAL TO THE BEST OF MY KNOWLEDGE.

MR. MAQSOOD H. MEMON

SIGNATURE OF PROJECT  
COLLEGE GUIDE

SIGNATURE OF THE

PRINCIPAL OF THE



SIGNATURE OF CO-ORDINATOR

SIGNATURE OF  
EXTERNAL EXAMINER

# **ACKNOWLEDGEMENT**

If words are considered as a symbol of approval and token of appreciation then let the words play the heralding role expressing my gratitude. My successful completion of this project report involved more than just my desire to earn a valued degree working on this project has presented me with many insights and challenges.

I would like to thank the University of Mumbai for introducing master of commerce course, thereby giving its student a platform to abreast with changing business scenario, with the help of theory as a base and practical as a solution- I am also thankful to the management of S.D.S.M College of PALGHAR for making all the facilities available and espousing the cause of the research. I would like to thank our honorable principal Dr. Kiran Save.

I would like to express my earnest gratitude to Mr. Maqsood H. Memon for her superlative guidance and unflinching support throughout the project work. No development would have been feasible had it not been for their excellent supervision, constant encouragement and careful perusal, in completion of the project successfully.

Last but not the least; I would like to thank my parents & teachers for giving the best education and friends for their support and feelings without which this project would have not been possible. Many others without whose invaluable help and expert advice this project would not have been the same ought to be cited.

With the completion of my project entitled “**A STUDY ON FINANCIAL FACED BY THE START-UP.**”

-NISHA R. SINGH.

# INDEX

<b>CHAPTER No.</b>	<b>SUBJECT TOPICS</b>	<b>TOPIC NAME</b>	<b>PAGE NO.</b>
<b>CH. 1</b>	<b>1.1</b> <b>1.2</b>	<b>SYNOPSIS</b> <b>Executive Summary</b> <b>Objective of Study</b>	
<b>CH. 2</b>	<b>2.1</b> <b>2.2</b> <b>2.3</b> <b>2.4</b>	<b>INTRODUCTION AND THE COMPANY</b> <b>Definition of Start-ups</b> <b>Start-up India</b> <b>2018 Start-up State Ranking are as follows</b> <b>National Credit Guarantee Trust Company</b>	
<b>CH.3</b>	<b>3.1</b>	<b>LITERATURE REVIEW</b>	
<b>CH.4</b>	<b>4.1</b> <b>4.2</b> <b>4.3</b> <b>4.4</b> <b>4.5</b> <b>4.6</b> <b>4.7</b>	<b>METHODOLGY</b> <b>Data Collection Method</b> <b>Advantages and Disadvantages of Secondary Data</b> <b>Women Entrepreneurs in India</b> <b>Decision-making process</b> <b>Crowd Funding</b> <b>Entrepreneurship Development Plan</b>	
<b>CH.5</b>	<b>5.1</b>	<b>DATA INTERPRETATION &amp; ANALYSIS AND PRESENTATION</b>	
<b>CH.6</b>		<b>FINDINGS</b>	
<b>CH.7</b>	<b>7.1</b>	<b>SUGGESTIONS</b> <b>Solutions for reason of failures</b>	

<b>CH.8</b>		<b>Conclusion</b>	
<b>CH.9</b>		<b>WEBLIOGRAPHY</b>	
<b>CH.10</b>		<b>QUESTIONNAIR</b>	

# **CHAPTER 1 : SYNOPSIS**

## **A STUDY OF FINANCIAL FACED BY THE START-UP**

### **1.1 EXECUTIVE SUMMARY**

India is a country of many great legends that were famous all over the world because of their work, sharp mind & high skill. Youths in India are very talented, high skilled & full of innovative ideas. But they don't get opportunity due to lack of solid support & proper guidance in right direction. In this way, BJP government launched "START UP INDIA STAND UP INDIA" scheme on 16 January 2016 to help the youth of India to go in right direction using their new & innovative ideas. This scheme was launched to motivate & promote new comers towards business & grow their career as well as economy of the country. This programme is a big start to enable Start-ups through financial support so that they can use their innovative ideas in right direction. There are tremendous opportunities for Start-up entrepreneurs in India. The key areas are Like Textile, Media, Health Sector, Event Planner, Tourism, Automobile etc. So, there are various opportunities where entrepreneurs can start their Start-ups. But along with opportunities there are some challenges also that Start up entrepreneurs may have to face like Infrastructure Deficit in India, Risk Factor and Right Talent Acquisition etc. Despite of these challenges, Government as well Start up entrepreneurs should have to work together to face these challenges & make this program me effective. The study will focus on Start-up India scheme, opportunities available under this scheme as wellas challenges may have to be faced & suggestions to overcome the challenges soas to make the Start-up India programmed successful. Skill India Programmed, Start-up India and Stand Up India program

me are the buzz words of today in manufacturing, Production and Services sectors. As present government has taken the oath to inculcate skills in every youth and help them towards start-ups and establish their own enterprise and become owner of their own rather doing job with some other and intern help in employment and GDP development. It is also observed that SC/ST/Women categories are marginalized in this area since inception and it was the dream of Dr. B. R. Ambedkar that equal opportunities to be given to them also to grow and showcase their talents, ideas and ability to prove themselves as a successful entrepreneur, a person and citizen of India. The present study is to understand the progress of this program and its success. The results of the study state that nearly 70% of the units expressed positive growth and expressed that if financial support would have not been availed through this platform, it would be a dream to start-up their own industries

and women entrepreneurs also feel that they are more empowered and establish.

### **1.2 OBJECTIVE OF STUDY**

- To develop entrepreneurial skills among students and faculties.
- To inculcate a culture of innovation-driven entrepreneurship.
- To promote new technology/ knowledge/ innovation-based startups.
- To build a vibrant startup ecosystem, by establishing a network between academia, financial institutions, industries, and other institutes.

## 2. INTRODUCTION TO THE COMPANY

### 2.1 Definition of Start-up:

A start-up company or start-up or start-up is a young company that is just beginning to develop. Start-ups are usually small and initially financed and operated by a handful of founders or one individual. These companies offer a product or service that is not currently being offered elsewhere in the market, or that the founders believe is being offered in an inferior manner. In the early stages, start-up companies' expenses tend to exceed their revenues as they work on developing, testing and marketing their idea. As such, they often require financing. Start-ups may be funded by traditional small business loans from banks or credit unions, by government sponsored Small Business Administration loans from local banks, or by grants from non-profit organizations and state governments.

Paul Graham says that "A start-up is a company designed to grow fast. Being newly founded does not in itself make a company a start-up. Nor is it necessary for a start-up to work on technology, or take venture funding, or have some sort of "exit". The only essential thing is growth. Everything else we associate with start-ups follows from growth."

### 2.2 Start-up India:

**Startup India** is an initiative of the Government of India.

The campaign was first announced by Indian Prime Minister, Narendra Modi during his 15 August 2015 address from the Red Fort, in New Delhi. The action plan of this initiative, is based on the following three pillars:

Simplification and Handholding.

Funding Support and Incentives.

Industry-Academia Partnership and Incubation.

An additional area of focus relating to this initiative, is to discard restrictive States Government policies within this domain, such as License Raj, Land Permissions, Foreign Investment Proposals, and Environmental Clearances. It was organized by The Department for promotion of industry and internal trade (DPI&IT). A startup defined as an entity that is headquartered in India, which was opened less than seven years ago, and has an annual turnover less than ₹25 crore (US\$3.5 million). Under this

initiative, the government has already launched the I-MADE program, to help Indian entrepreneurs build 1 million mobile app

**start-ups, and the MUDRA Banks scheme (Pradhan Mantri Mudra Yojana),**

initiative which aims to provide micro-finance, low-interest rate loans to entrepreneurs from low socioeconomic backgrounds. Initial capital of ₹200 billion (US\$2.8 billion) has been allocated for this scheme. The start-up scenario in India has gone a huge makeover, now people are not alien with the concept of start-ups. Earlier people had no idea what this concept is all about, thanks to the rise in media's encouraging coverage towards start-ups recently. The concept of start-up is somehow different for Indians and not so different for people of developed economies. Start-ups are something to do with new product/process for the entire market or fraction of the market. Start-ups must not be confused with small business, as the biggest difference being is INNOVATION. Recently government of India has launched "Start-up India" initiative to foster/support and encourage start up efforts in India.

The results are very satisfactory with initiative being accepted with open arms in country, various state governments have also started the similar efforts. India stand at a very important cross road, India stood at number three in overall technology driven stat ups in the world (Top two positions are held by USA and UK respectively). The very nature of start-ups in India is technology based which is fuelled by young IIT's graduates as the patterns of start-ups in India further suggests, they are undertaken in very unconventional terrain like medical etc. The important question remains is, how start-ups are shaping the very structure of economy in India or elsewhere (In similar economies).

The overall impact of start-ups is very visible initially then, only those ideas persist which are smartly implemented. In India government is constantly trying to create an environment which is both conducive and optimum for stat ups. The reason is very simple, start-ups are necessary for the entrepreneurial and innovative growth of any nation. There are nations which are smaller than ours and less naturally equipped than ours, but made tremendous growth and advancements in the field of economy and overall development. The secret of their success is nothing but an appetite for innovation. If India wants to be in the front lines with developed nations in the world, innovation is the key to become so.

Fortunately, India is endowed with youngest population which is primarily required for setting up start-ups. With the growing inclination towards "Having something of my own" attitude is also helping in bringing new ideas into successful implementation. India has produced some of the leading start-ups in the world, which are working as the lighthouse for the rest. The prominent example being OYO Rooms and Zomato (both catering to a very different market segment and objectives). In short, the start-up scenario is looking very convincing and bright as the investments is growing in India start-ups from worldwide investing bodies both organized and individuals. The recent example of such investment being the huge multibillion-dollar investments in various start-ups functioning in India like Ola and Flipkart. In a way start up era has started in India and it is the time to give its due push.

As it is a known fact that when someone starts a new enterprise or tries to get into entrepreneurship, they face many problems like finance, land permissions, environmental clearance, foreign investment



proposals, family support etc. It is one of the much-needed initiative plans of Govt of India. This initiative focuses on filling the gap in the economy and its development and has the objective to fire the entrepreneurial blood at the bottom level. It has brought lot of positivity and confidence among the entrepreneurs of India. According to PM Narendra Modi the start-ups, its technology and innovation is exciting and effective instruments for India's transformation. An idea can be converted into a start-up. Even sometimes the crisis becomes the opportunity and it gives birth to the start-ups. Many times, we have seen that we have an idea but we do not dare to initiate it or we do not find it worthy. On the other hand, other people take that idea as an opportunity and mobilise into reality. The main objective of the govt is to reduce the load on the start-ups hence allowing them to concentrate fully on their business and keeping the low cost of adherence.

The Ministry of Human Resource Development and the Department of Science and Technology have agreed to partner in an initiative to set up over 75 such startup support hubs in the National Institutes of Technology (NITs), the Indian Institutes of Information Technology (IIITs), the Indian Institutes of Science Education and Research (IISERs) and National Institutes of Pharmaceutical Education and Research (NIPERs).

The Reserve Bank of India said it will take steps to help improve the 'ease of doing business' in the country and contribute to an ecosystem that is conducive for the growth of start-up businesses.

SoftBank, which is headquartered in Japan, has invested US\$2 billion into Indian startups. The Japanese firm has pledged to investment US\$10

billion. Google declared to launch a startup, based on the highest votes in which the top three startups will be allowed to join the next Google Launchpad Week, and the final winner could win an amount of US\$100,000 in Google cloud

credits. Oracle on 12 February 2016 announced that it will establish nine incubation centers. In Bengaluru, Chennai, Gurgaon, Hyderabad, Mumbai, Noida, Pune, Trivandrum and Vijayawada.

The result of first ever startup state ranking were announced in December 2018 by the Department of Industrial Policy and Promotion (DIPP) based on the criteria of policy, incubation hubs, seeding innovation, scaling innovation, regulatory change, procurement, communication, North-Eastern states, and hill states.

### **2.3 2018 Start-up State Ranking** are as follows:

Best performer: Gujarat

Top performers: Karnataka, Kerala, Odisha, and Rajasthan

Leader: Andhra Pradesh, Bihar, Chhattisgarh, Madhya Pradesh, and Telangana

Aspiring leaders: Haryana, Himachal Pradesh, Jharkhand, Uttar Pradesh, and West Bengal

Emerging states: Assam, Delhi, Goa, Jammu & Kashmir, Maharashtra, Punjab, Tamil Nadu, and Uttarakhand.

Beginners: Chandigarh, Manipur, Mizoram, Nagaland, Puducherry, Sikkim, and Tripura

**Kerala** has initiated a government start-up policy called "*Kerala IT Mission*" which focuses on fetching ₹50 billion (US\$700 million) in investments for the state's start-up ecosystem. It also founded India's first telecom incubator Start-up village in 2012. The state also matches the funding raised by its incubator from Central government with 1:1. Telangana has launched the largest incubation centre in India as "*T-Hub*". Andhra Pradesh has allocated a 17,000-sq.ft. Technological Research and Innovation Park as a Research and Development laboratory. It has also created a fund called "*Initial Innovation Fund*" of ₹100 crore (US\$14 million) for entrepreneurs. The government of Madhya Pradesh has collaborated with the Small Industries Development Bank of India (SIDBI) to create a fund of ₹200 crore (US\$28 million). Rajasthan has also launched a "*Start-up Oasis*" scheme. In order to promote start-ups in Odisha, the state government organised a two-day Start-up Conclave in Bhubaneswar on November 28, 2016.

### **Startup Company:**

A **start-up** or **start-up** is started by individual founders or entrepreneurs to search for a repeatable and scalable business model. More specifically, a start-up is a newly emerged business venture that aims to develop a viable business model to meet a marketplace need or problem. Founders design start-ups to effectively develop and validate a scalable business model. Hence, the concepts of start-ups and entrepreneurship are similar. However, entrepreneurship refers all new businesses, including self-employment and businesses that never intend to grow.

Leader: Andhra Pradesh, Bihar, Chhattisgarh, Madhya Pradesh, and Telangana

**Aspiring leaders:** Haryana, Himachal Pradesh, Jharkhand, Uttar Pradesh, and West Bengal

big or become registered, while start-ups refer to new businesses that intend to grow beyond the solo founder, have employees, and intend to grow large. Start-ups face high uncertainty and do have high rates of failure, but the minority that go on to be successful companies have the potential to become large and influential. Some start-ups become unicorns, i.e. privately held start-up companies valued at over \$1 billion. According to TechCrunch, there were 279 unicorns as of March 2018, with most of the unicorns located in China, followed by the United States. The largest unicorns founded as of October 2018 included Ant Financial, Byte Dance, Uber, Xiaomi, and Airbnb.

Here are the 19 plans Modi has for start-ups:

### **Self-certification:**

The start-ups will adopt self-certification to reduce the regulatory liabilities. The self-certification will apply to laws including payment of gratuity, labor contract, provident fund management, water and air pollution acts.

Start-up India hub:

An all-India hub will be created as a single contact point for start-up foundations in India, which will help the entrepreneurs to exchange knowledge and access financial aid.

Register through app:

An online portal, in the shape of a mobile application, will be launched to help start-up founders to easily register. The app is scheduled to be launched on April 1.

Patent protection:

A fast-track system for patent examination at lower costs is being conceptualized by the central government. The system will promote awareness and adoption of the Intellectual Property Rights (IPRs) by the start-up foundations.

Rs 10,000 crore fund:

The government will develop a fund with an initial corpus of Rs 2,500 crore and a total corpus of Rs 10,000 crore over four years, to support upcoming start-up enterprises. The Life Insurance Corporation of India will play a major role in developing this corpus. A committee of private professionals selected from the start-up industry will manage the fund.

## **2.4 National Credit Guarantee Trust Company:**

A National Credit Guarantee Trust Company (NCGTC) is being conceptualized with a budget of Rs 500 crore per year for the next four years to support the flow of funds to start-ups.

**No Capital Gains Tax:**

At present, investments by venture capital funds are exempt from the Capital Gains Tax. The same policy is being implemented on primary-level investments in start-ups.

**No Income Tax for three years:**

Start-ups would not pay Income Tax for three years. This policy would revolutionize the pace with which start-ups would grow in the future.

Tax exemption for investments of higher value:

In case of an investment of higher value than the market price, it will be exempt from paying tax

Building entrepreneurs:

Innovation-related study plans for students in over 5 lakh schools. Besides, there will also be an annual incubator grand challenge to develop world class incubators.

**Atal Innovation Mission:**

The Atal Innovation Mission will be launched to boost innovation and encourage talented youths.

Setting up incubators:

A private-public partnership model is being considered for 35 new incubators and 31 innovation centers at national institutes. The government will develop a fund with an initial corpus of Rs 2,500

crore and a total corpus of Rs 10,000 crore over four years, to support upcoming start-up enterprises. The Life Insurance Corporation of India will play a major role in developing this corpus. A committee of private professionals selected from the start-up industry will manage the fund.

### **National Credit Guarantee Trust Company:**

A National Credit Guarantee Trust Company (NCGTC) is being conceptualized with a budget of Rs 500 crore per year for the next four years to support the flow of funds to start-ups.

No Capital Gains Tax:

At present, investments by venture capital funds are exempt from the Capital Gains Tax. The same policy is being implemented on primary-level investments in start-ups.

No Income Tax for three years:

Start-ups would not pay Income Tax for three years. This policy would revolutionize the pace with which start-ups would grow in the future.

Tax exemption for investments of higher value:

In case of an investment of higher value than the market price, it will be exempt from paying tax

Building entrepreneurs:

Innovation-related study plans for students in over 5 lakh schools. Besides, there will also be an annual incubator grand challenge to develop world class incubators.

### **Atal Innovation Mission:**

The Atal Innovation Mission will be launched to boost innovation and encourage talented youths.

Setting up incubators:

A private-public partnership model is being considered for 35 new incubators and 31 innovation centers at national institutes.

### **Research parks:**

The government plans to set up seven new research parks, including six in the Indian Institute of Technology campuses and one in the Indian Institute of Science campus, with an investment of Rs 100 crore each.

### **Entrepreneurship in biotechnology:**

The government will further establish five new biotech clusters, 50 new bio incubators, 150 technology transfer offices and 20 bio-connect offices in the country.

Dedicated program in schools:

The government will introduce innovation-related program for students in over 5 lakh schools.

**Legal support:**

A panel of facilitators will provide legal support and assistance in submitting patent applications and other official documents.

**Rebate:**

A rebate amount of 80 percent of the total value will be provided to the entrepreneurs on filing patent applications.

**Easy rules:**

Norms of public procurement and rules of trading have been simplified for the start-ups.

**Faster exit:**

If a start-up fails, the government will also assist the entrepreneurs to find suitable solutions for their problems. If they fail again, the government will provide an easy way out.

Entrepreneurship: **Entrepreneurship** is the process of designing, launching and running a new business, which is often initially a small business. The people who create these businesses are called **entrepreneurs**.

Entrepreneurship has been described as the "capacity and willingness to develop, organize and manage a business venture along with any of its risks in order to make a profit". While definitions of entrepreneurship typically focus on the launching and running of businesses, due to the high risks involved in launching a start-up, a significant proportion of start-up businesses have to close due to "lack of funding, bad business decisions, an economic crisis, lack of market demand—or a combination of all of these.

A broader definition of the term is sometimes used, especially in the field of economics. In this usage, an Entrepreneur is an entity which has the ability to find and act upon opportunities to translate inventions or technology into new products: "The entrepreneur is able to recognize the commercial potential of the invention and organize the capital, talent, and other resources that turn an invention into a commercially viable innovation." In this sense, the term "Entrepreneurship" also captures innovative activities on the part of established firms, in addition to similar activities on the part of new businesses.

Entrepreneurship is the act of being an entrepreneur, or "the owner or manager of a business enterprise who, by risk and initiative, attempts to make profits". Entrepreneurs act as managers and oversee the launch and growth of an enterprise. Entrepreneurship is the process by which either an individual or a team identifies a business opportunity and acquires and deploys the necessary resources required for its exploitation. Early-19th-century French economist Jean-Baptiste Say provided a broad definition of entrepreneurship, saying that it "shifts economic resources out of an area of lower and into an area of higher productivity and greater yield". Entrepreneurs create something new, something different—they change or transmute values. Regardless of the firm size, big or small, they can partake in entrepreneurship opportunities. The opportunity to become an entrepreneur requires four criteria. First, there must be opportunities or situations to recombine resources to generate profit.

Second, entrepreneurship requires differences between people, such as preferential access to certain individuals or the ability to recognize information about opportunities.

**Abstract.** Start-up success is an important topic of entrepreneurship research. This paper briefly introduces the main factors of success (survival, profitability and growth) and the related theories. In particular, the research on the resource-based view and industrial organization is highlighted. Financial capital and human capital are crucial start-up resources, and the related studies are considered under the resource-based view (including the previous studies about financing theory and financial constraints). Industrial organization is also a significant branch of research on a startup's post-entry performance, where particular attention is paid to the literature on innovation (together with some commonly used industry-specific factors in the previous research).

start-up success, post-entry performance, resource-based view, and industrial organization.  
JEL codes: M13, M00, L00. 1. Introduction: start-up survival, profitability and growth  
Entrepreneurship is a hot research topic which has been studied by plenty of scholars, for it is seen as a powerful engine of economic development. For instance, the benefits of entrepreneurship on employment and GDP (gross domestic product) are documented in the studies by Doran et al. (2016) for Pan-European regions, and by Vázquez-Rozsa et al. (2010) for Spanish and Portuguese regions. Furthermore, the contributions (through starting up businesses) by entrepreneurs to society are not limited just to job creation and adding economic value. The contributions also include product and process innovation, as well as detecting new markets (Bosman et al., 2002).

In fact, the history of the term “entrepreneurship” is over two hundred years, and the concept has various meanings: creation of wealth, creation of enterprise, creation of innovation, creation of change, creation of employment, creation of value, and creation of growth (Morris et al., 1994). From the perspective of business administration, entrepreneurship is related to the creation of new business organizations (Hoppe, 2016). Amason et al. (2006) further point out that the core of entrepreneurship is to explore and explain new venture success and failure; this is because failure incurs costs for the entrepreneur, creditors, other stakeholders and even for society (Eklund et al., 2018). 52 Yehui Tong, Ramon Saladríguez Solé Start Up Notes 1, 51-66. ISSN 2696-2489 / DOI 10.21001/SUN.2019.1.04  
Here the concept of newness or youngness should be discussed.

Generally speaking, researchers are interested in the performance of start-ups in their first five years (more or less), and the reason behind this is that high hazard rates are exhibited during the first five years. For example, some researchers find nearly half of start-ups fail or are forced to stop operating during their first four or five years (Huyghebaert and Van de Gucht, 2004; 2009; Mata and Portugal, 1994). In particular, the study by et al. (1996) shows an increasing trend in the failure or exit rate in the first three years, and then a stable trend after that. Cefis and Marsili (2006) believe that firms that have been in existence for less than 5 years can be seen as young firms. From the perspectives of labor fluctuation and wage setting, Brixy et al. (2006) point out that the period for new firms to become incumbents is just a few years (three to five years). 1.1. Factors of success  
Now that the concept of

newness or youngness becomes clear, the features of new firms should be investigated in order to clarify the concept of success.

Persson (2004) points out three features of new firms: low survival rates, survival rate increasing with the increase of firm age and size and growth decreasing with the increase of firm age and size. Based on previous research, McDougall et al. (1992) also state two important features of new businesses: a period of time before earning first profits and low survival rates. Furthermore, Suárez and Utterback (1995) state that survival is the basis for a firm's success in (for example) market share or profitability; Brüderl and Preisendörfer (1998) too point out that survival should be the minimum standard in measuring success. Profit maximization (as the core objective of a firm's stockholders; Lieberman and Montgomery, 1988) should not be excluded from the success study. However, to some extent, the situation for new firms is different to that for the existing firms: it is difficult for new firms to earn profits. For example, as pointed out by Reynolds (2016), even after six years, only one third of new businesses can earn profits. A certain time period of surviving in order to earn profits causes many new firms to fail (Fritsch et al., 2006); while good profitability can promote survival, reduce the probability of default events and drive firm's growth in the long run (Bottazzi et al., 2010). In fact, if wealth maximization and survival could coexist, chasing optimality would be a firm's choice.

However, if it is hard to harmonize wealth maximization and survival, firms tend to choose survival (Oprea, 2014). Furthermore, as stated by Audretsch (1995b), the expectation of future profits can help firms maintain a positive output, even if currently they are suffering losses.

### 1.2. Growth

Growth is frequently discussed in the literature of start-up performance, in addition to survival and profit. Although growth should be seen as the medium target for achieving survival and profits as the final goals, growth is usually studied as an independent and important element in firm performance. In particular, it is the characteristics of entrants that make growth important, i.e., smallness in size is an obvious feature of entrants (Mata, 1994). As pointed out by Santarelli and Vivarelli (2007), small entrants operate at a suboptimal size and they must grow in order to survive, so a higher growth rate is also a feature of small entrants (conditional on survival). An introduction to the study on start-up success 53 Start Up Notes 1, 51-66. ISSN 2696-2489 / DOI 10.21001/SUN.2019.1.04 Theoretically, the industrial organization theory shows that new firms often operate at a suboptimal level and suffer cost disadvantages, and growth is an important way to reduce this cost gap (Persson, 2004). In particular, when economies of scale exists, growth could reduce the average costs of small firms (Mata, 1994).

Start-ups with a larger initial size do not need to grow much to reach the minimum efficiency scales, while start-ups with a smaller size need substantial growth (Audretsch, 1994). Notwithstanding, according to the research by Wagner (1994) on new and small single firms, about one third of the survivors show shrinking in size. Theoretically speaking, based on some previous studies, Rauch and Rijdsdijk (2013) point out that growth can to some extent lead to failure, at least in the short term, because it reduces the owners' control and increases coordination requirements, resource deficits, and capacity shortages. When researching on firm growth, one topic is ineluctable —Gibrat's law. Robert Gibrat (1931) found that a firm's growth is independent of its size. However, this law has been

challenged by many researchers (like Gilbert, McDougall and Audretsch—2006), especially in the cases of new and small firms.

For instance, Brusco, Giovannetti and Malagoli (1979) reveal that when it comes to surviving firms, the small ones show higher growth rates than the large ones; Evans (1987) discovered the existence of negative relationships between growth and size, as well as age, in most industries. Based on previous literature, Mata and Portugal (2004) proposed several reasons to explain the phenomenon whereby surviving firms grow quickly during the post-entry period: according to the learning theory of Jovanovic (1982), firms can only know their true capabilities from observing their performance after operation, and so they tend to choose starting on a small scale and then growing, only if they perform well after operation. Start-up firms usually incur cash constraints which lead to a small-scale entry, and the firms showing good performance in their post-entry period earn internal funds as well as a good reputation with the banks (which provide conditions for growth); entering on a small scale and subsequently expanding can help firms avoid the aggression of incumbents and overcome entry barriers. There are also some scholars studying the relationships of the three elements, for example, to identify the short- and long-term relationships between profitability, survival and growth. The study by Delmar, McKelvie, and Wennberg (2013) shows that good profitability undoubtedly would be beneficial to both survival and growth; growth can endanger survival but improve profitability; current growth can contribute to future growth, and the positive impacts of growth enhancing profitability can trigger further beneficial chain effects, thus benefiting firms in the long run.

## 2. Theories about start-up performance

Saridakis et al.

(2008) point out that the factors affecting business failure can be summarized from three perspectives: industrial economics highlight profitability, growth, and entry and exit barriers; labor economics pay attention to business owners; and in the resource-based theory, managerial perspective focuses on the human capital, strategies, and constraints faced. In particular, they also point out that, according to the relative earnings model proposed by labor economists, in addition to the performance of the business, alternative sources of income may also drive business owners to quit business ownership (for example, when they believe that the utility of being employed by other firms or exiting from the labor force is better). Organizational mortality is also an important topic of organizational ecology (Brüderl et al., 1992), which includes organizational strategies, organizational selection processes and environmental forces, and the “liability of newness” where young and new firms have a higher risk of failure than older ones (Stinchcombe 1965), and the “liability of smallness” where large new firms have better survival probability than new and small ones (Aldrich and Auster 1986).

The organizational ecology approach highlights organizational characteristics and environmental conditions (exogeneous determinants) that suggest that a firm’s size at birth could impact survival by reflecting its ability to attract financial resources (Persson, 2004).

### 2.1. Resource-based View

As pointed out by Aspelund et al. (2005), an organization’s ability to survive is largely influenced by the characteristics of its resource bundle (for example, the resource’s value, rarity, inimitability, and substitutability). The resource-based view highlights the effects of a firm’s internal characteristics (as a source of competitive advantage) and a firm’s ability to develop different resources and capabilities



(as a result of strategic choices) based on various outcomes, according to the belief that firms are heterogeneous with different tangible and intangible resources and capabilities (Esteve-Pérez and Mañez-Castillejo, 2008). Here, two important resources regarding entrepreneurial performance are discussed: financial capital and human capital (Gilbert et al., 2006; Parker and Van Praag, 2006).

- a. Financial capital and financing constraints Financial capital plays an important role in new firm performance, because whether or not a new firm can obtain suitable financing resources often determines its success or failure (Berger and Udell, 2002; Chandler and Hanks, 1998). As pointed out by Fraser et al. (2015), different types of firms have different preferences on sources of financing: growth orientated firms are interested in external finance, whereas less dynamic firms prefer internal finance. However, compared to large and mature firms, young and small firms find them difficult to access external funds (Musso and Schiavo, 2008). Start-ups usually are faced with the risk of failure and financial constraints (Huyghebaert, 2006).
- b. Financial constraints can have a negative and long-term impact on a start-up's performance (Tobias, 2013), since (for instance) holding sufficient funds is the foundation for building high quality human capital, introducing high-level production technology and consequently achieving high productivity (Greene, 1997).
- c. The significant influence of financial constraints notwithstanding, the measurement of financial constraints depends on researchers. Fraser et al. (2015) believe that financial constraints are shown in the relationship between the availability of internal finance and investment (growth) or, more directly, the relationship between funding gaps and business outcomes. On the other hand, other researchers have their own measuring methods: severity scoring on a four point scale (Saridakis et al., 2007), dividend payout ratios (Fazzari, 1988), credit rating index (Bottazzi et al., 2014), and a synthetic index based on several financial variables (Musso and Schiavo, 2008). An introduction to the study on start-up success 55 Start Up Notes 1, 51-66. ISSN 2696-2489 / DOI 10.21001/SUN.2019.1.04 Although it is still arguable whether financial constraints can in effect discourage potential entrepreneurs to pursue their entrepreneurship dream (Fjærli, and Iancu, 2012), a particular aspect related to financial constraints is founders' wealth.
- d. In fact, some scholars find that a start-up's size is positively related to the founders' wealth (Cabral and Mata, 2003; Hvide and Møen, 2010). Additionally, the study by Evans and Jovanovic (1989) deserves to be mentioned here. Their mode firstly identifies entrepreneur's capacity and initial wealth separately, and then they find that the disparity between the two elements would impede entrepreneurship (especially in the case of capable entrepreneurs with less wealth —i.e. suffering financial constraints).
- e. Financial characteristics of start-ups Huyghebaert and Van de Gucht (2007) point out some characteristics of start-ups which could influence the financing decisions: information asymmetry is an obvious problem of start-ups for outside financiers (which is caused by no historical data); highly concentrated ownership in startups causes less agency costs; private benefits of control (for

example, prestige and the power to decide on business strategy) are important for the owners of start-ups. Small and micro firms comprise the main body of start-ups, and the shortage of equity capital is an important problem hindering start-up founders to obtain loans from banks due to a lack of collateral (Egeln et al., 1997). In addition, there is the problem of asymmetric information between the owners and managers of a firm and between owners and outside investors, although this problem could be alleviated as time goes by (Brito and Mello, 1995). Information asymmetries could increase the costs when new firms introduce external finance, because lenders tend to charge higher interest rate to compensate for the additional risk (Atherton, 2012).

- f. With imperfect information, internally retained funds are cheaper than external capital, as investors find it difficult to precisely evaluate a firm's future prospects and the quality of the management team (Brito and Mello, 1995). In particular, asymmetric information can lead to the problems of adverse selection and moral hazard in external finance, especially for small firms (Carpenter and Petersen, 2002). Paul et al. (2007) give some detailed explanations about adverse selection and moral hazard; i.e. adverse selection occurs because, when introducing financing, entrepreneurs tend to emphasize the strengths and hide the weakness of their business, and the moral hazard arises when entrepreneurs may take advantage of asymmetric information for their own benefits at the cost of investors (for example, investing in a project with higher risk). As a result, information asymmetry would mean more expensive external financing and make other sources outstanding. In fact, when being faced with asymmetric information problems, internal resources are used as a substitute to external finance (La Rocca et al., 2011). However, because new businesses require a period of time to earn the first profits and to be competitive with incumbents (Mcdougall et al., 1992; Cincera and Galgau, 2005), it would not be easy to use retained profits as internal financing. Therefore, access to external finance still plays an important role (La Rocca et al., 2011). 56 Yehui Tong, Ramon Saladrighes Solé Start Up Notes 1, 51-66. ISSN 2696-2489 / DOI 10.21001/SUN.2019.1.04 Capital structure theories Modigliani and Miller (1958) open the door for researching the impacts of capital structure on firm value and performance, although its condition in a perfectly efficient market is virtually non-existent.
- g. Further, in 1963, they identified the tax shield effects, indicating that firms can benefit from leverage by deducting tax on interest payments. Another influential theory coming after Modigliani and Miller is the agency theory, proposed by Jensen and Meckling (1976). They verify the existence of agency costs between owners, creditors and customers, and further deem that the most effective capital structure should balance the trade-off between the benefits and costs of increasing debt; for example, balancing tax benefits and financial distress costs (Cassar and Holmes, 2003). On the other hand, the pecking order theory, proposed by Myers (1984) and Myers and Majluf (1984), says that firms prefer internal to external finance, and (when introducing external funds) debt ranks before equity (Paul et al., 2007). There are two possible reasons proving the suitability of the pecking order theory for new firms: first, information asymmetry (especially less historical data in start-ups) hinders decision-making on investments; second, entrepreneurs would lose less control of their business by introducing bank loans, as opposed to issuing new equity (Paul et al., 2007). Bootstrapping In the early business stage, entrepreneurs usually rely

more on personal or internally generated funds, and try to control costs and manage capital expenditures (Brush, 2008). This introduces a non-traditional concept for financially constrained new and small firms, namely bootstrapping. Bootstrap financings are the financing methods that are usually different to the traditional financing from financial institutions and personal equity, so they can be seen as alternatives for the firms lacking access to traditional sources (Carter and Van Auken, 2005).

- h. As stated by Lahm and Little (2005), in fact bootstrapping (as the purest form of entrepreneurship) converts human capital into financial capital. Bootstrapping means conserving financial resources and managing cash in a resourceful manner (particularly also minimizing the need for financing and acquiring resources creatively), as a way of overcoming the difficulties that small and new firms face when obtaining capital (Brush, 2008). As summarized by Van Auken (2005), the advantages of bootstrap financing include that it is easy to obtain, it is convenient, it minimizes requirements, and it makes a business plan or collateral unnecessary. In fact, recent papers find that both the firms with financial constraints and the firms with relatively sufficient funds tend to use financial bootstrapping due to its positive economic influence (Winborg, 2009). With respect to financial bootstrapping, different scholars may have different forms of classification. For example, Freer et al. (1995) divide financial bootstrapping techniques into four groups according to the purpose; including for product development, for business development, to minimize the need for outside capital and to minimize the need for internal capital. Furthermore, Harrison et al. (2004) find that, compared with product development bootstrapping techniques, business development bootstrapping techniques are used more often by small firms. However, the widely cited classification is proposed by Winborg and Landström (2001), where there are six groups of financial bootstrapping methods: owner-financing (resources from the owner, manager, and relatives); minimization of accounts receivable; joint utilization (sharing and borrowing An introduction to the study on start-up success 57 Start Up Notes 1, 51-66. ISSN 2696-2489 / DOI 10.21001/SUN.2019.1.04 resources from other businesses); delaying payments; minimization of capital invested in stock; subsidy finance (obtaining subsidies from public organizations). Here, two types of financial bootstrapping techniques need to be highlighted particularly, namely the entrepreneur's personal savings and loans from friends and relatives as well as subsidies. Bosma et al. (2002) stress the significant role of the entrepreneur's personal savings and loans from friends and relatives to start-ups. In terms of subsidy, Arshakuni, and Kamionka (2007) find that subsidies not only have an impact on financing per se, but also influence accessing bank loans. Besides,
- i. Crepon and Duguet (2003) argue that subsidies are more powerful than bank loans in supporting start-ups, particularly in terms of the survival of start-ups created by needy entrepreneurs (who were unemployed before becoming entrepreneurs). Nevertheless, Lahm and Little (2005) believe that the effect of bootstrapping on an organization's success has not been fully recognized. b. Human capital The human capital theory is useful for explaining the growth and failure of business ventures, and it is earned from the financial returns on employees so as to maximize the economic benefits and therefore compensate investments in human capital (Rauch and Rijsdijk, 2013). The firms with more or higher quality human capital should have advantages in perceiving profitable opportunities for new economic activity and in successfully exploiting these opportunities (Davidsson and Honig, 2003). A firm can gain human capital by evaluating new ventures and

learning about business and the environment (Cassar, 2014). As pointed out by Brüderl et al. (1992), entrepreneurial human capital can be further classified into general human capital (such as, education and work experience) and specific human capital (for instance, industry-specific experience). Rauch and Rijdsdijk (2013) further state that general human capital increases opportunity costs and can be applied in different contexts. It serves as a source of knowledge, skills and problem-solving abilities, and motivates people to acquire new knowledge. Specific human capital is helpful when operating a business (for example, industry-specific experience includes ways to find profitable niches and increase productivity). From the perspective of empirical study, it has been found that both general and specific human capital have positive impacts on the survival of new firms; and, the accumulative effects of human capital, which means the number of founding entrepreneurs, is positively related to new firm survival (Arribas and Vila, 2007). Education Making

- j. entrepreneurial decisions needs to use both tacit (i.e. know-how) and explicit (i.e. knowwhat) knowledge, which can be obtained from formal education (university education), informal education (work experience), and non-formal education (adult education). In particular, formal education can help to accumulate explicit knowledge, providing entrepreneurs with useful skills, while entrepreneurs gain important tacit knowledge from previous work and start-up experiences (Davidsson and Honig, 2003). As an empirical study, Parker and Van Praag (2006) focus on education when researching the impact of human capital, and it is measured as the number of years of schooling; in particular, they find that more years of education can lead directly to better entrepreneurial performance and it can also help to alleviate capital constraints. 58 Yehui Tong, Ramon Saladrigues Solé Start Up Notes 1, 51-66. ISSN 2696-2489 / DOI 10.21001/SUN.2019.1.04 Prior start-up experience and industry experience The founding team's previous start-up and industry experience is studied in depth by Delmar and Shane (2006). This is because they believe that prior start-up experience (the previous experience of creating new organizations) can help to identify and evaluate opportunities, acquire resources and organize the firm, while industry experience (previous work in the new firm's industrial field) is helpful when it comes to industry rules and norms, customer and supplier networks, and employment practices. Muñoz-Bullon et al. (2015) point out that the team's previous experience in start-ups and industry has a moderating effect on the relationship between the resources brought from the team and creating a profitable business. In particular, they believe that experience can increase the ability of nascent entrepreneurs to manage team resources more effectively, and this can further influence the nascent entrepreneur's expectations to overcome the liability of being a new firm, and therefore create a profitable business. In spite of this, different opinions still exist: for example, the study by Cassar (2014) shows that industry experience (rather than start-up experience) is useful in predicting new business performance. 2.2 Industrial organization The traditional industrial organization theory (which assumes the homogeneity of production technologies and products) believes that new entrants can work as an equilibrating force to push profitability and price to their long-run competitive levels (Tveterås and Eide, 2000). In particular, Audretsch and Mata (1995) state that the traditional view in industrial organization attributes firm entry to profits in excess of equilibrium in an industry. Furthermore, they also point out the importance of studying the post-entry performance of firms, i.e., to understand the selection process of markets (why some survive

and others fail). Audre's et al. (1999) summarized the theoretical model of noisy selection by Jovanovic (1982) as follows: randomness exists in a firm's survival; the costs of new entrants are not only random but also different between firms; a new firm can only learn its cost function (relative efficiency) in its post-entry performance; the firms that are found to be efficient will survive and grow, whereas the inefficient ones will fail; being independent of both firm and industry specific characteristics, the post-entry growth rates of new firms should also be stochastically distributed. Usually, the founding conditions can have a long-term impact on new firms (Eisenhardt and Schoonhoven, 1990).

- k. In particular, Sharma and Kesner (1996) point out that the importance of industry conditions for new entrants, at the time of entry, could be explained in two facets: the first is sunk costs (the irrecoverable investments by entrants to build their capacity in order to compete with incumbents, and being lost permanently) that affect industry dynamics and firm profitability profoundly; the second is that industry conditions include behavioral entry barriers, especially the retaliation from incumbents (because new entrants may threaten the market position and profitability of existing firms). An introduction to the study on start-up success 59 Start Up Notes 1, 51-66. ISSN 2696-2489 / DOI 10.21001/SUN.2019.1.04 Some industry-specific factors Bellone et al. (2008) identify industry characteristics as industry dynamic features (turbulence) and industry static features (market structure). To be precise, industry sales growth and industry entry represent industry turbulence, while the size of the market and the industry concentration represent market structure and then industry maturity. Furthermore, they find that the impacts of industry dynamic features (turbulence) are more important than those caused by the static features (market structure).
- l. As pointed out by some scholars, there is a positive relationship between entry rate and exit rate (Dunne et al., 1988; Bartelsman, 2005), due to high competition caused by high industry entry (Fritsch et al., 2006). However, in the industries with a high growth of sale, the situation may be different: the incumbents would face much less pressure from the entrants, and suffer less market share losses, thus causing less retaliation (Mata and Portugal, 1994). In addition, an increase in price-cost-margins driven by an increase in demand can benefit firms in the fast-growing industries (Strotmann, 2007). Regarding the question of who exits (new entrants or incumbents), Audretsch (1995b, p592) uses two metaphors to answer this. "The evidence suggests that the process of firm selection may be better characterized by the revolving door metaphor in markets where scale economies play an important role and where innovative activity is dominated by large enterprises. By contrast, the forest metaphor with the new saplings overtaking the old large trees may be more applicable in industries where the underlying technological conditions closely conform to the entrepreneurial regime." With regard to industry concentration, traditional view believes that in high concentration industry (which signifies market imperfection), the firms with low market power (like young firms) are more likely to exit (Bellone et al., 2008). This is because, in high concentration industry, existing firms may collude together to control the market and resist entrants (Bunch and Smiley, 1992). Notwithstanding, suboptimal scale new firms may still have survival space in highly concentrated industries (López-García and Puente, 2006). As pointed out by Geroski et al. (2009), although new entrants may be highly resisted at first and thus have a high

probability of failure, if the entrants can remain standing for more than one year, they would be accepted as a club member by the incumbents and then would achieve high profitability levels and manifest a high survival rate thereafter. Innovation studies at industrial level In reality, highly innovative industries are attractive to the new firms hoping to innovate, but they reveal a higher failure rate (Audretsch, 1995a).

- m. To explain this, Audretsch (1995b) points out that technological and demand characteristics of the industry have a large impact on whether an establishment stays or fails. In fact, technological activity (or technological environment) is an important factor affecting firm's entry, exit, survival, and growth (Agarwal, 1998). As stated by Marsili (2002), innovative activities in research and development (R&D) are treated as one kind of entry barrier (a technological entry barrier relating to the influence of technology on new innovation opportunities for new firms as opposed to incumbents); and, in particular, the characteristics of innovation processes in different industrial sectors and different technological environments (favoring an "entrepreneurial" pattern or "routinised" pattern) lead to the factor creating different impacts on innovative entrepreneurship. Audretsch (1995a) finds that a highly innovative environment has an ambiguous influence on post-entry performance. On the one hand, using innovative activity to differentiate products is a crucial strategy used by entrants to offset size disadvantages and gain a small market share. On the other hand, a highly innovative environment is disadvantageous to post-entry survival during the first few years, and Audretsch (1995a) attributes this phenomenon to the different ways that innovative activity is generated between industries; i.e., new economic knowledge innovations are easily processed by incumbents in relatively routine industries (stressing the importance of information based on non-transferable experience in the market when generating innovative activity), while new firms tend to have an advantage over incumbents in the industries where innovations evolve out of a natural routine (information outside routine is an important input when generating innovative activity). The study by Jensen et al. (2008) shows that, compared to their established counterparts, new firms show advantages in innovative industries. For example, they state that the agility of new firms is important in innovative industries, while in less innovative industries the importance of conventional factors (like size and financial assets) overrides the significance of change and newness. On the other hand, Cefis and Marsili (2006) did research on the influence of innovation as a strategy on survival (the survival of innovators and non-innovators) for entrepreneurial firms and established firms in different technological environments (high-tech and low-tech manufacturing sectors). Particularly, as for entrepreneurial firms, their findings stress the crucial role of innovative activity in both high-tech and low-tech sectors.
3. Conclusions This paper provides a brief introduction to the study on start-up success with a review of related theoretical studies. The first question that needs to be addressed is "what is success?". The answers here are survival, profitability and growth. Although there are also other success factors, the importance of survival, profitability and growth to start-ups is undeniable (and can be verified by plenty of research literature focusing on these three factors). In particular, survival is the basic standard of success, and earning profits is the final target, while growth is an important method for achieving the previous two targets.

- n. The theories on start-ups, especially the resource-based view and industrial organization. Review of the resource-based theory focuses on financial capital and human capital. In particular, financial constraints (as an important problem faced by start-ups) are studied in depth, together with related financing theories. As for the industrial organization theory, there are a number of studies focusing on a start-up's post-entry performance. Here, apart from some commonly studied industry-specific factors (industry concentration, industry growth and industry entry), we find a particular review of the research on innovation (from the perspective of industrial organization) so as to clarify the differences between the contributions made by entrants and incumbents to innovative activities.

### **3. LITERATURE REVIEW**

1. **Eisenmann (2013)** , Entrepreneurs set up, launch, and manage business projects. Narrower definitions describe entrepreneurship as the process of planning, starting, and managing a new business, which is often small at the beginning, or as the ability and willingness to develop, organize and manage a business enterprise, along with all its risks necessary for a successful development .
2. **Skawinska and Zalewski (2020)** define the startup as a young, small, independent, creative, innovative company that performs research and development activities in order to solve real problems and propose future solutions, with an attractive business model and a talented team. Under this approach, we consider that a startup company may be defined as a business organization created by entrepreneurs within a collaborative structure. At the beginning, many start-ups face the so-called “Death Valley” phase.

3. **Aulet (2013)** However, when a startup lives beyond that stage, the start-up should see exponential growth in profits and size), in contrast to the more linear performance that typically characterizes the evolution of SMEs. In addition, it is precisely this characteristic of exponential growth that marks the success of start-ups. Growth (profit, cash flow, and employees) over time is an exponential function for start-ups versus a linear function for other companies .
4. **Ikhwan and Rahadi (2022)** The Berkus method combines different aspects under the same entrepreneurial success assessment tool. The method employs a simple model to estimate companies' earnings before they are earned. The Berkus Method was created and supported by venture capitalists to determine specific rankings for companies that were not yet selling their products on a large scale or young startups with pre-earnings; it is not suitable for appraising a company with recurring revenue streams. A simple formula helps founders and investors avoid being misled based on expected return .
5. **Berkus (2006)** considers the following five key factors for the success of startups: Idea, Founding Team, having a Functional Prototype, Strategic Relations, and Traction or Invoice being all factors equally relevant in the model. These factors have had a wide impact on subsequent research. The Berkus methodology has served as the basis for calculating investments in Start-ups by applying a pre-money valuation based on how these five factors are valued in the start-ups to be invested (Dureux 2016).
6. **Díaz-Santamaría and Bulchand-Gidumal (2021)** The literature has investigated, as well, the reasons for the success or failure of new companies. In this sense, some studies have covered success factors, while others have dealt with failure factors in entrepreneurship, being more extensive the literature that has deepened the analysis of success factors. Success factors have been linked to certain amounts of turnover (more than 100,000 euros), as well as to the dedication of the founders, their commercial capacity, the age of the company, the number of employees, the existence of promoter partners in the company, the technological skills of the promoter partners and the startup's ability to exceed the break-even point .
7. **Saura et al (2019)** launched a sentiment analysis as well over Twitter and found the following aspects related with start-up success: sustainable business model, high level of employee profiles in start-ups, theoretical and educational support, participation in development or programs of institutions such as start-up incubators or accelerators, attitudes to investors and business angels. In addition, they found that the technologies and programming languages were also identified as important topics to consider.
8. **Gordo Molina et al (2022)** Economic factors have been discussed regarding their relationship with successful entrepreneurship, without yet finding a consensus regarding how to solve the problem of raising financial resources at the start. Research on entrepreneurship from the Legitimacy Theory approach identifies as an innovative research area the inquiry about the need



for financial sustainability of new companies, and the importance of influencing the evaluations of legitimacy of the evaluator.

- 9. SAPNAMANSHANI (2017)** a country where people are famous for their work, skills and innovation(Rani, M. A. (2017)). Startups in india plays a major role in it. India ranks third in the global startup ecosystem(**Sagar LotanChaudhari** et al.,2021)(Badra, Shailja,Dr. and Sharma, Vivek 2016) in their published research paper title “Startup India-New Opportunities for the entrepreneur” wrote that “The very success of anythingout of the box like startups campaign hinges on inventiveness like rapid and facileregistration of companies”. (Nishith Desai Associates 2016) throws light on “Astartup in order to become successful organisation faces numerous issues that aresupposed to be dealt with smart moves and with a lot of thought and order”. Also not only men but also women are playing an active part in the startups.
- 10. Ritesh Dwivedi** , Startups have been the fashion of commercial markets over the last few years in India. Lack of Government support and stringent policies for setting up the startup makes the process difficult. However with the improvement in the policies regarding documentation work, banking facilities and other helps from government departments, the startups have surged in past few years. Leftover complicated procedures and regulations should also be studied and resolved as soon as possible. This study has tried to look into these aspects and reflect the prevailing situation at ground level. Study has explored the effect of demonetization and GST implementation on the startups as well as analysed the overall performance of the startups across many sectors. Study found funding as the most important factor for the survival of startups and easing up the government rules and regulations have also been the priority area for the startups. Startup India initiative is well known to startups but new entrepreneurs expecting more supportive and responsive ecosystem.
- 11. Macmillan et al (1987)** investigated the major differences between a successful and no successful venture by investing 150 ventures as per 5 major criteria. This study found two factors insulation from competition and demonstrated market acceptance of product responsible for the venture's success.
- 12. Bosma et al (2004)** had concluded that an investment in human and social capital tends to increase the performance of the entrepreneurs. At the same time they established importance of innovations used towards improving the performances of human and social capital. The study also reveals that a skillful individual entrepreneur is more likely to perform better in the industry over others. Astebro and Bernhardt (2003) explored negative the relationship between fresh ventures and bank loans and positive relationship between non-banking loan and venture survival. This whole study was conducted on small businesses launched in US 'between' 1987-1991. A lot of female entrepreneurs are also venturing in the business and giving tough fight to their peers. Female investors are working and their stock picking skills are good and they generally invest in financial market (Shukla, 2018).

**13. Kumar (2015)** analysed the suitable environment for startups within India and other countries and found India as one of the harshest environment for the start-ups to grow. Government had also taken various measures and simplified the various rules and procedures to smoothen the process for setting up a start-up. However, due to lack in breakthrough innovation, there was some hesitation in initial findings for the startups. Incubator and accelerator culture had somehow, provided the relief to the start-up ecosystem within India.

**14. Appu & Balaji, 2018)**, Innovation has always been one of the main aspects for the startup to flourish and with the changing needs and demands, some new innovations and more optimized form of working and constant need of changing is an important aspect. Success of products largely depends upon management of distribution channels in the target market. Company has to upgrade the product over the time to meet the expectations of customers .

**15. The Imperfect Education System and Conservative Lifestyle:**

The education system is one of hindrance for start-ups. In college, students are usually trained with advanced techniques but lack of marketing, sales and operational ability and leadership skills needed to advance their own enterprises. In addition, conservative lifestyle also contributes as one of obstacles. As a culture of family remains, family remains sceptical to change and prefer options that are able to provide a steady income rather than engaging risk. This places pressure on the budding entrepreneur who fall victim to the dichotomy of providing for the family instead of following some “whimsical” dream (Au & Kwan, 2009).

**16. Lack of Support Networks and Entrepreneurship Ecosystem:**

One of the major challenges is that there is severe shortage of start-up support networks and entrepreneurship ecosystems. In many western countries, there are special institutions serve as incubators, start-up accelerators, start-up competitions for entrepreneurs to put their ideas to test and obtain necessary guidance. In India, incubators, start-up accelerators, and start-up competitions are slowly making their way into the first-tier cities, but there truly are not enough to go around. As a result of this shortage, many start-ups fail at the “idea” stage of their business. The ecosystem usually does not directly provide funding to start-ups; they just serve as platforms that link investors and entrepreneurs so that entrepreneurs can obtain necessary funding to test out their ideas. The lack of these facilities makes it more difficult for entrepreneurs to find investors. In return, investors are more difficult to find entrepreneurs as well. Even if entrepreneurs are able to find investors, they will face an entirely different set of challenges. Indian culture inherently does not promote entrepreneurship. Conversely, it encourages stability, employment at large state-owned or private organizations and, above all, teaches people to be riskaverse. Even if young Indian individuals have intention to start their own business, their family usually places a considerable amount of negative pressure on them to forget entrepreneurship and look for a “stable job” instead.

**17. India lacks enough angel investors to fund start-ups:**

Unlike the West, India does not have an adequate number of angel investors who can fuel the growth of the country’s thriving start-up ecosystem, industry body NASSCOM has said. “For a successful start-up ecosystem there is a need for enough angel investors who can support

budding entrepreneurs from an early stage. But this is not happening in India and there is a serious lack of it,” NASSCOM Vice-President Rajat Tandon told PTI. “High net-worth individuals and corporate executives, among others, should come forward and participate in this growth story,” he said. A recent report by NASSCOM had said India ranks third among global start-up ecosystems, with more than 4,200 new-age companies. Tandon said, “The case is very different in countries like the US. People are just waiting to invest in good companies. We should also have something like that.” “Mainly, investors (in India) are afraid because there is a high risk of failure in these investments and also there is a lack of policy on such investments,” he added. “Why will investors put money in such companies? They need tax benefits and a number of other things to put in their money. We have already written about these things to the Government and I am sure we can expect something by the year-end,” he said. In his Independence Day speech, Prime Minister Narendra Modi had announced a new campaign „Start-up India; Stand up India“ to promote bank financing for start-ups and offer incentives to boost entrepreneurship and job creation in the country. “At NASSCOM, we are not only encouraging investors but also asking people to mentor start-ups. Like someone has a design business, they can help start-ups develop UIs and guide them in the process. In return they take some equity,” he said. “And there are people like Ratan Tata and Azim Premji, who are making a slew of investments and helping these young entrepreneurs. They are the inspiration,” he said. Ratan Tata has invested in a number of companies including Ola, Snapdeal, Paytm, Urban Ladder, and Bluestone. Wipro boss Azim Premji has funded companies such as Myntra and Amagi, among others, through his investment arm Premji Invest.

#### **18. Human Talent:**

Compared to large mature enterprises, small start-ups are in an exponentially more difficult dilemma and encountering much severe challenging in recruiting due to the reason that it cannot pay high salary to its employees or offer any career development opportunities aside from building their business from the ground up. What is worse is that working for a start-up in China is far less glamorous than working for a start-up in the west due to culture differences. It is a disaster for a company who needs to execute on their business plan with minimal errors to just survive the month.

#### **19. Women Entrepreneur:**

Melanne Verveerin, Women entrepreneurs are a vital source of growth that can power our economies for decades, yet they face tremendous challenges to their full economic participation. The GEM Women ‘s Report provides important data which is critical to our understanding of women-run SMEs. V Krishnamoorthy and R Balasubramaniam, identified the important women entrepreneurial motivation factors and its impact on entrepreneurial success. The study identified ambition, skills and knowledge, family support, market opportunities, independence, government subsidy and satisfaction are the important entrepreneurial motivational factors. The study also concluded that ambition knowledge and skill independence dimensions of entrepreneurial motivational has significant impact on entrepreneurial success.

20. **Jalbert, (2000)** performed a study to explore the role of women entrepreneurs in a global economy. It also examined how women 's business associations can strengthen women 's position in business and international trade. The analysis is performed on the basis of facts and data collected through field work (surveys, focus groups and interviews) and through examining the existing published research. The study has shown that the women business owners are making significant contributions to global economic health, national competitiveness and community commerce by bringing many assets to the global market. Bowen & Hirsch, (1986), compared & evaluated various research studies done on entrepreneurship including women entrepreneurship. Its summaries various studies in this way that female entrepreneurs are relatively well educated in general but perhaps not in management skills, high in internal locus of control, more masculine, or instrumental than other women in their values likely to have had entrepreneurial fathers, relatively likely to have first born or only children, unlikely to start business in traditionally male dominated industries & experiencing a need of additional managerial training. Singh, (2008), identifies the reasons & influencing factors behind entry of women in entrepreneurship. He explained the characteristics of their businesses in Indian context and also obstacles & challenges. He mentioned the obstacles in the growth of women entrepreneurship are mainly lack of interaction with successful entrepreneurs, social un-acceptance as women entrepreneurs, family responsibility, gender discrimination, missing network, low priority given by bankers to provide loan to women entrepreneurs. He suggested the remedial measures like promoting micro enterprises, unlocking institutional frame work, projecting & pulling to grow & support the winners etc. The study advocates for ensuring synergy among women related ministry, economic ministry & social & welfare development ministry of the Government of India.

## 4. METHODOLOGY

**Objectives:**

**Meaning:**

A research objective is a clear, concise, declarative statement, which provides direction to investigate the variables under the study.

The objectives of a research project summarize what is to be achieved by the study.

Characteristics:

Research objective is a concrete statement describing what the research is trying to achieve.

A well-known objective will be **SMART**:

S – SPECIFIC • M – MEASURABLE. • A – ATTAINABLE. • R – REALISTIC. • T – TIME BOUND

Research objective should be RELEVANT, FEASIBLE, LOGICAL, OBSERVABLE, UNEQUIVOCAL & MEASURABLE.

Objective is a purpose that can be reasonably achieved within the expected timeframe and with the available resources.

The objective of research project summarizes what is to be achieved by the study.

The research objectives are the specific accomplishments the researcher hopes to achieve by the study.

The objectives include obtaining answers to research questions or testing the research hypotheses.

**Objectives of the study are as follows:**

To study the financial problems faced by the start-ups in India.

To study the Women entrepreneurs in India.

To find out the reasons behind few or limited start-ups in India.

To highlight the importance of financing agency's for start-ups in India.

To understand the Entrepreneurial Development Plan.

#### **4.1 Data Collection Method:**

**The data collected in this research project is totally based on secondary data. The facts and figures are taken by the different resources.**

##### **Meaning:**

**Secondary data** means data that are already available i.e., they refer to the data which have already been collected and analysed by someone else. When the researcher utilises secondary data, then he has to look into various sources from where he can obtain them. In this case he is certainly not confronted with the problems that are usually associated with the collection of original data. Secondary data may either be published data or unpublished data. Usually published data are available in: (a) various publications of the central, state or local governments; (b) various publications of foreign governments or of international bodies and their subsidiary organisations; (c) technical and trade journals; (d) books, magazines and newspapers; (e) reports and publications of various associations connected with business and industry, banks, stock exchanges, etc.; (f) reports prepared by research scholars, universities, economists, etc. in different fields; and (g) public records and statistics, historical documents, and other sources of published information. The sources of unpublished data are many; they may be found in diaries, letters, unpublished biographies and autobiographies and also may be available with scholars and research workers, trade associations, labour bureaus and other public/private individuals and organisations.

#### **4.2 Advantages and Disadvantages of Secondary Data:**

**Secondary data** is available from other sources and may already have been used in previous research, making it easier to carry out further research. It is time-saving and cost-efficient: the data was collected by someone other than the researcher. Administrative data and census data may cover both larger and much smaller samples of the population in detail. Information collected by the government will also cover parts of the population that may be less likely to respond to the census (in countries where this is optional).

A clear benefit of using secondary data is that much of the background work needed has already been carried out, such as literature reviews or case studies. The data may have been used in published texts and statistics elsewhere, and the data could already be promoted in the media or bring in useful personal contacts. Secondary data generally have a pre-established degree of validity and reliability which need not be re-examined by the researcher who is re-using such data.

Secondary data can provide a baseline for primary research to compare the collected primary data results to and it can also be helpful in research design.

However, secondary data can present problems, too. The data may be out of date or inaccurate. If using data collected for different research purposes, it may not cover those samples of the population researchers want to examine, or not in sufficient detail. Administrative data, which is not originally collected for research, may not be available in the usual research formats or may be difficult to get access to.

### **4.3 Women Entrepreneurs in India:**

Women Entrepreneurs may be defined as the women or a group of women who initiate, organize and operate a business enterprise. The Government of India has defined women entrepreneurs as an enterprise owned and controlled by women having a minimum financial interest of 51 per cent of the capital and giving at least 51 per cent of the employment generated in the enterprise to women. Women entrepreneurs engaged in business due to push and pull factors which encourage women to have an independent occupation and stand on their own legs. A sense towards independent decision-making on their life and career is the motivational factor behind this urge. With the change of time there is tremendous upliftment in the status of Indian women entrepreneur. Women entrepreneurs are gaining a strong hold in most of the developing countries including India, Brazil etc. Another recent trend is women are increasingly coming on the fore front in private and government business organizations and occupying the top positions everywhere- like Indra Nooyi, Chanda Kochhar, Shikha Sharma, Kiran Mazumdar Shaw, Naina Lal Kidwai, etc. Again, there is increased awareness and women entrepreneurs are increasingly finding easy to finance their business. Women entrepreneurs are also taking up issues of environmental changes too.

#### **Status of women entrepreneurs in India:**

Entrepreneurship is considered as one of the most important factors contributing to the development of society. India has been ranked among the worst performing countries in the area of women entrepreneurship in gender-focused global entrepreneurship survey, released in July 2013 by PC maker Dell and Washington based consulting firm Global Entrepreneurship and Development Institute (GEDI). Of the 17 countries surveyed India ranks 16th, just above Uganda. Countries like Turkey, Morocco and Egypt has outperformed India. Status of higher education in women in India came out to be lower than most countries in the world. At present, women entrepreneurial role is limited in the large-scale industries and technology-based businesses. But even in small scale industries, the women's participation is very low. As per the third all-India census of Small-Scale Industries, only 10.11% of the micro and small enterprises were owned by women, and only 9.46% of them were managed by women. While the number of women operating their own business is increasing globally, women continue to face huge obstacles that stunt the growth of their businesses, such as lack of capital, strict social constraints, and limited time and skill.

#### **Reasons for becoming Women Entrepreneurs:**

The glass ceilings are shattered and women are found indulged in every line of business. The entry of women into business in India is traced out as an extension of their kitchen activities, mainly 3P's, Pickle, Powder and Pappas. But with the spread of education and passage of time women started shifting from 3P's to modern 3E's i.e., Energy, Electronics and Engineering. Skill, knowledge and adaptability in business are the main reasons for women to emerge into business ventures. Women Entrepreneur is a person who accepts challenging role to meet her personal needs and become economically independent. A strong desire to do something positive is an inbuilt quality of entrepreneurial women, who is capable of contributing values in both family and social life. With the advent of media, women are aware of their own traits, rights and also the work situations. The

challenges and opportunities provided to the women of digital era are growing rapidly that the job seekers are turning into job creators. Many women start a business due to some traumatic event, such as divorce, discrimination due to pregnancy or the corporate glass ceiling, the health of a family member, or economic reasons such as a layoff. But a new talent pool of women entrepreneurs is forming today, as more women opt to leave corporate world to chart their own destinies. They are flourishing as designers, interior decorators, exporters, publishers, garment manufacturers and still exploring new avenues of economic participation.

**Role of Government to develop Women Entrepreneurs in India:** Development of women has been a policy objective of the government since independence. Until the 70s the concept of women development was mainly welfare oriented. In 1970s, there was a shift from welfare approach to development approach that recognized the mutually reinforcing nature of the process of development. The 80s adopted a multi-disciplinary approach with an emphasis on three core areas of health, education and employment. Women were given priorities in all the sectors including SSI sector. Government and non-government bodies have paid increasing attention to women economic contribution through self-employment and industrial ventures.

**The First Five-Year Plan (1951-56)** envisaged a number of welfare measures for women. Establishment of the Central Social Welfare Board, organization of Mahala Mandal's and the Community Development Programmes were a few steps in this direction.

In **the second Five-Year Plan (1956-61)**, the empowerment of women was closely linked with the overall approach of intensive agricultural development programmes.

**The Third and Fourth Five-Year Plans (1961- 66 and 1969-74)** supported female education as a major welfare measure.

**The Fifth Five-Year Plan (1974-79)** emphasized training of women, who were in need of income and protection. This plan coincided with International Women 's Decade and the submission of Report of the Committee on the Status of Women in India. In 1976, Women 's welfare and Development Bureau was set up under the Ministry of Social Welfare.

**The Sixth Five-Year Plan (1980-85)** saw a definite shift from welfare to development. It recognized women 's lack of access to resources as a critical factor impeding their growth.

**Steps taken in Seventh Five-Year Plan:**

In **the seventh five-year plan**, a special chapter on the "Integration of women in development" was introduced by Government with following suggestion.

**(I) Specific target group:**



It was suggested to treat women as a specific target groups in all major development programs of the country.

### **Arranging training facilities:**

It is also suggested in the chapter to devise and diversify vocational training facilities for women to suit their changing needs and skills.

### **Developing new equipment's:**

Efforts should be made to increase their efficiency and productivity through appropriate technologies, equipment's and practices.

### **Marketing assistance:**

It was suggested to provide the required assistance for marketing the products produced by women entrepreneurs.

### **Decision-making process:**

It was also suggested to involve the women in decision-making process. Steps taken by Government during Eight Five-Year Plan:

The Government of India devised special programs to increase employment and income-generating activities for women in rural areas. The following plans are launched during the Eight-Five Year Plan:

Prime Minister Rojgar Yojana and EDPs were introduced to develop entrepreneurial qualities among rural women.

'Women in agriculture' scheme was introduced to train women farmers having small and marginal holdings in agriculture and allied activities.

To generate more employment opportunities for women KVIC took special measures in remote areas.

Women co-operatives schemes were formed to help women in agro-based industries like dairy farming, poultry, animal husbandry, horticulture etc. with full financial support from the Government.

Several other schemes like integrated Rural Development Programs (IRDP), Training of Rural youth for Self-employment (TRYSEM) etc. were started to alleviate poverty. 30-40% reservation is provided to women under these schemes. **Steps taken by Government during**

### **Ninth Five-Year Plan:**

Economic development and growth are not achieved fully without the development of women entrepreneurs. The Government of India has introduced the following schemes for promoting women entrepreneurship because the future of small-scale industries depends upon the women- **Marketing assistance:**

It was suggested to provide the required assistance for marketing the products produced by women entrepreneurs.

#### **4.4 Decision-making process:**

It was also suggested to involve the women in decision-making process.

#### **Steps taken by Government during Eight Five-Year Plan:**

The Government of India devised special programs to increase employment and income-generating activities for women in rural areas. The following plans are launched during the Eight-Five Year Plan:

Prime Minister Rojgar Yojana and EDPs were introduced to develop entrepreneurial qualities among rural women.

'Women in agriculture' scheme was introduced to train women farmers having small and marginal holdings in agriculture and allied activities.

To generate more employment opportunities for women KVIC took special measures in remote areas.

Women co-operatives schemes were formed to help women in agro-based industries like dairy farming, poultry, animal husbandry, horticulture etc. with full financial support from the Government.

Several other schemes like integrated Rural Development Programs (IRDP), Training of Rural youth for Self-employment (TRYSEM) etc. were started to alleviate poverty. 30-40% reservation is provided to women under these schemes. **Steps taken by Government during Ninth Five-Year Plan:** Economic development and growth are not achieved fully without the development of women entrepreneurs. The Government of India has introduced the following schemes for promoting women entrepreneurship because the future of small-scale industries depends upon the women-entrepreneurs:

Trade Related Entrepreneurship Assistance and Development (TREAD) scheme was launched by Ministry of Small Industries to develop women entrepreneurs in rural, semi-urban and urban areas by developing entrepreneurial qualities.

Women Component Plan, a special strategy adopted by Government to provide assistance to women entrepreneurs.

Swarna Jayanti Gram Swarozgar Yojana and Swarna Jayanti Sekhari Rozgar

Yojana were introduced by government to provide reservations for women and encouraging them to start their ventures.

New schemes named Women Development Corporations were introduced by government to help women entrepreneurs in arranging credit and marketing facilities.

State Industrial and Development Bank of India (SIDBI) has introduced following schemes to assist the women entrepreneurs. These schemes are:

Mahila Udyam Nidhi

Micro Credit Scheme for Women

Mahila Vikas Nidhi

Women Entrepreneurial Development Programmes

Marketing Development Fund for Women

Consortium of Women entrepreneurs of India provides a platform to assist the women entrepreneurs to develop new, creative and innovative techniques of production, finance and marketing.

There are different bodies such as NGOs, voluntary organizations, Self-help groups, institutions and individual enterprises from rural and urban areas which collectively help the women entrepreneurs in their activities.

### **Training Programmes:**

The following training schemes specially for the self-employment of women are introduced by government:

### **Support for Training and Employment Programmed of Women (STEP).**

Development of Women and Children in Rural Areas (DWCRA). (iii) Small Industry Service Institutes (SISIs)

State Financial Corporations

National Small Industries Corporations

District Industrial Centre's (DICs)

### **Mahila Vikas Nidhi:**

SIDBI has developed this fund for the entrepreneurial development of women especially in rural areas. Under Mahila Vikas Nidhi grants loan to women are given to start their venture in the field like spinning, weaving, knitting, embroidery products, block printing, handlooms handicrafts, bamboo products etc.

### **Rastriya Mahila Kosh:**

In 1993, Rastriya Mahila Kosh was set up to grant micro credit to poor women at reasonable rates of interest with very low transaction costs and simple procedures.

**Promotional Organizations to help Women Entrepreneur: Federation of Indian Women Entrepreneur**—The FIWE was started in 1993 at the fourth international conference of women entrepreneurs held in December at Hyderabad. Its main function was to establish networking and to provide a package of service to women entrepreneurs' association in India. Association of women entrepreneurs in different states are affiliated to FIWE, so that they can have networking.

**Federation of Ladies Organization** - FLO was formed in 1983 as a national level forum for women with the objective of women empowerment. FLO has spectrum of activities in order to promote women entrepreneurship and professional excellence.

**World Association of Women Entrepreneurs** - The world association of Women entrepreneurs is an international women organization. It aims to bring together all women who are qualified to take up an active and leading part in employers' organization along with their male colleagues.

**National Women Development Corporation** - NWDC serves all women especially in rural and urban poor areas through promotion of women development in rural and urban areas.

**Association of Women Entrepreneurs of Karnataka** - AWAKE was established in 1983 and has been recognized worldwide. It is an affiliation of Women World Bank in New York. It is one of India's institution for women totally devoted to entrepreneurship development.

**Women's India trust (WIT)** - The trust was established in 1968 by Kamila Tyabji. WIT centre at Panvel, 40kms, from Mumbai. The Kamila trust UK was set up in the early 1990's with an aim of selling in England items produced by WIT family of women in India. Encouraged by its London, WIT expanded the export activities to Australia, Europe, Germany from 1995 onwards. WIT had plans to launch computer training for women.

**Consortium of women entrepreneur of India (CWEIF)** - In the context of the opening up of the economy and the need for up-gradation of technology, the consortium of women entrepreneur of India started in year 2001 provides a common platform to help women entrepreneurs in finding innovative techniques of production marketing and finance.

**Self-help groups (SHGs)** - A SHGs' is a small, economical homogeneous and significant group of rural and urban poor, voluntarily formed to save and mutually agreed to contribute to common fund to be lent to its members as per group decision.

Reasons behind limited start-ups in India:

The failing-start-up problem in India has become a big issue in the start-up ecosystem. As per statistics, majority of entrepreneurs fail while trying to establish their business. After studying failed start-ups in India, I have compiled a list of several major reasons behind their failure. From the lack of talent to changing market dynamics, these top reasons can become a nightmare for any entrepreneur who wants to start a new venture in the ever-changing Not Understanding the Needs of the Society:

Most successful business ideas arise from needs of the society. Since high school, teenagers become a part of the competition to get the best college and eventually, the best job. Due to competition, most people spend countless hours in studies and disconnect themselves from society. The divide between the tech-driven lifestyle of millennials and lack of understanding for society's demands contribute towards failing business models. The educational pressure is one of the many reasons that experts believe to be the source for lack of understanding between people society.

**Lack of fresh and Innovative Ideas:** Almost every niche market in India is suffocated with multiple startups trying to provide solutions to the same problem. This calls for entrepreneurs to be inventive and push the boundaries using innovation to stand out. Due to competition, the urge to grab market share makes an entrepreneur vulnerable to mistakes by producing the wrong product.

#### **Lack of People with Hands-on Experience:**

The startup ecosystem in India has a dearth of talent due to issues like brain drain. Due to the competition among startups, the idea of training a new employee goes right out of the window as time is a critical factor. Nobody wants to spend resources training the new crop when you can get experienced personnel. This has created a void of experienced professionals, who can contribute from the first day itself. By hiring amateurs, which most Indian startups do, they fail to provide a better product, which eventually leads to a startup's demise.

**Limited Access to Funding:**

Entrepreneurs have to fight hard to get funding for their startups nowadays. To get started, they use their savings or take money from friends and family. Very few are lucky to get angel funding. Moreover, venture capitalists tend to finance only those business ideas that can provide a good return on investment. This results in majority of young entrepreneurs missing VC funding. As a result, most Indian entrepreneurs are not able to continue their venture due to lack of funding.

#### **Lack of Understanding between Technical and Management Teams**

There is a big difference between a technical graduate and a management graduate. For a startup to succeed, complete understanding is needed between the two. The lack of technical know-how among management graduates and the lack of managerial knowledge among technical graduates is one of the common reasons behind the failure of startups in India.

**Offering very High Salaries** Startups in India face a serious shortage of talent pool. To bring experienced professionals on board, they offer high salaries to keep the startup in safe hands.

However, offering high salaries to employees makes the startup eat into its resources. The shortage of funds leads to instability within the startup, which leads to bad decisions.

#### Lack of Interpersonal and Soft Skills

Most entrepreneurs in India are found to lack interpersonal and soft skills. Due to poor communication skills, an entrepreneur increases the failure rate of his/her startup. The lack of such essential skills makes a startup not able to compete in international market. Also, entrepreneurs face a lot of difficulty in pitching their business ideas to a venture capitalist with poor communication.

#### Not Able to Address the Issue of Scalability

Over one-third of Indian population is on the internet. Startups that have successfully built a product based on the needs of the society and are running profitably, will face the issue of scalability. In such cases, lack of awareness or no mentor-ship becomes the deciding factors behind a startup's failure. Due to inexperience, entrepreneurs fail to understand the changing needs of their product's growing consumer base.

#### Unaware of Changing Market Dynamics:

Market dynamics keep changing with new trends becoming outdated in no time. Before a startup knows what hit them, it is often too late to react and change the strategy. Such scenarios arise when a startup's core team is unable to make timely decisions due to lack of industry insight, not conducting thorough research about the niche market, targeting a wide market segment, and more.

#### **Every founder cannot be the CEO:**

There can be only one CEO, even if there are many founders. Only one person sets the vision, and the others execute after there is broad agreement over what needs to be done. Too many people trying to display the big picture is a waste of time and shows role ambiguity. "Too many cooks spoil the broth" comes in when everybody is the boss. Direction comes from a single person and that position must be stable, secure, and given space to experiment, with a reasonable error margin.

#### **Meritocracy:**

This should be ruthlessly executed from the top down. The agenda is to build a business and not protect anyone. Right people doing the right task is the only way to build a business. With a well-laid appraisal mechanism, talent must be timely rewarded and given a greater platform so that they feel as much as a part of the venture as the founders. It takes 8-10 years to build a good/great business, and without a performing team which sticks around, it is simply not possible.

#### To highlight the importance of financing agency's in India:

A start-up is a reflection of an out of the box idea which is put into execution for the generation of revenues through the sale of products and services that are unique and fills the gap of the consumer needs that are in the market. India is fifth in the world in the aspect of the startups with 3100 startups functioning since the last 3-4 years. India has been seeing a trend of risk-taking entrepreneurs who are willing to sacrifice huge opportunity costs for startups. But, according to a study, more than 94% of

the business leads to the falling scenario due to the lack of sufficient funds. Lack of funding is a common barrier seen in the startup world. The known example of the Saurav Karurkar's startup SASLAB technologies in 2014 was due to the lack of funding. The generation of revenue is not a piece of cake without the constant fuel of funding to the business. So, most of the times this inquisitive question hits the mind of every other entrepreneur: How my startup should be funded?

The funding of the business also depends on the nature of the business and the type of the business. Some startups that are unique but the idea holds a lot of risk for the business the funding becomes tough. The business can be funded through various

means and ways in India. Here, is a guide that can make you startup grow by leaps and bounds through the proper source of funding.

### **Venture Capital:**

Venture Capital is money provided by professionals who invest and manage young rapidly growing companies that have the potential to develop into significant economic contributors. According to SEBI regulations, venture capital fund means a fund established in the form of a company or trust, which raises money through loans, donations, issue of securities or units and makes or proposes, to make investments in accordance with these regulations. The funds so collected are available for investment in potentially highly profitable enterprises at a high risk of loss. A Venture Capitalist is an individual or a company who provides. Investment Capital, Management Expertise, Networking & marketing support while funding and running highly innovative & prospective areas of products as well as services. In India, the Venture Capital Funds can be categorized into the following groups:

**Promoted by Public Banks:** These type of Venture Capitalist funds is promoted by Public Banks. SBI Capital Markets Ltd and Can bank Venture Capital Fund are some examples of these kinds of VC funds.

**Promoted by the Central Government controlled development finance institutions:** This group contains Venture Capital Funds that are promoted by development finance institutions that are controlled by the Central Government of the country. The examples are IFCI Venture Capital Funds Ltd. (IFCI Venture) and SIDBI Venture Capital Limited (SVCL).

**Promoted by State Government Controlled development finance Institutions:** This group includes Venture Capital Funds which are promoted by development finance institutions controlled by state government. Some of the famous examples are:

Hyderabad Information Technology Venture Enterprises Limited (HITVEL), Kerala Venture Capital Fund Private Limited, Gujarat Venture Finance Limited (GVFL), Punjab InfoTech Venture Fund.

**Overseas Venture Capital Funds:** This group comprises of Venture Capital funds from outside India. Like: BTS India Private Equity Fund Ltd., Walden International Investment Group, SEAF India Investment and Growth Fund.

Promoted by Private Sector Companies: This category consists of Venture Capital funds promoted by private Sector Companies. Like: Infinity Venture India Fund, IL&FS Trust Company Limited (ITCL).

Your pitch is crucial to obtaining funding. Sequoia, one of the most successful VC firms on the planet, stresses, “you need to convey the main reasons why an investor should love your business in the first 5 minutes.” Sequoia partners state you can do this in three simple steps, which are:

**Explain what’s changed.** Detail the innovation, industry shift, or problem that presents substantial opportunity for your company.

**Explain what you do.** In one sentence, show how your company can capitalize on this opportunity.

**Explain the facts.** Get to your company’s story and financials quickly. Lay out the opportunity with numbers. Discuss the team and their abilities and experience.

#### **Bootstrapping:**

Bootstrapping or in layman terms is the self-funding of your startup financing when you are an immature entrepreneur and don’t get any support from any bank or any other financial source unless you hold a strong plan to execute the business along with a sure guarantee of growth of the business. Also, one of the ways to fund the business is that the source of the funding is flexible as your borrowing from your friends and family. You can borrow the money at low-interest rates and also can avail the benefit of not being answerable to anyone. At the maturity stage of the business, this is considered as an edge in front of the investors as they consider it as a good point for the startups that have low requirements. But, not advisable to startups who are in need have vigorous funding since day 1 for their operations.

#### **4.5 Crowd Funding:**

One of the developing sources of finance for your start-up is to avail the finance from the public. The process works in an interactive way wherein an entrepreneur pitches his business idea in front of the layman on a platform where he orientsthem about his business, the process and how revenues would be generated along with the seed capital amount and where would the amount be invested into. The crowd then reverts the pitch in the form of donation or form of pre-buying orders for the entrepreneur. This type of sourcing not only full-fills the need of the entrepreneur but also generates an audience for him who are willing to fund his idea as well as support it giving a boost for the business in the initial years. This also grabs the attention of the venture capitalists few years down the timeline and would be interested in funding your business by looking at the success of your campaign and your risk.

#### **Angel Investors:**



Angels are generally wealthy individuals or retired company executives who invest directly in small firms owned by others. They are often leaders in their own field who not only contribute their experience and network of contacts but also their technical and/or management knowledge. Angels tend to finance the early stages of the business with investments in the order of \$25,000 to \$100,000. Institutional venture capitalists prefer larger investments, in the order of \$1,000,000.

In exchange for risking their money, they reserve the right to supervise the company's management practices. In concrete terms, this often involves a seat on the board of directors and an assurance of transparency.

Angels tend to keep a low profile. To meet them, you have to contact specialized associations or search websites on angels. The National Angel Capital Organization (NACO) is an umbrella organization that helps build capacity for Canadian angel investors. You can check out their member's directory for ideas about who to contact in your region.

### **Incubators & Accelerators:**

Incubators and accelerators are one of the other options when you're looking for an initial start-up investment. They are basically the programs for a short span of time that help the business to grow and nurture also with to provide them with other mentors and connections for the benefit. Incubators are basically the programs where they provide you with an in-house space and equipment with their funding to run your start-up against stakes going as high as up to 20%. On the other hand, accelerators are the programs with a short span of time where you are assigned a small seed capital along with a return of a large mentor network against the stakes of 2-10% of your business. Thus, incubators are like your parents who nurture you and the accelerators are the programs which give you huge opportunities. India holds some popular names of Amity Innovation Incubator & Angel Prime.

### **Government Programs:**

The government is also providing incentives for the startups and to promote them. The government of India passed the startup fund in the union budget of 2014-15 which is valued at 10,000 crores for Indian startups. There are more programs launched by the government to take the benefit such as the Bank of Ideas and Innovations by the program that will support the new product ideas. There are also government programs wherein you need no collateral security against the loan you borrow for your startup under the name of Credit Guarantee Fund Trust for Micro

and Small Enterprises. The government also started with MUDRA with an amount of 20,000 crores to sanction loans to startup once you clear the criteria. There are also institutions who take lower interest rates as compared to the market. The awareness is a parameter if you are applying for loan through the government programs.

### **High Net-Individuals:**

Lastly, our final source of funding is the High Net-worth individuals who are individuals with ample amount of financial resources for your startup. These individuals are having their existing business and

are looking for opportunities to invest into your business with their resources for the time span of 1-3. After this time span, they expect the amount of the investment to be twice or thrice during this period. They mainly invest in those businesses which are having the highest caliber level to sustain in the market and generate good revenue streams in short span of time. The first advantage of this type of funding that you can design a custom investment based on the funds you need which give you an edge. Lastly, the high net-worth individuals charge you lower fees.

#### **Bank Loans:**

This might probably be the first option when you have an idea of your own start-up. Banks offer loans to the entrepreneurs who are eligible and capable of carrying out a sustainable and stable business project. For the sanction of the loan, the bank takes into consideration the business model, the valuation of various inventories and the project report along with other documentation. But now the process is hassle free and without any collateral. Under all the banks there are 7-8 different types of loans for the SME Business. But the only thing that needs to be taken care of is the timely repayment of the amount. The funding done by the bank has got benefits such as the profit or loss remains with you along with the proper procedure and framework of the banks. Also, they are available every and charge less as compared to venture capitals i.e. 13-17%.

#### **Friends and Family:**

One of the best places to raise funds is from your own house. As your family is wellaware of your talents, they will be willing to support you regardless of what you want to do. Family and friends are the only ones who know your potential and will be willing to give you money to start your business.

This may seem like a great way of gaining investment partners, but everything has its drawbacks. Acquiring loans or investment form family or friends may be advantageous to some businesses as they have faith in your talents and your success. But for others that require expert assistance or guidelines, angel investors are the best way as your family might not have those experiences which are needed.

This may be a good way for you to raise money as they love and care for you but it is not fun when you lose it as it may affect your relationship with that person forever. A good way of raising funds from your family may be if you choose those who have the knowledge of business and its risks while investing.

Regardless of this fact, it is important to behave like a professional with them, and while they are considering to invest, you should lay out all the risks involved in the investment so they can decide at first.

## **4.6 Entrepreneurship Development Plan:**

Entrepreneurship is the process of setting up one's own business as distinct from pursuing any other economic activity, be it employment or practising some profession. The person who set-up his business is called an entrepreneur. The output of the process, that is, the business unit is called an enterprise.

It is interesting to note that entrepreneurship besides providing self-employment to the entrepreneur is responsible to a great extent for creation and expansion of opportunities for the other two economic

activities, that is, employment and profession. (Can you think why and how?) Further, each business gives rise to other businesses— the suppliers of raw materials and components, service providers (be it transport, courier, telecom, distributor middlemen and advertising firms, accounting firms and advocates etc.

And, in the process, entrepreneurship becomes crucial for overall economic development of a nation. Given its important role in the overall scheme of economic development, it is interesting to note that not many persons opt for a career in entrepreneurship. Traditionally, it was believed that entrepreneurs are born. No society can wait for the chance of ‘birth’ of entrepreneurs to pursue its developmental plans. In fact, plans for economic development would bear little fruit unless entrepreneurship development is regarded as a deliberate process of making people aware of entrepreneurship as a career at an early age and creating situations where they may actually make a choice to become entrepreneurs. When you make this choice, you become a job-provider rather than a job-seeker, besides enjoying a host of other financial and psychological rewards. Taking to entrepreneurship is surely more a matter of aspiring to become an entrepreneur rather as being born as one.

### **Concept of Entrepreneurship:**

You are aware that entrepreneurship is regarded as one of the four major factors of production, the other three being land, labour and capital. However, it should surprise you that as regards its French origin, the term ‘entrepreneurship’ (derived from the verb ‘entreprendre’ meaning ‘to undertake’) pertained not to economics but to undertaking of military expeditions. So is true of many terms in management such as strategy (a course of action to beat the competition, the ‘enemy’) and logistics (movement of men and machines for timely availability),

etc. Historically, as wars are followed by economic reconstruction, it should be no surprise that military concepts are used in economics and management. It may be pointed out that whereas the wars are rare and far between, in today’s competitive world, entrepreneurs wage wars every day. There is a tremendous pressure to continually develop new products, explore new markets, update technology and devise innovative ways of marketing and so on. The term ‘entrepreneur’ was first introduced in economics by the early 18th century French economist Richard Cantillon. In his writings, he formally defined the entrepreneur as the “agent who buys means of production at certain prices in order to sell the produce at uncertain prices in the future”. Since then a perusal of the usage of the term in economics shows that entrepreneurship implies risk/uncertainty bearing; coordination of productive resources; introduction of innovations; and the provision of capital.

We would like to define entrepreneurship as a systematic, purposeful and creative activity of identifying a need, mobilising resources and organising production with a view to delivering value to the customers, returns for the investors and profits for the self in accordance with the risks and uncertainties associated with business. This definition points to certain characteristics of entrepreneurship that we turn our attention to.

### **Characteristics of Entrepreneurship:**

In the SVO formulation of the concepts of entrepreneur, entrepreneurship and enterprise, we saw that entrepreneurship is about the process of setting up a business. One cannot help but marvel at the beauty

of the process: how does one first of all decide to choose own business as a career; how does one sense a market opportunity; how does one muster up courage to embark upon it, and mobilise the requisite resources, etc.; so much so that recourse to entrepreneurship, in common parlance, is considered as an exclusive preserve of a few gifted individuals. In the following paragraphs, our effort would be to establish entrepreneurship as a career that you should aspire for. Remember, resources may be limited, aspiration need

not be. So, you can aspire for something greater, bigger than your present status and resources. And start today. Remember, aspiration means desire multiplied by action.

**Systematic Activity:** Entrepreneurship is not a mysterious gift or charm and something that happens by chance! It is a systematic, step-by step and purposeful activity. It has certain temperamental, skill and other knowledge and competency requirements that can be acquired, learnt and developed, both by formal educational and vocational training as well as by observation and work experience. Such an understanding of the process of entrepreneurship is crucial for dispelling the myth that entrepreneurs are born rather than made.

**Lawful and Purposeful Activity:** The object of entrepreneurship is lawful business. It is important to take note of this as one may try to legitimise unlawful actions as entrepreneurship on the grounds that just as entrepreneurship entails risk, so does illicit businesses. Purpose of entrepreneurship is creation of value for personal profit and social gain.

**Innovation:** From the point of view of the firm, innovation may be cost saving or revenue-enhancing. If it does both it is more than welcome. Even if it does none, it is still welcome as innovation must become a habit! Entrepreneurship is creative in the sense that it involves creation of value. You must appreciate that in the absence of entrepreneurship 'matter' does not become a "resource." By combining the various factors of production, entrepreneurs produce goods and services that meet the needs and wants of the society. Every entrepreneurial act result in income and wealth generation. Even when innovations destroy the existing industries, for example, zerox machines destroyed carbon paper industry, mobile telephony threatens landline/ basic telephony, net gains accruing to the economy lend such entrepreneurial actions as commendable as the acts of creative destruction. Entrepreneurship is creative also in the sense that it involves innovation- introduction of new products, discovery of new markets and sources of supply of inputs, technological breakthroughs as well as introduction of newer organisational forms for doing things better, cheaper, faster and, in the present context, in a manner that causes the least harm to the ecology/environment. It is possible that entrepreneurs in developing countries may not be pioneering/ innovative in introducing pathbreaking, radical innovations. They may be the first or second adopters of technologies developed elsewhere. That does not make their achievement small. For imitating technologies from developed world to the indigenous setting is quite challenging. A lady entrepreneur wanting to introduce thermal pads for industrial heating faced tremendous reluctance from the owners of chemical and sugar mills despite the established superiority of her products over the conventional heating of the vessels by burning of

wood/coke or using LPG. Moreover, there is no need to suffer from “it was not invented here” complex—there is no need to reinvent the wheel. The global electronics major, Sony did not invent the transistor! It used the transistor to build entertainment products that are world leaders.

**Organisation of Production:** Production, implying creation of form, place, time personal utility, requires the combined utilisation of diverse factors of production, land, labour, capital and technology. Entrepreneur, in response to a perceived business opportunity mobilises these resources into a productive enterprise or firm. It may be pointed out that the entrepreneur may not be possessing any of these resources; he may just have the ‘idea’ that he promotes among the resource providers. In an economy with a well-developed financial system, he has to convince just the funding institutions and with the capital so arranged he may enter into contracts of supply of equipment, materials, utilities (such as water and electricity) and technology. What lies at the core of organisation of production is the knowledge about availability and location of the resources as well as the optimum way to combine them. An entrepreneur needs negotiation skills to raise these in the best interests of the enterprise. Organisation of production also involves product development and development of the market for

the product. Besides, entrepreneur may be required to develop even the sources of supply of requisite inputs. For example, whether it is a matter of putting together an automobile manufacturing unit or manufacture of burger/pizza, besides cultivating a market and developing products to suit its tastes and preferences, there would be a need to develop a pool of suppliers of the diverse components or elements that go into their manufacture.

**Risk-taking:** As the entrepreneur contracts for an assured supply of the various inputs for his project, he incurs the risk of paying them off whether or not the venture succeeds. Thus, landowner gets the contracted rent, capital providers get the contracted interest, and the workforce gets the contracted wages and salaries. However, there is no assurance of profit to the entrepreneur. It may be pointed out that the possibility of absolute ruin may be rare as the entrepreneur does everything within his control to de-risk the business. For example, he may enter into prior contract with the customers of his production. So much so that he may just be contract manufacturer or marketer of someone else’s products! What is generally implied by risk taking is that realised profit may be less than the expected profit. It is generally believed that entrepreneurs take high risks. Yes, individuals opting for a career in entrepreneurship take a bigger risk that involved in a career in employment or practice of a profession as there is no “assured” payoff. (See Box above) In practice, for example, when a person quits a job to start on his own, he tries to calculate whether he or she would be able to earn the same level of income or not. To an observer, the risk of quitting a well-entrenched and promising career seems a “high” risk, but what the person has taken is a calculated risk. The situation is similarly to a motorcyclist in the ‘ring of death’ or a trapeze artist in circus. While the spectators are in the awe of the high-risk, the artists have taken a calculated risk given their training, skills, and

of course, confidence and daring. It is said that the entrepreneurs thrive on circumstances where odds favouring and against success are even, that is 50:50 situations. They are so sure of their capabilities that they convert 50% chances into 100% success. They avoid

situations with higher risks as they hate failure as anyone would do; they dislike lower risk situations as business ceases to be a game/fun! Risk as such more than a financial stake, becomes a matter of personal stake, where less than expected performance causes displeasure and distress. The characteristics of entrepreneurship discussed as above apply in diverse contexts, so does the usage of the term, viz., Agricultural/Rural Entrepreneurship, Industrial entrepreneurship, Techno-preneurship, Netpreneurship, Green/Environmental or Eco-preneurship, Intra-corporate/firm or Intra-preneurship and Social entrepreneurship. In fact, entrepreneurship has come to be regarded as a 'type of behaviours', whereby one,

(i) rather than becoming a part of the problem, proactively tries to solve it; (ii) uses personal creativity and intellect to develop innovative solutions; (iii) thinks beyond resources presently controlled in exploiting the emerging opportunities or attending to the impending problems; (iv) has the conviction to convince others of one's ideas and seek their commitment towards the project; and (v) has the courage of heart to withstand adversities, persist despite setbacks and be generally optimistic.

#### **Relations between Entrepreneurship and Management:**

Entrepreneurship is about business start-ups and renewals. That is, it appears at the time of starting a new business, disappears for some time in the course of stabilising the venture as an on-going business and reappears in case there is a need for introducing changes in product, market, technology, structure and so on. In fact, it is said that everyone is an entrepreneur when he actually 'carries out new combinations,' and loses that character as soon as he has built up his business, when he settles down to running it as other people run their businesses. In developed countries, the distinction between the entrepreneurial focus on start-ups and managerial focus on routine is so sharp that it is argued that once the project has reached a level of maturity, the entrepreneurs must move out and the managers must come in.

In developing countries, however, the concept of owner-manager seems more apt for entrepreneurship as the entrepreneur remains attached even to the day-to-day operations of the venture. In fact, their lacking in managerial skills is often forwarded as the cause of business failures. Just as managers are expected to play entrepreneurial roles in the times of need, likewise the entrepreneurs must also demonstrate managerial abilities for the success of their ventures. Irrespective of whether the entrepreneurs pave way for the managers or they themselves assume the managerial responsibilities, it is possible to distinguish between the term's entrepreneurship and management.

#### **Need for Entrepreneurship:**

Every country, whether developed or developing, needs entrepreneurs. Whereas, a developing country needs entrepreneurs to initiate the process of development, the developed one needs entrepreneurship to sustain it. In the present Indian context, where on the one hand, employment opportunities in public sector and large-scale sector are shrinking, and on the other, vast opportunities arising from

globalisation are waiting to be exploited; entrepreneurship can really take India to the heights of becoming a super economic power. Studies by Global Entrepreneurship Monitor, a research programme involving annual assessment of the national level of entrepreneurial activity across a number of countries show that differences in the levels of entrepreneurial activity account for the differences in the level of economic growth to the extent of as much as 33%. What is that the entrepreneurs do to affect economic development? This leads us to a discussion of the functions of the entrepreneurs in relation to economic development. As the enterprise is the object of their endeavour, it is also necessary that we examine their functions in relation to the enterprise as well. Thus, the need for entrepreneurship arises from the functions the entrepreneurs perform in relation to the process of economic development and in relation to the business enterprise.

### **Functions of Entrepreneurs in Relation to Economic development:**

You are aware that entrepreneurs “organise” the production process. In the absence this function, all other resources, namely land, labour and capital would remain idle. They may not be inventing/discovering the products, their role in commercial exploitation of the advancements in science and technology via organisation of the productive apparatus makes the other resources productive and useful. So much so that it is said that in the absence of entrepreneurial intervention, every plant would remain a weed and every mineral would remain a rock.

**Contribution to GDP:** Increase in the Gross Domestic Product or GDP is the most common definition of economic development. You are aware that income is generated in the process of production. So, entrepreneurs generate income via organisation of production be it agriculture, manufacturing or services. You are also aware that income generated is distributed among the factors of production where land gets rent, labour gets wages and salaries, capital gets interest and the residual income accrues to the entrepreneur in the form of profits. As rent and interest accrue to those few who have land and capital respectively whereas larger masses are destined to earn their incomes via wage employment, the biggest contribution of the entrepreneurship lies in capital formation and generation of employment. This is what we turn our attention to.

**Capital Formation:** The entrepreneurial decision, in effect, is an investment decision that augments the productive capacity of the economy and hence results in capital formation. In fact, GDP and capital formation are related to each other via Capital Output Ratio (COR); more precisely Incremental Capital Output Ratio (ICOR) that measures the percentage increase in capital formation required obtaining a percentage increase in GDP. So, if a country desires to grow @ 10.0 %

p.a. and its ICOR is 2.6, then it must ensure capital formation @ 26.0% p.a.

Entrepreneurs, by investing their own savings and informally mobilising the savings of their friends and relatives contribute to the process of capital formation. These informal funding supplements the

funds made available by the formal means of raising resources from banks, financial institutions and capital markets.

**Generation of Employment:** Every new business is a source of employment to people with different abilities, skills and qualifications. As such entrepreneurship becomes a source of livelihood to those who do neither have capital to earn interest on nor have the land to earn rent. In fact, what they earn is not only a livelihood or means of sustenance but also a lifestyle for themselves and their families as well as personal job satisfaction. As such entrepreneurs touch the lives of many, directly as well as indirectly.

**Generation of Business Opportunities for Others:** Every new business creates opportunities for the suppliers of inputs (this is referred to as backward linkages) and the marketers of the output (what is referred to as forward linkages). As a pen manufacturer you would create opportunities for refill manufacturers as well as wholesalers and retailers of stationery products. These immediate linkages induce further linkages. For example, greater opportunities for refill manufacturers would mean expansion of business for ink manufacturers. In general, there are greater opportunities for transporters, advertisers, and, so on. So, via a chain-reaction, entrepreneurship provides a spur to the level of economic activity.

**Improvement in Economic Efficiency:** You are aware that efficiency means to have greater output from the same input. Entrepreneurs improve economic efficiency by, a. Improving processes, reducing wastes, increasing yield, and, b. Bringing about technical progress, that is, by altering labour-capital ratios. You are aware that if labour is provided with good implements (capital), its productivity increases.

**Increasing the Spectrum and Scope of Economic Activities:** Development does not merely mean 'more' and 'better' of the existing, it also and more crucially

means diversification of economic activities— across the geographic, sectoral and technological scope. You are aware that underdeveloped countries are caught in the vicious cycles on the demand as well as supply side. Entrepreneurs penetrate into and break these cycles, for example, by organising and orienting domestic production for exports. Thus, production (and thereby generation of income) is not constrained by the inadequacy of domestic demand. (Demand-side Vicious Cycle). In today's context, you are aware that India is poised to become a manufacturing hub for the global markets for diverse products. Economic development is also constrained by the supply-side pressures resulting into absence of capacity to meet the demand whether domestic or overseas. Entrepreneurs mobilise local and even overseas resources to augment the productive capacity of a country. Indian Multinational Giants is fast becoming a reality. Entrepreneurs lead the process of economic development via bringing about sectoral change. You must be aware that as the economies grow, percentage of GDP originating from agriculture decreases and that originating in industry and services sectors goes up. Entrepreneurs



through their decisions to divest from the stale sectors and invest in green-field sectors bring about a virtual transformation of the economy from 'underdeveloped' to an 'emerging' and 'developed' status.

**Impact on Local Communities:** Entrepreneurship, in its natural habitat, that is, small business is at a great level. You may see from table on marginalised groups. That small-scale entrepreneurship enables such marginalised groups as women, SC, ST and OBC to pursue their economic dreams. As there are no entry barriers in terms of educational qualifications, entrepreneurship is an even more attractive career option for such marginalised groups. Agro based rural industries and craft- based cottage industries can really catapult local communities to socio-economic success stories. Local governments do their bit in developing these entrepreneurship clusters with a view to encouraging inter-firm collaboration and development of common facilities. entitled, 'Entrepreneurship Clusters in India.' In regard to the development of entrepreneurship for impacting local communities,

some corporate-sector initiatives also deserve a mention. ITC through their 'e- Chau pal' and HLL through their 'Shakti' initiatives have sought to mobilise native entrepreneurs for improving the lot of those lying at the bottom of the economic pyramid.

**Fostering the Spirit of Exploration, Experimentation and Daring:** Economic development, among other things, requires breaking away from the shackles of traditions and beliefs that restrict growth. For example, if 'crossing the seas' were a taboo, there would not have been international trade and the resultant economic growth. The established ways of life need to be challenged and change must be seen as an opportunity to improve rather than something to be scared of. Entrepreneurs, through their urge to do something new, seeing change as an opportunity, experimenting with the novel ideas and showing the courage to try them prepare a fertile ground for persistent economic development. Have you seen the Hindi movie 'Lagan,' where the protagonist Bhuvan raises a cricket team from the villagers who had not even seen the game? Don't the feats of Karasn Bhai of 'Nirma' who challenged 'Surf' from the mighty Hindustan Lever Limited make you proud of the daring of the entrepreneurs? Thus, whether one looks at economic development narrowly in terms of the increase in GDP or in the wider context of economic, institutional and social change, entrepreneurship plays a crucial role. Global Entrepreneurship Monitor studies report a lag of 1-2 years between entrepreneurial activity and economic development, suggesting that it takes time for the impact of entrepreneurship on economic development. An important observation needs be made here. While entrepreneurship leads to economic development, the vice-versa is also true. That is, economic development also fosters entrepreneurship development. Growing economies provide a fertile soil for the flourishing of entrepreneurship, an aspect that we will take up while discussing entrepreneurship development.

**Role of Entrepreneur in relation to their Enterprise:**

Drawing an analogy from musicology in explaining the role of the entrepreneurs in relation to their enterprise, one may say that an entrepreneur is not only the composer of the musical score and the conductor of orchestra but also a one-man band. His roles and functions get much broader in scope in a developing country context like ours. entitled 'Role and Functions of the Entrepreneur in Relation to his/her enterprise.' These elements are no sequential as the figure may convey, the entrepreneur may have to address to all these elements simultaneously. Yet, depending upon their backgrounds, the individual entrepreneur may prefer one over the other. For example, technicians tend to be over obsessed with the production aspect; those with marketing background may over emphasise creation of market. Investor type entrepreneurs may be over concerned with the returns from the project. One should resist the temptation of looking at the business only from one's own narrow perspective. Having said this, it is apt that we provide a brief description of the various issues that may be relevant at each stage.

**Opportunity Scouting:** Entrepreneurial opportunities have to be actively searched for. One may rely on personal observation, discovery or invention. Personal/professional contacts/networks and experience or may also help in identifying business opportunities. Alternatively, one may rely on published reports, surveys and the like. Narayan Reddy of Virchow Laboratories relied on the personal discovery of the molecule during his employment with a pharmaceutical company. As observation means seeing/hearing/smelling with a purpose, opportunity spotting presupposes tendency to look at the things and phenomenon from an entrepreneurial mindset. Most of us have a consumer's mindset. If we see any object of desire, may be a pen, laptop, latest model of the mobile phone or somebody eating pizza or burger, we crave to have the same thing for ourselves. The entrepreneurial mind, on the other hand starts working out, what would be the market size, where to procure it from and at what price, will I be able to woo the customers from the existing players and how— by selling it cheaper, by providing more value or by better service and so on. Entrepreneurial opportunities may also

be identified through a process of research of international, domestic, sectoral/ industrial analysis. For example, post WTO, international trade and investment have become freer of restrictions. Textile quotas are being phased out, and, there are greater opportunities for textile and textile made-ups from India. Global outsourcing is on the rise and India offers a huge and varied pool of technical manpower that makes it a cost-effective destination for in-bound global outsourcing in manufacturing as well as Information Technology Enabled Services (ITES).

**Identification of Specific Product Offering:** While the environment scan leads to the discovery of more generalised business opportunities, there is a need to zero in on to a specific product or service idea. For example, trade liberalisation since WTOs has resulted in export opportunities, but the question is what to export and where? You may be required to compile a country-product matrix to be able to decide.

This way you may arrive at the product-market combination showing the fastest growing import and from your point of view export potential. Deciding on the product offering makes the highest demand on the entrepreneur's creativity and innovativeness. Yet, in a competitive environment, it is possible to differentiate your product offering even if the generic product is the same and serves the same need. Clearly decision on specific product offering necessitates decisions on who is buying, why, and what

are the value expectations. You will be able to succeed when the value delivered not only meets but also exceeds customers' expectations and create a 'Wow!' impact.

**Feasibility Analysis:** The product offering idea must be technically feasible, that is it should be possible with the available technology to convert the idea into a reality. And this should be possible at a cost that can be covered by the price it will fetch; in other words, the idea must be economically feasible too. The project cost should be within the resources available and the resource providers should be

reasonably sure of an appropriate return on (profit) and return of (safety and liquidity) of their investments. That is, the idea must be financially viable as well. There should be enough sales in the immediate and the prospect of growth in the foreseeable future; there should be adequate assurance on the commercial viability of the chosen product offering. Now a day, it is also important to be sure that there aren't any environmental and other legal restrictions/necessity of prior approvals for setting up the business. It is also to be decided as to whether the business will be organised as a proprietary concern/partnership firm/ company or cooperative entity. Clearly the chosen product offering must be feasible from the diverse perspectives. You must compile these findings in the form of a business plan that would have to be submitted to the funding authorities, in the Indian context, the State Finance Corporation of your area. They may be having a prescribed proforma in which the details of the business plan are required to be furnished and, as such there may a need to adapt the contents accordingly. An idea about the generic contents of a business plan may be had from. The business plan may be appraised by the funding institution, and upon satisfying itself about the desirability of assisting your project and upon the furnishing of some margin money it may sanction the loan amount. Recall, Narayan Reddy and his two other associates provided Rs. 8 lakhs and the APSFC contributed Rs. 20 lakhs toward the overall project cost of Rs. 28 lakhs. Upon the project approval, the entrepreneur can proceed for project commissioning, that is putting up the factory premises, installing the equipment, obtaining the supplies of the input materials with a view to starting the manufacture and marketing the product. As noted earlier too, entrepreneurial functions do not come to an end with the business start-up. He often looks after its day-to-day operations and strives for its stability and growth. Entrepreneurial roles and functions clearly seem onerous. Perhaps that is why many shy away to simpler, softer and safer options of employment and practice of profession. Entrepreneurial going may be tough; but then that is where the tough get going! Do not worry if presently you may find yourself short on those

competencies, values and attitudes. It is just a matter of making up your mind for a career in entrepreneurship and grooming yourselves for it. This takes us to the discussion of the process of entrepreneurship development.

### **The process of Entrepreneurship Development:**

Entrepreneurship does not emerge spontaneously. Rather it is the outcome of a dynamic process of interaction between the person and the environment. Ultimately the choice of entrepreneurship as a career lies with the individual, yet he must see it as a desirable as well as a feasible option. In this regard, it becomes imperative to look at both the factors in the environment as well as the factors

in the individual as having a bearing on the perception of desirability and feasibility and thereby entrepreneurship development. One may, therefore, model the process of entrepreneurship development in terms. In general, capitalist economy with its emphasis on individual achievement is more suitable for entrepreneurship. Lower rates of taxation on personal income, lower rates of interest and moderate inflation stimulate entrepreneurial activity. (Can you think why it is so?) Moderately low external value of domestic currency or in other words, moderately lower exchange rates, stimulate import substituting and export promoting entrepreneurship. (Can you rationalise why?). Well-developed financial system, good infrastructure, helpful bureaucracy all these have a favourable impact on entrepreneurship. Specially designed and dedicated institutions such as National Institute for Entrepreneurship and Small Business Development (visit, [niesbud.nic.in](http://niesbud.nic.in)), Entrepreneurship Development Institute of India (visit, [www.ediindia.org](http://www.ediindia.org)) that conduct entrepreneurship awareness and entrepreneurship development programmes (EAPs and EDPs) a further fillip to this activity.

An important enabler or disabler of entrepreneurship is the prevailing socio-cultural milieu. Those societies that respect individual freedom to choose among occupations, that encourage the spirit of enquiry, exploration and experimentation, celebrate individual accomplishment and in general accord important status to the entrepreneurs are likely to have self-sustaining supply of able and willing men and women for taking to entrepreneurship as a career.

### **The role of the individual in Entrepreneurship Development:**

Mr. Narayan Reddy was desirous of starting a small-scale industry and also had a sense of efficacy or readiness to pursue it given his qualifications, experience and the necessary values, attitudes and motivation (the opening case does not elaborate this. We will discuss these at suitable places). Even you may like to see as to where do you find yourself on the desirability (willingness)-efficacy (ability) matrix, won't you? As you may see from the matrix figure able and willing men and women are a "ready" source of entrepreneurship. Such persons leap up the first opportunity comes their way to be on their own. Recall, Narayan Reddy leapt up the opportunity as he met the two medicos who had returned from the Gulf. At any point of time, there are many men and women who "want" to set up a business of their own but experience self-perceived barriers to entrepreneurship. They could be having a low perception of self-efficacy either on account of lack of resources (or to be more correct, resourcefulness), knowledge or know-how, and the skills. Collectively, these are referred to as competencies, which now we turn our attention to.

### **Entrepreneurial Competencies:**

Every opportunity and successful performance of every role and function has a competence requirement. It's true of entrepreneurship as well. entitled 'Cash OR KASH?' The term 'competence' refers to a composite of knowledge, skills and a host of psychosocial attributes (including Attitudes and Motivation that we will be discussing separately) in a person that mark his/her effectiveness for a task. The phrase 'composite' is crucial. For example, the competence "ability to communicate vision" is much more than proficiency in writing/ speaking skills. It would involve, just to illustrate, vision clarity, understanding the audience background, interest and readiness, knowledge about the media and choosing the most appropriate one, attracting attention, delivery, leaving not merely an impression but

also an impact and, assessing effectiveness. So, when the entrepreneur in the television interview pointed out KASH as the determinants of successful entrepreneurship, he was indeed referring to the competencies. Competency approach to human resource development in general and entrepreneurship development in particular was pioneered by David McClelland, a Harvard University psychologist in the late 1960's and early 1970's. (You will be learning more on McClelland's work when we discuss entrepreneurial motivation.) McClelland set out to define competency variables that could be used in predicting job performance and that were not biased by race, gender, or socio-economic factors. As a result, it becomes more important to learn what a person does rather than who he/she is. That is why management and also entrepreneurship is better defined as what a manager or an entrepreneur does. Because competencies can be built via a process of education and development, we may say that entrepreneurs are made. What are the distinct competencies for entrepreneurship? In this regard one may refer to the efforts of Entrepreneurship Development Institute of India (EDI), a national resource institution in the area of entrepreneurship education research and development EDI has identified a set of 15 competencies that contribute toward entrepreneurial performance and success. These are briefly stated hereunder.

**Initiative:** Acting out of choice rather than compulsion, taking the lead rather than waiting for others to start. Sees and Acts on Opportunities: A mindset where one is trained to look for business opportunities from everyday experiences. Recall 'oranges' example.

**Efficiency Orientation:** Concern for conservation of time, money and effort.

**Systematic Planning:** Breaking up the complex whole into parts, close examination of the parts and inferring about the whole; e.g. simultaneously.

**Persistence:** A 'never say die' attitude, not giving up easily, striving continuously until success is achieved. Information seeking: Knowing and knowing who knows, consulting experts, reading relevant material and an overall openness to ideas and information.

Concern for High Quality of Work: Attention to details and observance of established standards and norms. Commitment to Work Contract: Taking personal pains to complete a task as scheduled. attending to production, marketing and financial aspects (parts) of the overall business strategy (the whole).

**Problem-solving:** Observing the symptoms, diagnosing and curing. Self-confidence: Not being afraid of the risks associated with business and relying on one's capabilities to successfully manage these.

**Assertiveness:** Conveying emphatically one's vision and convincing others of its value.

**Persuasion:** Eliciting support of others in the venture. Use of Influence Strategies: Providing leadership.

**Monitoring:** Ensuring the progress of the venture as planned.

**Concern for Employee Welfare:** Believing in employee wellbeing as the key to competitiveness and success and initiating programmes of employee welfare. You would, now, be interested in knowing as to how to build these competencies. Knowledge competencies (what you know regarding facts,

technologies, a profession, procedures, a job, an organisation, etc.) can be developed by, for example by reading and interacting with people who know. Skill competencies (what you say or do that results in good or poor performance) can be acquired by practice, haven't you heard "practice makes a man perfect"? For example, 'persuasion,' and 'use of influence strategies' require presentation skills. You may do double the homework on what you want to say, how you want to say, who is your audience and what are their backgrounds, what could be the possible questions that may be asked, what would be their answers and so on. Practice it all over a number of times, may be before mirror or your friends, so that when you are actually in that situation, you perform well.

### **Entrepreneurial Motivation:**

Men and women who have a perception of self-efficacy and are yet to feel interested in or motivated by the idea of being on their own comprise a potential, future source of entrepreneurship. What motivates a person is a question easier asked than answered. Mr. Narayan Reddy was driven by the desire to utilise his discovery of the molecule as a business opportunity. In terms of Maslow's need hierarchy theory, one may say that Mr. Narayan Reddy was driven by the need for self-actualisation. Since entrepreneurial situation is characterised by personal accomplishment in competitive situations and involving higher standards of excellence, one often come across reference to 'need for achievement' or N-ach for short as the primary driver of entrepreneurial behaviour. See Box entitled 'How N-Ach. Drives Entrepreneurship and Economic Development'.

Need for Achievement (N-Ach.): Need for achievement implies a desire to accomplish something difficult. To master, manipulate, or organise physical objects, human beings or ideas. To do this as rapidly and as independently as possible. To overcome obstacles and attain a high standard. To excel one's self. To rival and surpass others. To increase self-regard by successful exercise of talent. Yes, entrepreneurship provides you with the best opportunity for making the best use of your talents as in employment the 9-5 routine, pressure to adhere to rules and regulations, preference for compliance of boss's instructions over the use of personal creativity and innovativeness stifles your progress and self-development. You can create a work environment that suits your abilities and interests.

**Need for Power (N-Pow):** Need for Power is the concern for influencing people or the behaviour of others for moving in the chosen direction and attaining the envisioned objectives. In common perception, politicians, social religious leaders Chief Executive Officers (CEOs), Government Bureaucrats/Civil Servants typify the need for power. Such a perception seems more based on the belief that the source of power lies in the "position" a person occupies in organisational/societal context. In the same vein, business ownership too may imply a need for power. Moreover, you would appreciate that the process of founding a business, one has to win the commitment of capital providers, suppliers of equipment and materials, the employees and that of the customers. Power may not be used to further one's self-interests alone, it may be also be used to touch the lives of others, to make a difference. Entrepreneurs driven by this socialised face of the need for power. They found organisations that are a source of sustenance and self-respect for many. needs. Entrepreneurs are believed to be low on affiliation, as they are and expected to be, innovative, trendsetters and tradition breakers. However, it is not necessary that affiliation should only interfere with achievement. In certain cultures, family

comprises the bedrock on which the successful careers are built. One works, as if, not for personal gratification but for family. Desire to

Need for Affiliation (N-Aff.): Often you must have heard your parents saying that whatever they do they do it for their children. If a man thinks about interpersonal relationships, he has a concern for affiliation. It implies, among other things a tendency of the people to conform to the wishes and norms of those whom they value. Apparently, social activists, environmentalists, teachers, and doctors and nurses may seem as predominantly driven by these carries on the tradition of business in the family and the community to which one belongs, may be interpreted as reflecting need for affiliation as well. In the countries with the colonial past, such as ours, the first generation of entrepreneurs in Independent India was driven by patriotic fervour and the desire to rebuild the economy left stagnated by the alien rulers. One can certainly trace some elements of affiliation motivation in such instances.

Need for Autonomy (N-Aut.): The need for autonomy is a desire for independence and being responsible and accountable to oneself rather than some external authority for performance. It is the desire for an opportunity for the fullest expression of one's abilities. In the context of entrepreneurship, it is usually interpreted as the determination not to work for someone else. In most job situations, employees are given little freedom to exercise their discretion in taking decisions and choosing a course of action so much so that absence of it drives them into starting their own ventures. As such n-pow. becomes more a desire for preserving one's ethos rather than the freedom from the boss. Take the example of another Hyderabad based entrepreneur entitled Entrepreneurship for Preserving Personal Work Ethos). What does the above discussion mean for entrepreneurship development? It means that for promoting entrepreneurship it is important to kindle and arouse the right motivation. In the absence of motivation, even able men and women may not take to entrepreneurship. Hence. In every Entrepreneurship Awareness Programme (EAP) or Entrepreneurship Development Programme (EDP), there are special sessions on entrepreneurial motivation, besides sessions on entrepreneurial competencies. You may note that motivation and ability can positively reinforce each other. Persons having abilities search for the avenues for their expression and hence are drawn to entrepreneurship. Persons eager to be on their own may strive hard to acquire the necessary competencies to realise their dreams. How truly one has said that entrepreneurs are the dreamers who do! In explaining and developing entrepreneurial motivation, it is important to learn that different individuals are motivated differently, and that one may be trying to satisfy more than one need through one's pursuit. This is an important observation as economic theory very simply says that the objective of the firm or that of the entrepreneur is profit maximisation.

### **Entrepreneurial Values and Attitudes:**

While explaining human behaviour, one often comes across the terms' values and attitudes. Rather than attempting to distinguish between these two terms, it wouldbe sufficient to say here that taken together, entrepreneurial values and attitudes refer to the behavioural choices' individuals make for success in entrepreneurship. The word 'choice' is important, as there are alternative ways of behaving too. In entrepreneurship, a host of behavioural tendencies or orientations have been reported as having a bearing on success. The entrepreneur in 'Cash or KASH' labelled these as 'Habits', some researches have called these as policies or strategies. Be it the decision to make a choice about entrepreneurship

as a career, be it the decision to choose the product line, growth strategy, profit making and social responsibility you would be required to make choices. The choice that you make may have a tremendous impact on your performance. What we do here is to profile some of the dimensions relating to starting and managing a business and the associated behavioural alternatives, we have considered here two to keep the things simple. We have highlighted those alternatives that have been generally observed to be associated with superior performance.

### **Entrepreneurship for Preserving Personal Work Ethos:**

In industries having captive power plants, a day's downtime can cause a loss of crores of rupees. While working for a public sector electrical major, an engineer found it really difficult to cope with the bureaucratic attitude in servicing the customers. It clashed with his personal value, 'client's problems be attended first, paperwork can wait'. He quit the job and started a turbine repairing and refurbishing company. Incidentally, it takes more money to travel or to transport than to repair or refurbish the turbine. But the downtime is reduced and the clients are happy. Later the company also diversified into the manufacture of the parts and commissioning of the captive power plants on a turnkey basis.

How N-Ach. Drives Economic and Entrepreneurship Development: Credit for investigating and bringing to the fore the role of need for achievement goes to McClelland, the Harvard professor whom we referred to also in the discussion of competency-based approach to human resource and entrepreneurship development. He set out to investigate why some countries are more developed than others. He sought to find answer to this question by examining the proposition that 'differences in the level of achievement motivation are responsible for 'differences in the level of economic development'. For this he examined the popular stories and folklore and readers up to primary classes of 39 countries for finding out whether they focused on personal accomplishment, triumph of human courage and effort over the circumstances and so on. McClelland's research upheld the proposition that differences in the levels of achievement motivation as revealed by the analysis of the stories and the readers accounted for the differences in the level of economic development. How? What would be the process? McClelland observed that entrepreneurship becomes the medium through which the achievement motivation manifests the best and through which the development takes off.

### **The Role of Environment in Entrepreneurship Development:**

Entrepreneurs bring about economic growth and development, and the latter in turn provides a fertile soil for the flourishing of entrepreneurship. There certainly is a mutually facilitating reciprocity between economic growth and entrepreneurship development.

Business Plan

### **Executive Summary**

Business/industry background

### **Product/service to be offered**

Market analysis



## **Sales and marketing strategy**

Production/operations strategy

## **Management**

Risk factors

## **Funds required**

## **Roles and Functions of the Entrepreneur in relation the Enterprise: Developing Exchange Relationships:**

Perceiving market opportunities

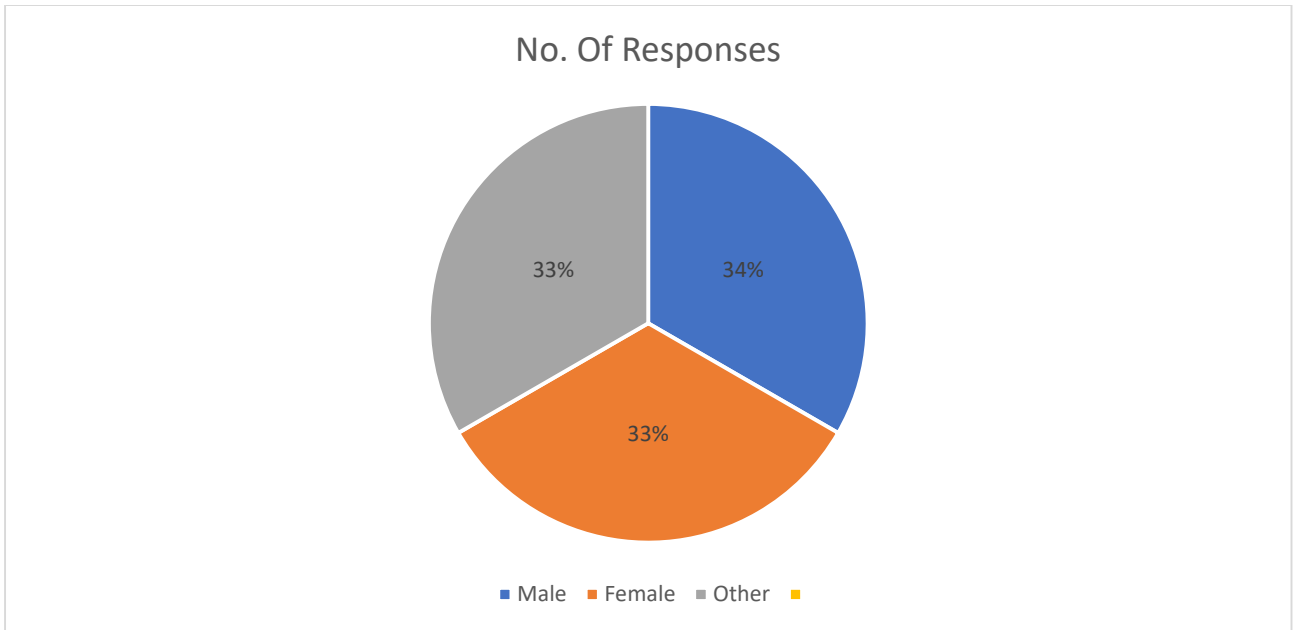
Gaining command over scarce resources

- Purchasing inputs
- Marketing of Products and responding to competition
- Political Administration:
  - Dealing with public bureaucracy (approvals, concessions, taxes)
  - Managing human relations within the firm

## **5. DATA INTERPRETATION & ANALYSIS AND PRESENTATION**

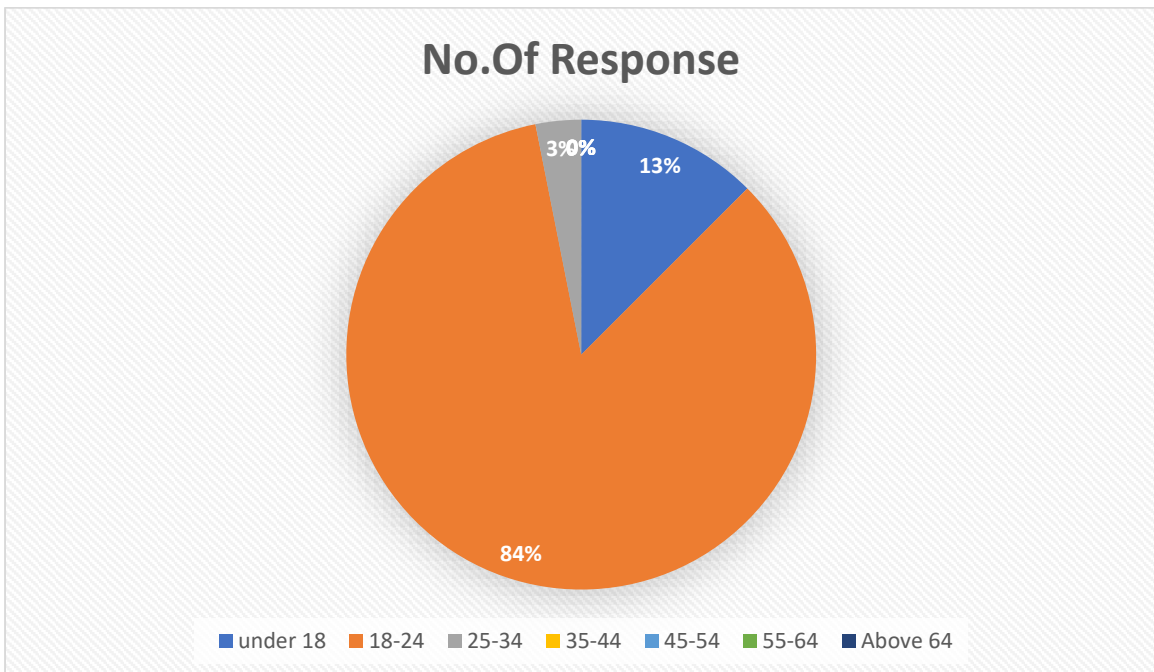
INTRODUCTION : The Indian startup Ecosystem started in the late 1960s with the start of TCS, followed by Infosys in 1981 and others. These startups started as software services serving Indian software needs, and later expanding to exporting software services.

Q.1 . What is your Gender?



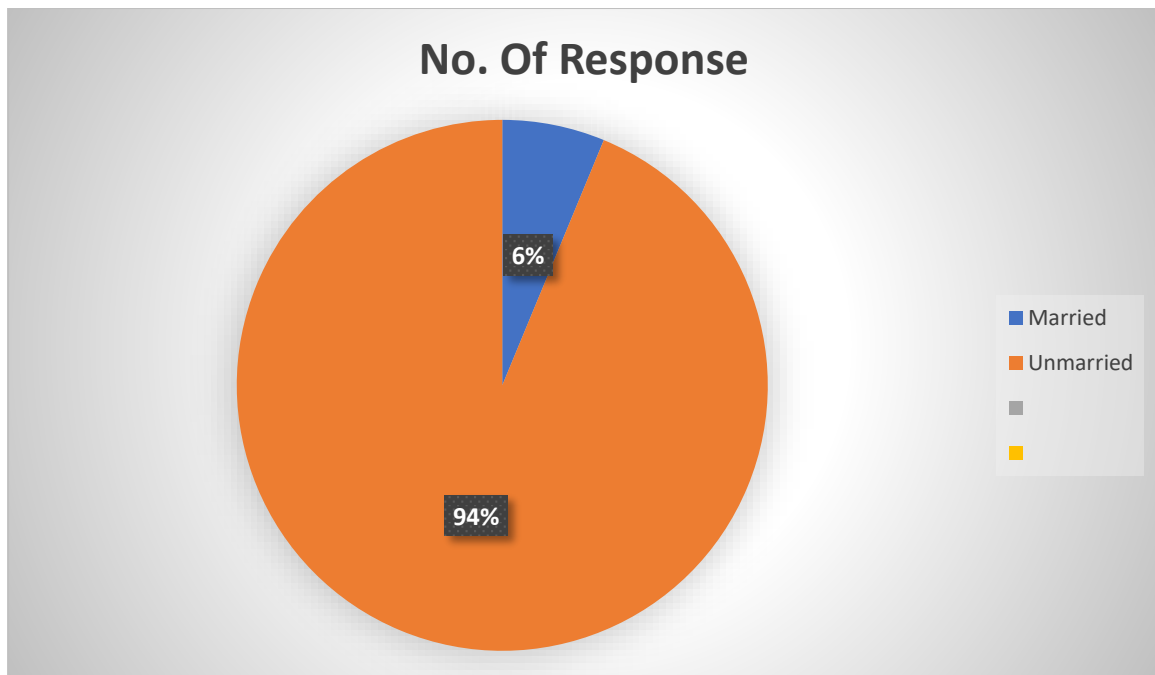
As per the above pie chart 34% of respondent open their Male and 33% respondent open their a Female. And total responses 32 persons

Q2.What is your age range ?



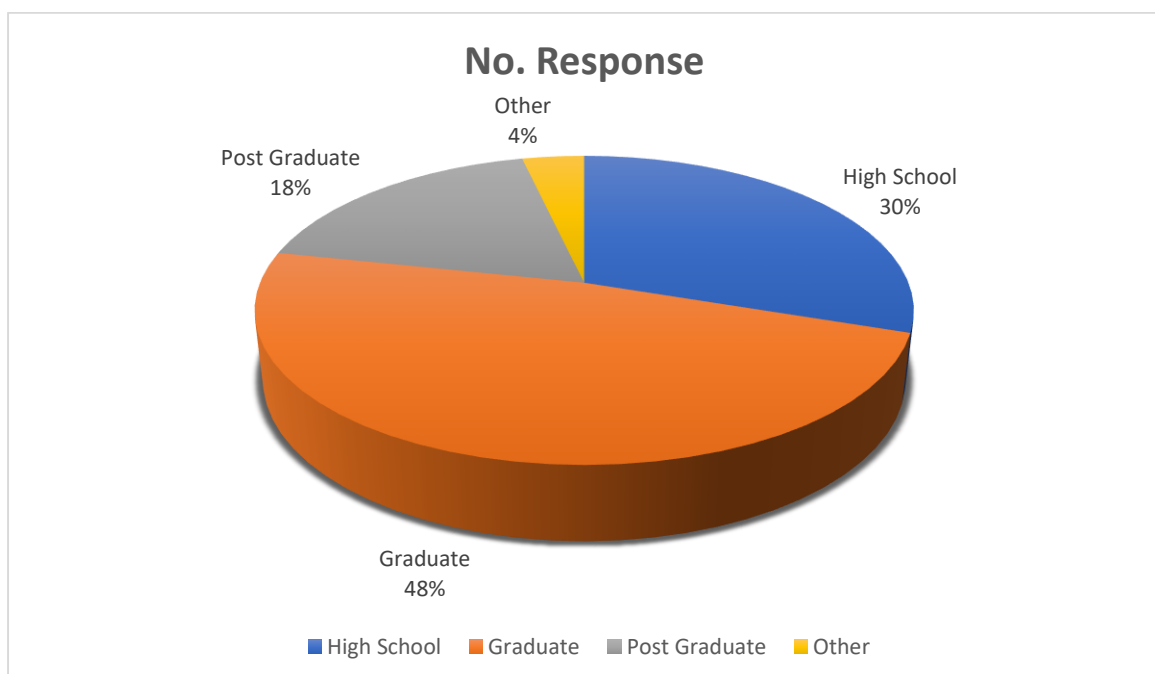
In the above pie chart under 18 respondent 13% and their 18-24 age Range Response 84% And 25-34 Responses 3% for the 35to 44 Age range 0 responses And 45to 54 And 55 to 64 OR Above 64 Age range Also 0 respond .

Q. 3 What is your marital Status?



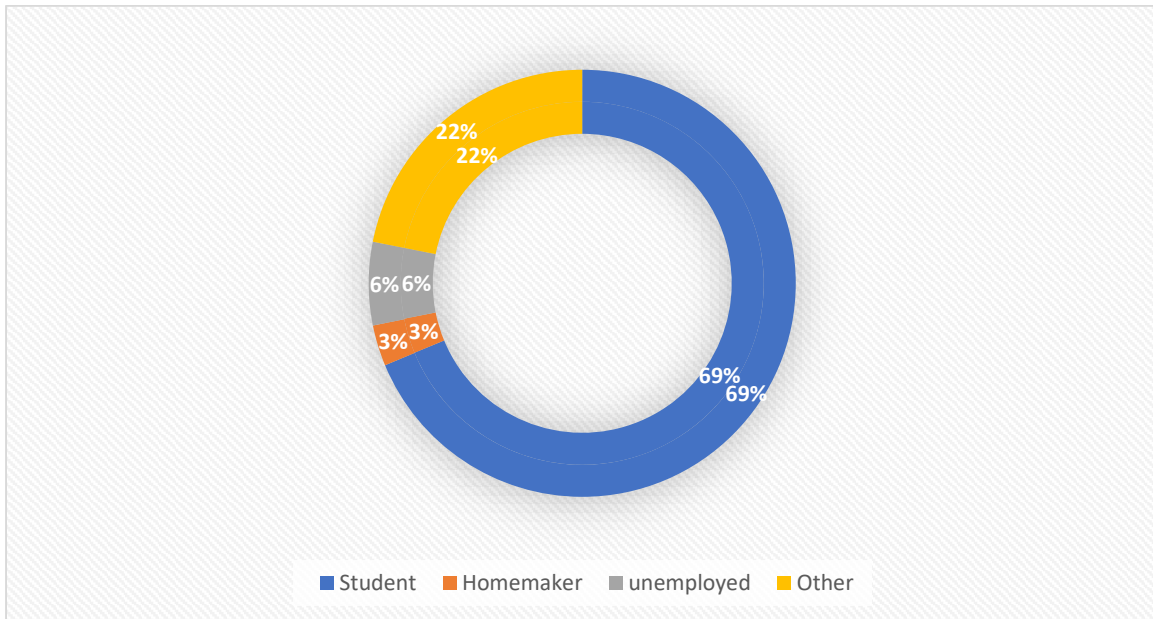
As per the above pie chart marital status Responses in a married 6% and unmarried 94%.

Q. 4 .What is your qualification?



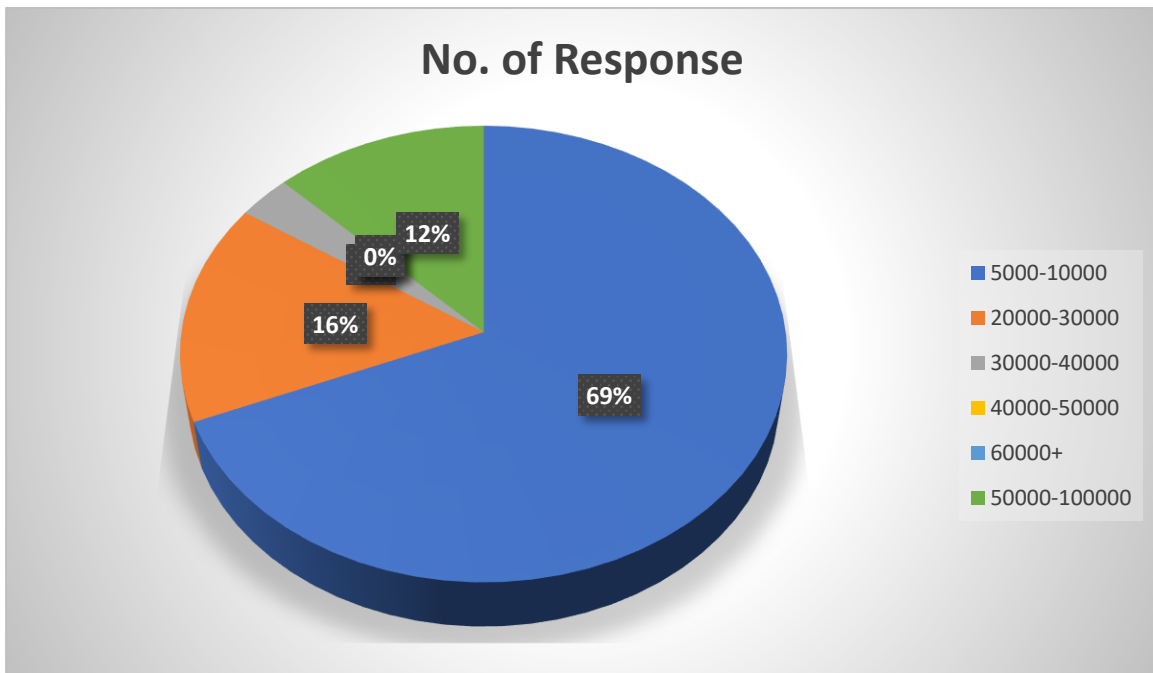
In the above pie chart of qualification their 30% Responses in High School And 48% responses Graduate. Or 18% Responses post graduate And other response 4%.

Q5. What is your employment status?



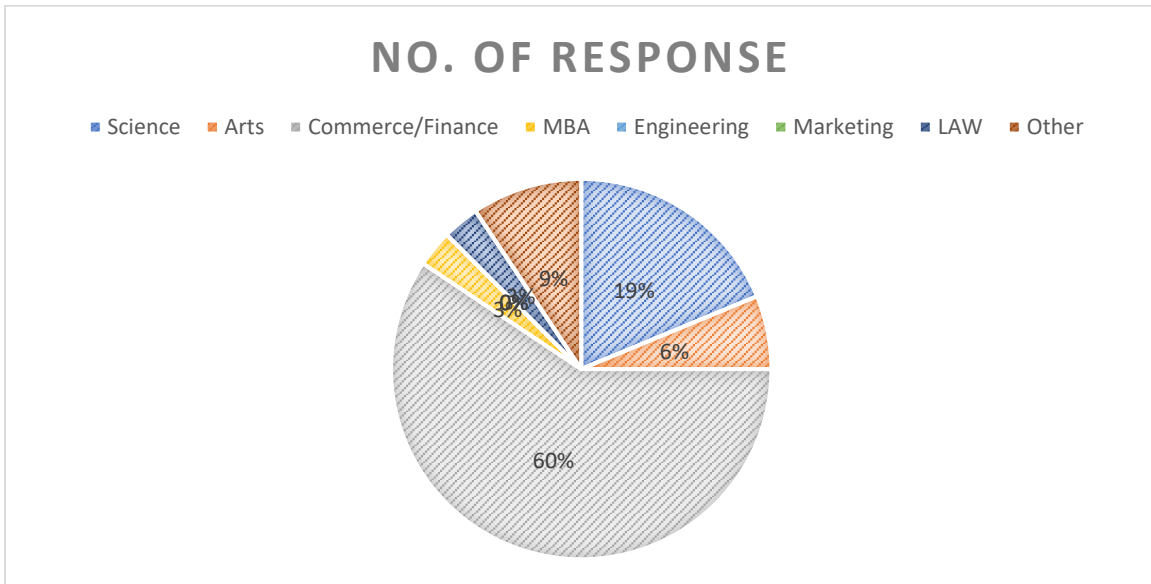
As per the above pie chart employment status student maximum responses in 69% .and their minimum responses other .and homemaker respond to 3% And 6% Response unemployed .

Q6. What is your income level?



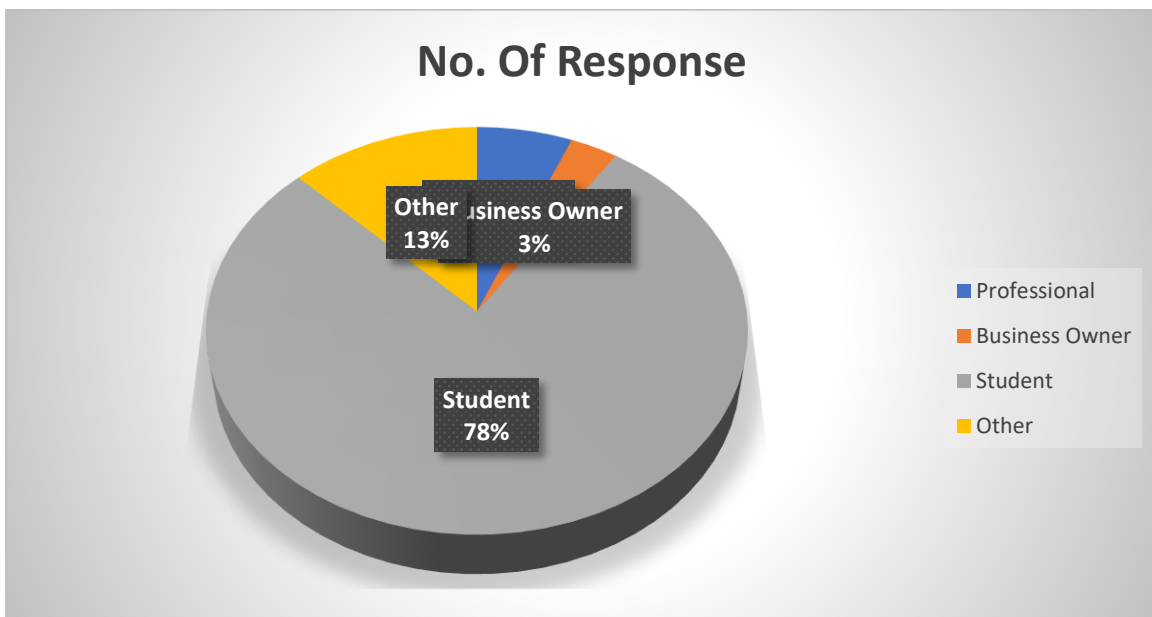
In the above pie chart as per the respondent income level 5000 to 10000 give 69% of return and 20000 to 30000 income level give 16% .and 30000 to 40000 income response's 0% or 60000+ also 0 responses as per same for income 50000 to 100000 also 0% .

Q7. Academic background of the founder(s) (write the number inside the box as applicable)?



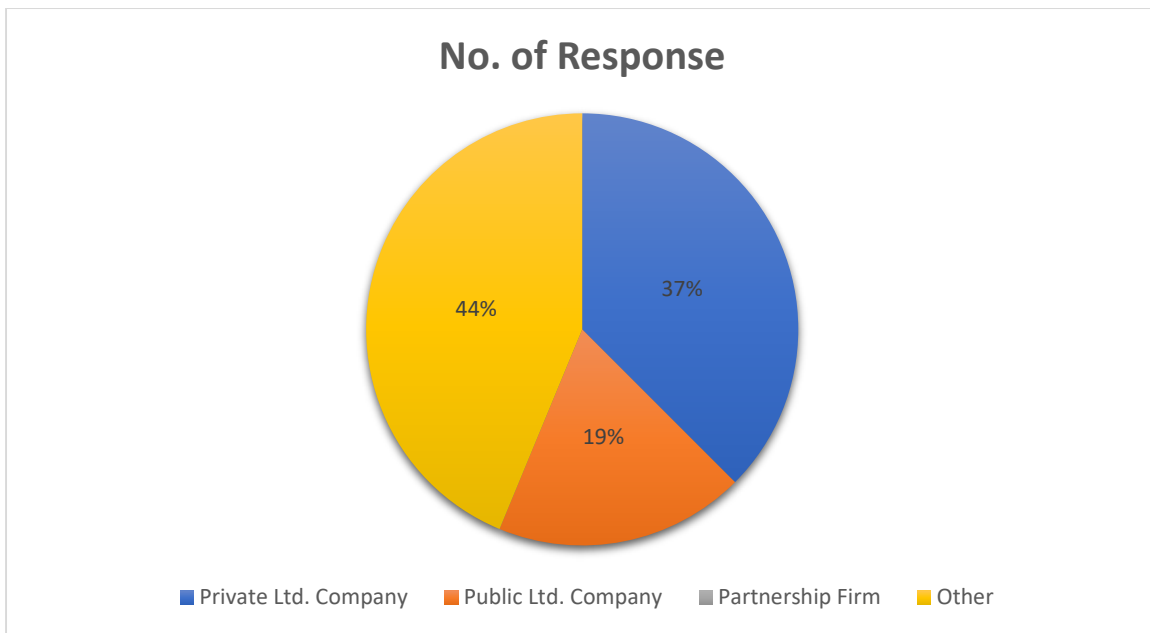
As per the above pie chart science has maximum Commerce background Responses 60% .and minimum background Engineering 19% .

Q8. Background of the founder(s) (write the number inside the box as applicable...?)



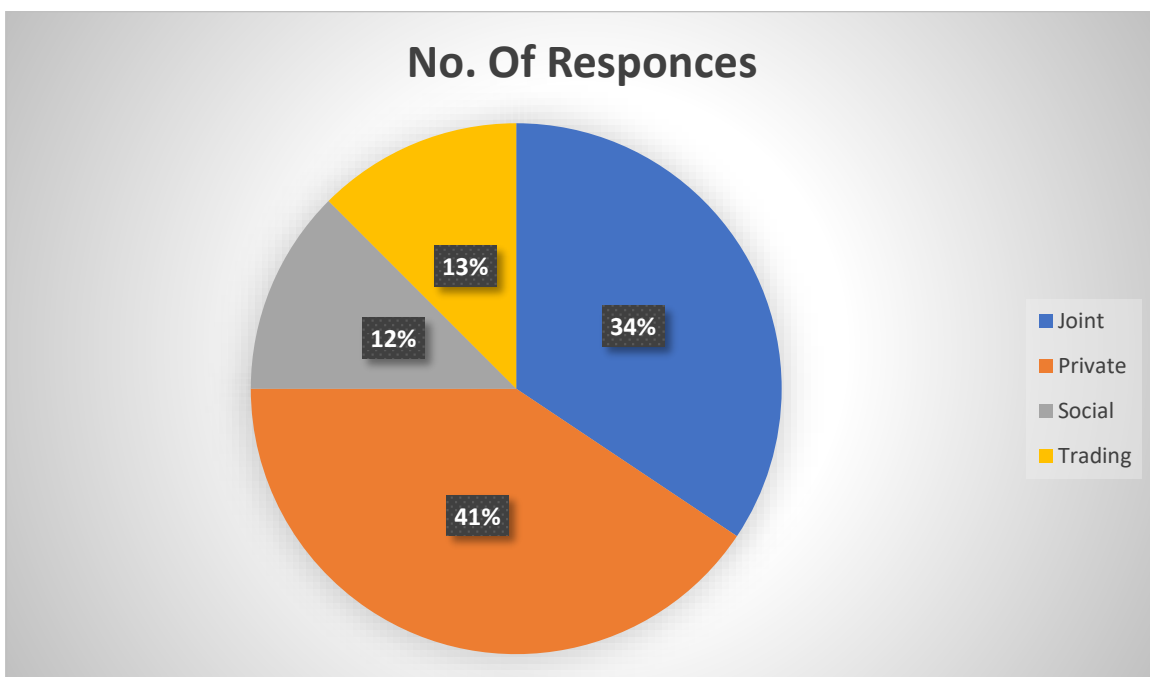
In above pie chart many of respondent consider Founder of Professional 3% Responses And More Then Responses student 78% . An Business Owner of Founder 3 % And other responses 13%.

Q9. Type of your start-up.....?



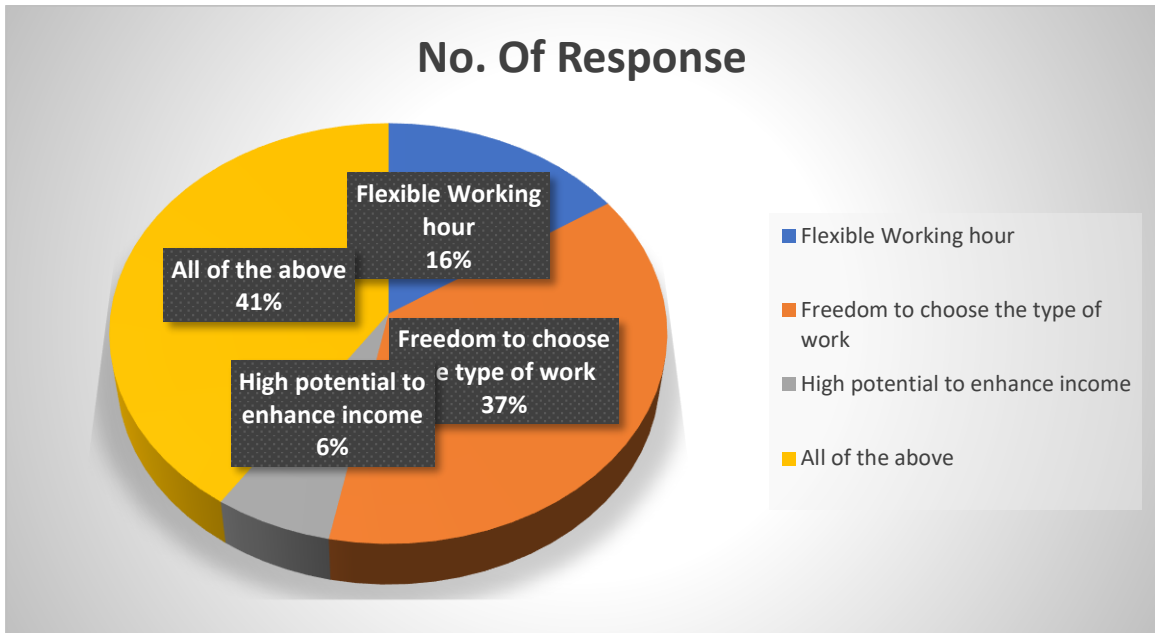
In the above pie chart many of respondent think that many types of start-up in Responses their for Private ltd. Company 37% and more then responses in other 44% less then responses public ltd. Company.

Q10. In which of the following types, does the entrepreneur work as a middle man?



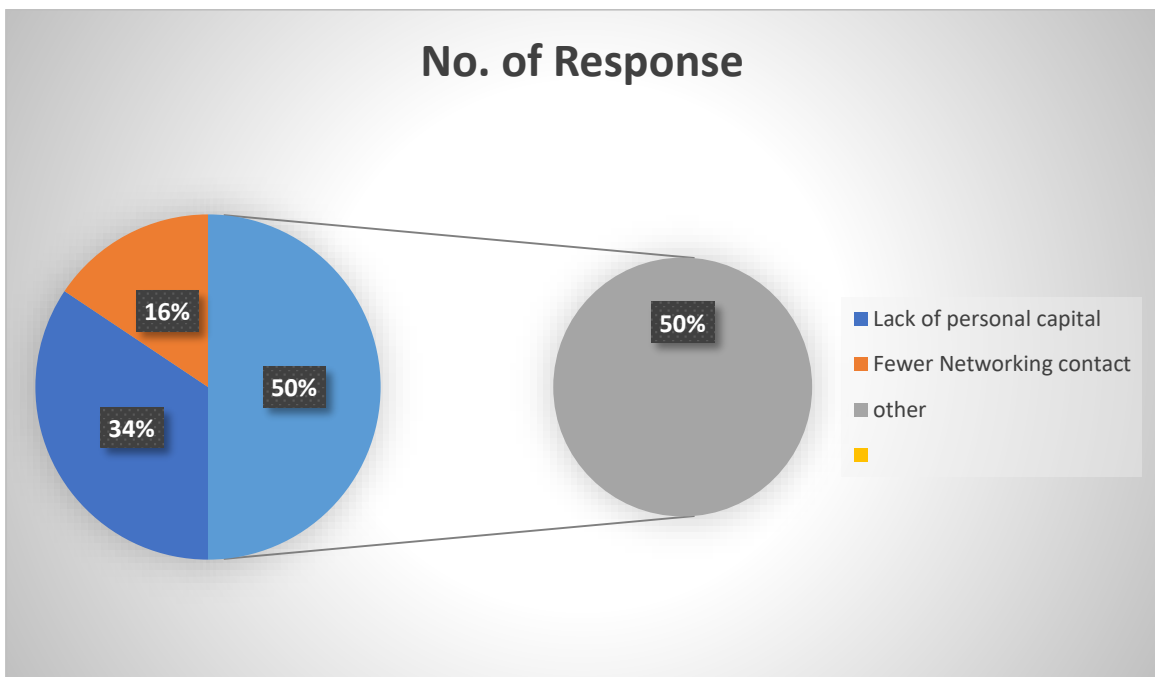
In the above pie chart many of response have no idea about middle man of trading 13%

Q11. what are advantage of self - employment is ?



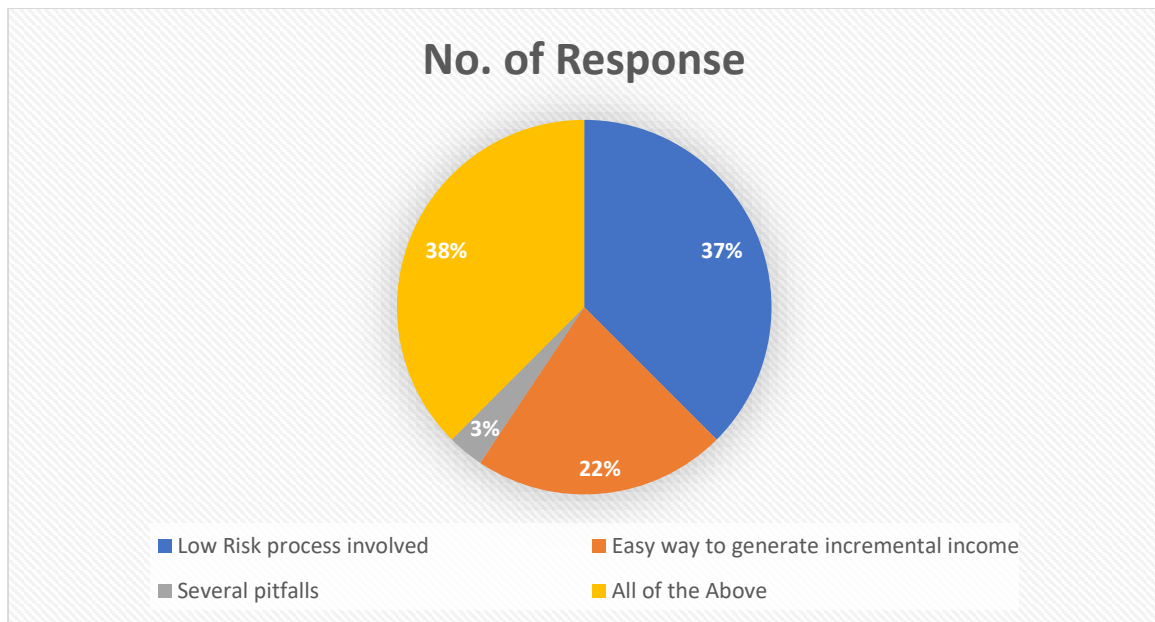
In the above pie diagram Explain in self employment their responses more then 41% all of the above and less then of responses 37% .

Q12. Financial an entrepreneur includes ?



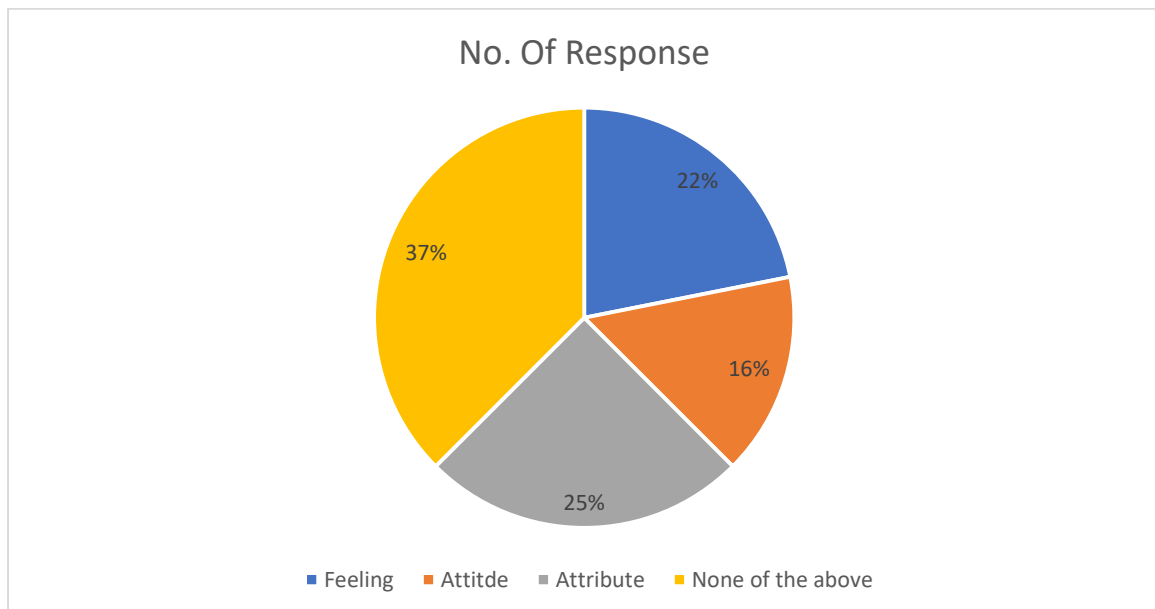
In the above pie chart financial entrepreneur includes in lack of personal capital 34% And fewer networking contact 16%.

Q13. Licensing arrangements have ?



As per the above pie chart Licensing main point their responses low Risk process involved 37% if their all of the above 38% responses

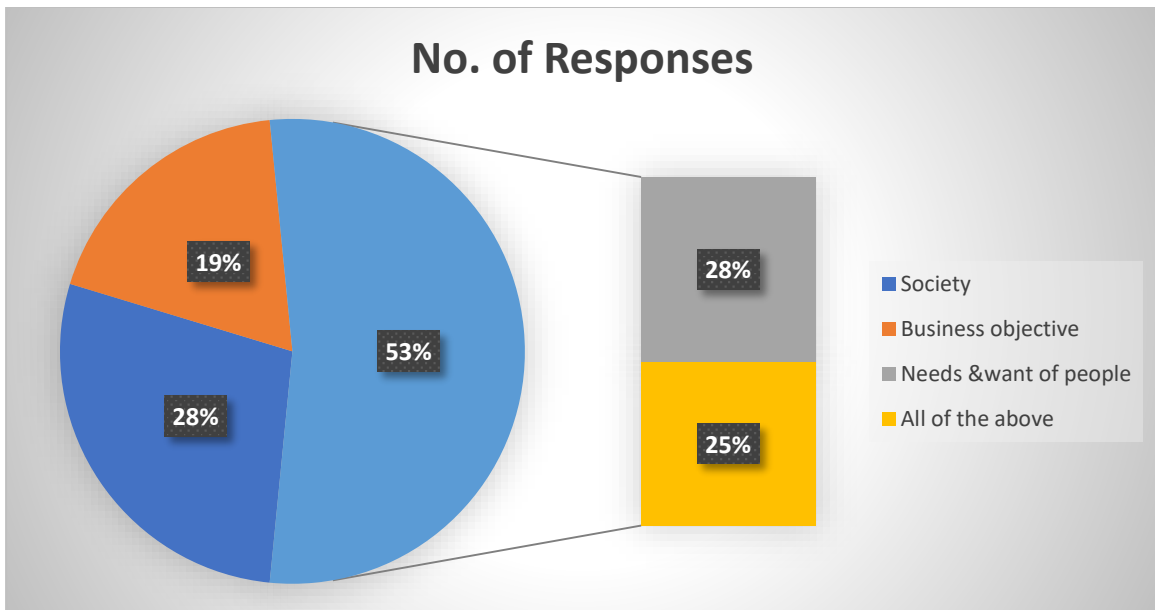
Q14. Focus of control is?



As per the above diagram focus control 37% are none of above and feeling 25% or Attitde Are 16% Responses.

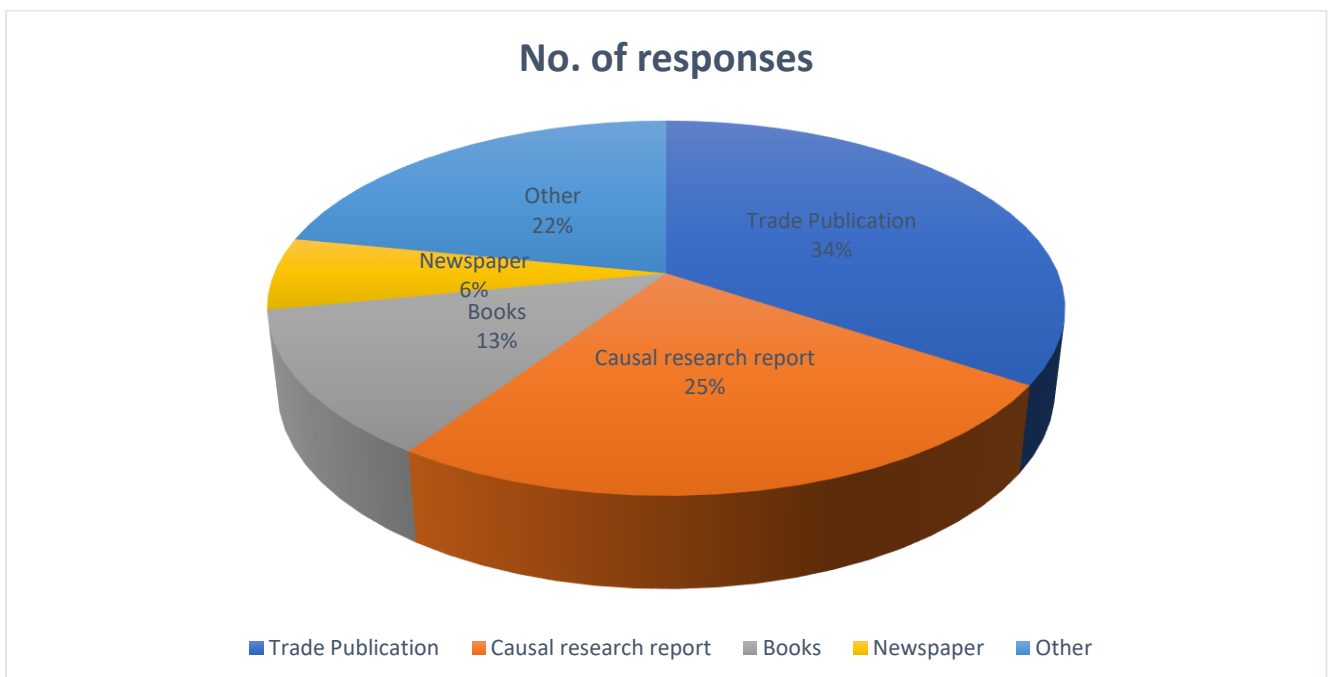


Q15. For generating ideas an entrepreneur must Focus on ?



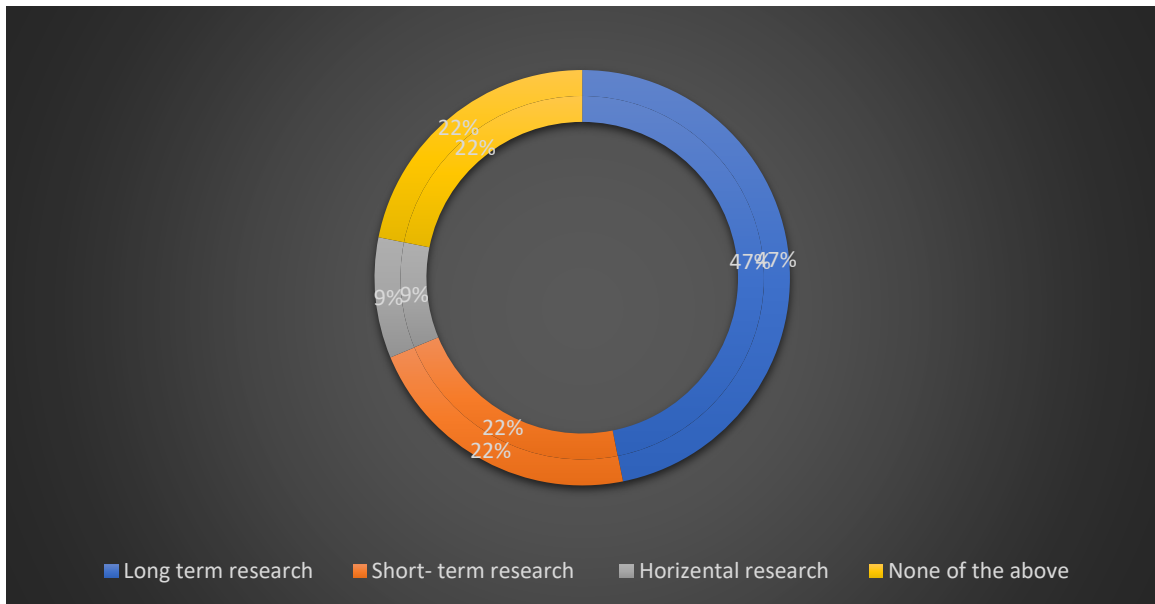
In above pie chart many of respondent consider entrepreneur must focus on society per respondent 28% are consider to be business 19% and all most 53% .

Q16. Which one of the following is not the source of marketing intelligence?



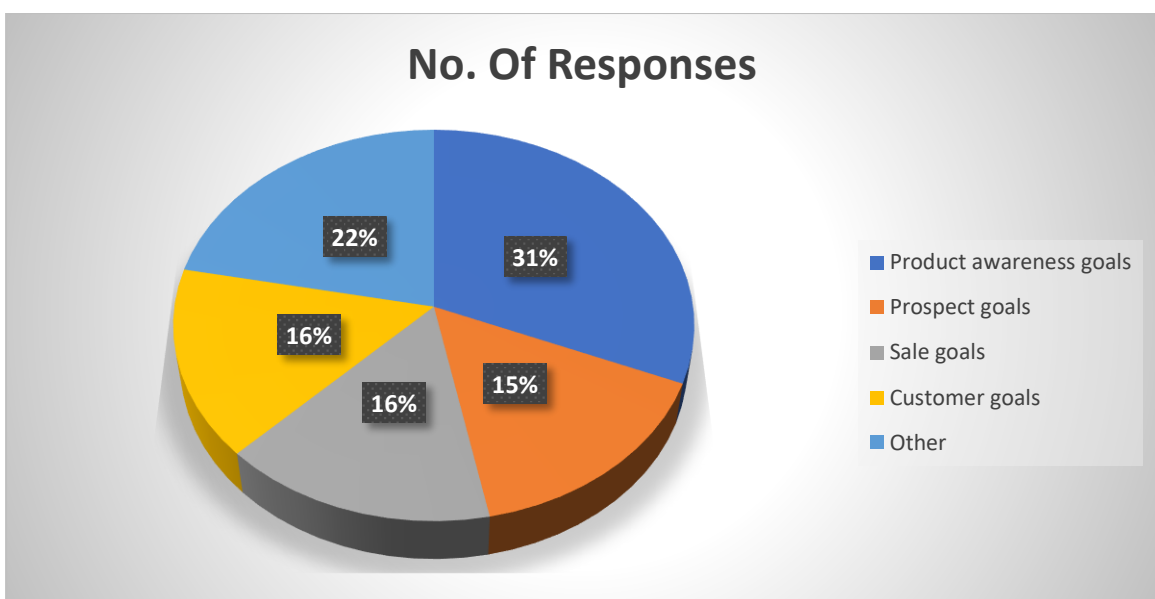
In the above pie chart respondent some respondent will marketing intelligence from trade publication and causal research report or books are a 34% and 25% or 13%. Other responses minimum 22%

Q17. What does the longitudinal research approach actually deal with ?



In the above pie chart there are different types of longitudinal research approach most of many respondent take long term research 47%. Short term research are 22%, horizontal research and None of the above are 9% or 22 %.

Q18. What type of product launch goal is it ?



In the above pie chart many of respondent consider to be product awareness goals 31% and sale goals or customer goals are same Respondent 16%, their Product prospect goals 15% or other 22%.

## 6. FINDINGS:

Many businesses start with a dream, but it takes more than just a dream for them to grow into successful businesses—including the tenacity to overcome the many challenges facing start-ups today. Start-ups take time, effort, and energy. Funding is a major concern for start-ups and small businesses. When the economy tanked, it made it harder to convince investors and banks alike to part with the cash that's essential for growth in the early days of a business. Credit today is tight, and it's not clear precisely when it will become more readily available. Plus, there's a growing trend of smaller initial investments in early stage start-ups. Intensifying the challenge of raising funds, major leaps in technology have led investors to raise the bar in terms of how much legwork entrepreneurs are expected to do before even pitching their companies.

- ❖ Lack of funding is one of the main reasons for the failure of the startups. Most of the startups remain unfunded and finally led to their shutdown. Around 90 percent startups fail to survive the market.
- ❖ The government policies sometimes are also very rigid, that hinders the process of setting up startups. Startup India has smoothened the process, but there is still lack of awareness and stringent policies that need to be smoothen.
- ❖ Too many startups came up with the same idea, lack innovative solutions and operate in the same sector and fail to raise capital and finally shutdown. Many entrepreneurs set up a start-up without proper research about market, which ends up in disappointment.
- ❖ As per the study, many times startup fails due to “No Market Need”. Market and Product fit is very essential. The solutions offered sometimes are for a very rare problem, thus leading to lack of customers for the product. While many startups fail due to lack of proper leadership and weak team. It is very necessary to innovate and change as per the changing needs of the customers.
- ❖ Poor Marketing and lack of business model sometimes, lead to failure, even if the company offer great prospect and have very good idea. Bigger companies with better market research and proper business model, out-competes them.
- ❖ Majority of the respondents in a survey have a view that the decisions like demonetization have marred their progress of their startups and many of them have faced huge loss of business and still have not recovered from its impact.
- ❖ According to the study, introduction of GST taxation in the mid financial year created difficulties for the various startups to adopt the change and also in managing their finances.
- ❖ Even after so many changes in policies for making the process of setting up startups the benefits are not much as the various facilities provided are of average quality. Most of the respondents feel that there have been some improvements but still the improvements are not sufficient.
- ❖ Angel Investment is the biggest source of investment, followed by helps from friends and family. Bank loans are still not very common option for the people setting up startups.

## **7. SUGGESTIONS**

### **7.1 Solutions for reason of failures:**

Entrepreneurs should conduct in-depth market researches to understand the need of the society and then proceed to the product design phase.

Entrepreneurs need to analyse their business idea and think out of the box. An ideal example can be the number of start-ups in the ecommerce industry, but rarely anyone focuses on logistics-based start-up ideas, where the need is.

Start-ups should aim to hire those people who share the same zeal to make the start-up successful.

The favorable conditions for sustained and stable economic growth can be created by imparting the required skills to the workforce for fetching gainful employment. There is no reason why a country cannot become an aspiration nation fulfilling the dreams of millions of its citizens. However, the challenges faced are numerous and require additional policy measures:

### **Recommendations**

Getting education is a fundamental right as well as a continuous process that requires the active participation of the learners. If the mode of education is online than it becomes important for the provider to provide the best education material and courses in this global competitive environment.

The framework that is presented in the current paper is based on the online education platforms. It will be creating a base for displaying the strength of online education in India. This framework will provide a valuable insight to the people having a business plan on online education. Since, GoI is also providing benefits and also necessary aids for the startups, the young entrepreneurs should come forward actively and initiate it.

It is highly recommended that presentation models like CRISP should be created, promoted and accepted by the education system in India, where the uniformity in thoughts, structure and presentation layout will be represented by the presenters. Thus, the current study will be of benefit to the people curious to learn new things and the upcoming entrepreneurs.

## **8 Conclusion:**

Start-ups are the future growth engines of our country and governments should do all it can to foster the growth of entrepreneurship culture in India.

Already Facebook, Google and Yahoo have acquired start-ups based in India and the likes of Flipkart, Inmobi, MuSigma show us that world class companies can have origins in India also. It just needs a little push in right direction.

Government initiatives like the \$1.68bn funds for the 'Make in India' and the new company law are a step-in right direction.

For any economy to be competitive and accelerates its existing growth rate, skilled workforce plays a very crucial and important role. Skill development is regarded as the prominent factor for the growth of the economy. There is a requirement of the collective determination from all the participants like training institutions, government, and workforce to make it a successful program. The policy has to be far reaching and if reached to larger audience, will have greater impact on employment generation. This will not only boost up the functioning of the economy but also provide skilled labor for the flagship program like Make in India. Vocational training and PPP model also play their part in imparting skill.

infrastructure by more public private partnership. There has to be emphasis on the skill India entrepreneurship as it leads to creation of massive employment opportunities. The schemes like Start up India and Stand up India need more promotion for maximum awareness among people and so that they can be the beneficiaries of the model. India is moving towards becoming a Knowledge economy and therefore it is very important to have a skilled work force and the skills imparted have to be very much in alignment with needs and requirement of the modern day business.

## **9. WEBLIOGRAPHY**

Sharifi, Omid, PhD Scholar, Aligarh University, Understanding the financing challenges faced by start-ups in India-Research Paper.

**Study on Women Entrepreneurship in India-<https://www.researchgate.net>.**

## 10.QUESTIONNAIR

Q1.	What is your gender?	I. Male II. Female III. Other	56.3% 43.8% 33%
Q2.	What is your age range ?	I. Under 18 II. 18-24 III. 25-34 IV. 35-44 V. 45-54 VI. 55-64 VII. Above 64	12.5% 84.4% 3.1% 0% 0% 0% 0%
Q.3	What is your marital Status?	I. Married II. Unmarried	6.3% 93.8%
Q4.	What is your qualification?	I. High school II. Graduate III. Post Graduate IV. Other	31.3% 50% 18.8% 0%
Q5.	What is your employment status?	I. Students II. Homemaker III. Unemployed IV. Other	68.8% 3.1% 6.3% 21.9%
Q6.	What is your income level?	I. 5,000 - 10,000 II. 20,000 - 30,000 III. 30,000 - 40,000 IV. 40,000 -50,000 V. 60,000+ VI. 50,000 - 10,000	68.8% 15.6% 3.1% 0% 0% 12.5%
Q7	Academic background of the founder(s) (write the number inside the box as applicable)	I. Science II. Arts III. Commerce /Finance IV. MBA V. Engineering VI. Marketing VII. LAW VIII. Other	18.8% 6.3% 59.4% 3.1% 0% 0% 3.1% 9.4%
Q8.	Background of the founder(s) (write the number inside the box as applicable...?)	I. Professional II. Business Owner III. Student IV. Other	6.3% 3.1% 78.1% 12.5%

Q9.	Type of your start-up.....?	<ul style="list-style-type: none"> <li>I. Private Ltd. Company</li> <li>II. Public Ltd. Company</li> <li>III. Partnership firm</li> <li>IV. Other</li> </ul>	<ul style="list-style-type: none"> <li>37.5%</li> <li>18.8%</li> <li>0%</li> <li>43.8%</li> </ul>
Q10.	In which of the following types, does the entrepreneur work as a middle man?	<ul style="list-style-type: none"> <li>I. Joint</li> <li>II. Private</li> <li>III. Social</li> <li>IV. Trading</li> </ul>	<ul style="list-style-type: none"> <li>34.4%</li> <li>40.6%</li> <li>12.5%</li> <li>12.5%</li> </ul>
Q11.	what are advantage of self - employment is ?	<ul style="list-style-type: none"> <li>I. Flexible working hours</li> <li>II. Freedom to choose the type of work</li> <li>III. High potential to enhance income</li> <li>IV. All of the above</li> </ul>	<ul style="list-style-type: none"> <li>15.6%</li> <li>37.5%</li> <li>6.3%</li> <li>40.6%</li> </ul>
Q12.	Financial an entrepreneur includes ?	<ul style="list-style-type: none"> <li>I. Lack of personal capital</li> <li>II. Fewer Networking contact</li> <li>III. Other</li> </ul>	<ul style="list-style-type: none"> <li>34.4%</li> <li>15.6%</li> <li>50%</li> </ul>
Q13.	Licensing arrangements have ?	<ul style="list-style-type: none"> <li>I. Low risk process involved</li> <li>II. Easy way to generate incremental income</li> <li>III. Several pitfalls</li> <li>IV. All of the above</li> </ul>	<ul style="list-style-type: none"> <li>37.5%</li> <li>21.9%</li> <li>3.1%</li> <li>37.5%</li> </ul>
Q14.	Focus of control is?	<ul style="list-style-type: none"> <li>I. Feeling</li> <li>II. Attitude</li> <li>III. Attribute</li> <li>IV. None of the above</li> </ul>	<ul style="list-style-type: none"> <li>21.9%</li> <li>15.6%</li> <li>25%</li> <li>37.5%</li> </ul>
Q15.	For generating ideas an entrepreneur must Focus on ?	<ul style="list-style-type: none"> <li>I. Society</li> <li>II. Business objective</li> <li>III. Needs &amp; wants of people</li> <li>IV. All of the above</li> </ul>	<ul style="list-style-type: none"> <li>28.1%</li> <li>18.8%</li> <li>28.1%</li> <li>25%</li> </ul>
Q16.	Which one of the following is not the source of marketing intelligence?	<ul style="list-style-type: none"> <li>I. Trade publication</li> <li>II. Causal research report</li> <li>III. Books</li> <li>IV. Newspaper</li> <li>V. Other</li> </ul>	<ul style="list-style-type: none"> <li>34.4%</li> <li>25%</li> <li>12.5%</li> <li>6.3%</li> <li>21.9%</li> </ul>
Q17.	What does the longitudinal research approach actually deal with ?	<ul style="list-style-type: none"> <li>I. Long term research</li> <li>II. Short - term research</li> <li>III. Horizontal research</li> </ul>	<ul style="list-style-type: none"> <li>46.9%</li> <li>21.9%</li> <li>9.4%</li> </ul>



		IV. None of the above	21.9%
Q18.	What type of product launch goal is it ?	I. Product awareness goals II. Prospect goals III. Sales goals IV. Customer goals V. Other	31.3% 15.6% 15.6% 15.6% 21.9%