Chapter 3

RESEARCH METHODOLOGY

3.1. Introduction

According to the Oxford Dictionary, research is defined as, the systematic investigation into and study of materials and sources in order to establish facts and reach new conclusions. A research methodology engage specific techniques that are adopted in research process to collect, organise and evaluate data. It defines the tools that are used to collect appropriate information in a research study. Surveys, questionnaires and interviews are the common tools of research. It also includes information regarding the area of study, the sampling procedure, data collection and the data analysis tools. The materials and methods used in the study is discussed under the following heads.

3.2. Methodology

The study is exploratory in nature and analytical methodology leading to conclusions. Both quantitative and qualitative methods were used for collection of data and gather around required information. Dimensions were derived, variables were enlisted and categorised to investigate the Entrepreneurial Intention (EI) of students. Data was collected on Demographic, Personal, Skill Education and Entrepreneurial Intention factors. Data was subjected to statistical analysis using relevant software and appropriate tests to draw the conclusion. The data was analyzed and interpreted to achieve the objectives of the study. The research consists of theoretical constructs that cannot be observed. The dependent variable in the study is EI and it is an unobservable or latent variable. The latent variables are not observed directly and cannot be measured directly. Hence, the unobservable variable is linked to one that is observable so that it is possible to draw the conclusion. The independent variable comprises of skill education, its components being skill curricula, teaching methodology and university role to test the dependent variable of EI. The details of methodology is described here under.

3.2.1. Locale of the Research Study

Rajasthan (Land of Kings) is a state in northern India. The state covers an area of 342,239 square kilometres (132,139 sq mi) or 10.4 percent of the total geographical area of India.

It is the largest Indian state by area and the seventh largest by population. Rajasthan is located on the north western side of India, where it comprises most of the wide and inhospitable Thar Desert (also known as the "Great Indian Desert") and shares a border with the Pakistani provinces of Punjab to the northwest and Sindh to the west, along the Sutlej-Indus river valley. Elsewhere it is bordered by five other Indian states: Punjab to the north; Haryana and Uttar Pradesh to the northeast; Madhya Pradesh to the southeast; and Gujarat to the southwest. The state of Rajasthan is divided into 33 districts for administrative purposes. These 33 districts are further grouped into seven divisions for administrative purpose.

Major features include the ruins of the Indus Valley civilisation at Kalibanga and Balathal, the Dilwara Temples, a Jain pilgrimage site at Rajasthan's only hill station, Mount Abu, in the ancient Aravalli mountain range and in eastern Rajasthan, the Keoladeo National Park near Bharatpur, a World Heritage site known for its bird life. Rajasthan is also home to three national tiger reserves, the Ranthambore National Park in Sawai Madhopur, Sariska Tiger Reserve in Alwar and Mukundra Hill Tiger Reserve in Kota.

The state was formed on 30 March 1949 when Rajputana - the name adopted by the British Raj for its dependencies in the region was merged into the Dominion of India. Its capital and largest city is Jaipur. Other important cities are Jodhpur, Kota, Bikaner, Ajmer and Udaipur. The economy of Rajasthan is the ninth-largest state economy in India with ₹9.24 lakh crore (US$130 billion) in gross domestic product and a per capita GDP of ₹108,000 (US$1,500). Rajasthan ranks 22nd among Indian states in human development index.

The locale of the study is Rajasthan, India and two skill universities located in Jaipur formed the locale of the study. Latitude and longitude coordinates of Rajasthan are: 27.0238^{O} N and 74.2179^{O} E. Rajasthan**,** state of north

western India, located in the north western part of the Indian subcontinent. It is bounded to the north and northeast by the states of Punjab and Haryana, to the east and southeast by the states of Uttar Pradesh and Madhya Pradesh, to the southwest by the state of Gujarat, and to the west and northwest by the provinces of Sindh and Punjab in Pakistan. The capital city is Jaipur, in the east-central part of the state. The state covers an area of 342,239 square kilometres or 10.4 percent of the total geographical area of India.

It is the largest Indian state by area and the seventh largest by population. Latitude and longitude coordinates of Jaipur are 26.9124° N, 75.7873° E.

Figure 3.1. India map showing Jaipur and Rajasthan

3.2.1.1. Economy of Rajasthan

Rajasthan's economy is primarily agricultural and pastoral. Wheat and barley are cultivated over large areas, as are pulses, sugarcane, and oilseeds. Cotton and tobacco are the state's cash crops. Rajasthan is among the largest producers of edible oils in India and the second largest producer

of oilseeds. Rajasthan is also the biggest wool-producing state in India and the main opium producer and consumer. There are mainly two crop seasons. The water for irrigation comes from wells and tanks. The Indira Gandhi Canal irrigates north western Rajasthan.

3.2.1.2. Agricultural production

Rajasthan is the largest producer of barley, mustard, pearl millet, coriander, guar and fenugreek in India. Rajasthan produces over 72% of guar of the world and 60% of India's barley. Rajasthan is major producer of aloe vera, amla, oranges a leading producer of maize, groundnut. Rajasthan government had initiated olive cultivation with technical support from Israel. The current production of olives in the state is around 100–110 tonnes annually. Rajasthan is India's second largest producer of milk. Rajasthan has 13800 dairy co-operative societies.

3.2.1.3. Industries of Rajasthan

The main industries are mineral based, agriculture-based, and textile based. Rajasthan is the second largest producer of polyester fibre in India. Several prominent chemical and engineering companies are located in the city of Kota, in southern Rajasthan. Rajasthan is pre-eminent in quarrying and mining in India. The Taj Mahal was built from the white marble which was mined from a town called Makrana. The state is the second largest source of cement in India. It has rich salt deposits at Sambhar, copper mines at Khetri, Jhunjhunu, and zinc mines at Dariba, Zawar mines and Rampura Agucha (opencast) near Bhilwara. Dimensional stone mining is also undertaken in Rajasthan. Jodhpur sandstone is mostly used in monuments, important buildings, and residential buildings. This stone is termed as "chittar patthar". Jodhpur leads in Handicraft and Guar Gum industry. Rajasthan is also a part of the Mumbai-Delhi Industrial corridor is set to benefit

economically. The state gets 39% of the DMIC, with major districts of Jaipur, Alwar, Kota and Bhilwara benefiting. Rajasthan also has reserves of low-silica limestone.

Rajasthan is culturally rich and has artistic and cultural traditions that reflect the ancient Indian way of life. There is rich and varied folk culture from villages which are often depicted as a symbol of the state. Highly cultivated classical music and dance with its own distinct style is part of the cultural tradition of Rajasthan. The music has songs that depict day-to-day relationships and chores, often focused around fetching water from wells or ponds.

Rajasthan is known for its traditional, colourful art. The block prints, tie and dye prints, gota patti (main), Bagaru prints, Sanganer prints, and Zari embroidery are major export products from Rajasthan. Handicraft items like wooden furniture and crafts, carpets, and blue pottery are commonly found here. Shopping reflects the colourful culture, Rajasthani clothes have a lot of mirror work and embroidery. A Rajasthani traditional dress for females comprises an ankle-length skirt and a short top, known as chaniya choli, mainly pure owned by traditional people. A piece of cloth is used to cover the head, both for protection from heat and maintenance of modesty. Rajasthani dresses are usually designed in bright colours like pink, red, yellow and orange.

3.2.1.4. Literacy

In recent decades the literacy rate of Rajasthan has increased significantly. In 1991, the state's literacy rate was only 38.55% (54.99% male and 20.44% female). In 2001, the literacy rate increased to 60.41% (75.70% male and 43.85% female). This was the highest leap in the percentage of literacy recorded in India (the rise in female literacy being 23%). At the Census 2011, Rajasthan had a literacy rate of 67.06% (80.51% male and 52.66% female).

Although Rajasthan's literacy rate is below the national average of 74.04% and although its female literacy rate is the lowest in the country, the state has been praised for its efforts and achievements in raising literacy rates.

3.2.1.5. Education

There are a number of institutions of higher education in Rajasthan. State universities are located in Jaipur, Udaipur, Jodhpur, Bikaner and Ajmer. Several private universities are established in Jaipur. Heritage has been the USP of the Pink City. Vis-a-vis, Jaipur is also a world class education hub. Jaipur schools, colleges and Universities have always imparted the right educational skills to Jaipurites.

3.2.1.6. Education in Jaipur

Jaipur, popularly known as “Pink City”, is fast growing as a chosen destination for education in Rajasthan. Students from surrounding states are also choosing Jaipur as the ideal place to shape up their academic career. Here, quality education can be pursued right from the primary to the university level, with lower investment as compared to the metropolitans of the country. Being the capital city of Rajasthan, Jaipur is dotted with popular schools, colleges and universities of the State. Jaipur have as many as 22 universities, including 17 private and 5 state-owned.

3.2.1.7. School Education in Jaipur

Many reputed schools of Rajasthan are located in Jaipur. The Central Board of Secondary Education (CBSE), Indian Certificate of Secondary Education (ICSE). The top schools in Jaipur include Maharani Gayatri Devi Girls' Public School, Delhi Public School (Jaipur),India International School, Army School, St Edmund's School, St. Xavier's Senior Secondary School, Subodh Public School, Neerja Modi School, Ryan

International School, Maheshwari Girls Public School, S.V. Public School, DAV Centenary Public School.

3.2.1.8. Higher Education in Jaipur

The Department of Education, Govt. of Rajasthan, is responsible for the administration and development of college education in Rajasthan state. The Department comes under the control and administration of the Directorate of College Education, Jaipur. The Directorate functions with an aim to bring about quantitative and qualitative improvement in the education system of Rajasthan.

Currently, the Directorate is dealing with as many as 1100 private colleges and 142 Govt. colleges, which are affiliated to 6 Universities located across Rajasthan. There are many government colleges and private unaided and private aided colleges in Jaipur. They impart courses in arts, science and commerce streams and professional courses in the field of engineering, medical, dental, law, pharmacy, hotel management, fashion design etc. One can find both co-education and girls' colleges in Jaipur.

NIMS School of Law, Rajasthan Institute of Engineering and Technology, Rajasthan College of Engineering for Women, IHM Jaipur, BIT Jaipur, Jagan Institute of Management Studies Jaipur, Jaipur College of Pharmacy and Regional College of Pharmacy Jaipur are some of the top and best colleges in Jaipur.

University of Rajasthan, Jaipur, is one of the oldest universities in the state. It offers quality education through its affiliated colleges/institutes, in a wide variety of streams that include Arts, Science, Social Science, Commerce, Law, Management, Fine Arts, Education, and Library Science etc. Undergraduate, post graduate, diploma, degree and certificate programmes are offered by the university, through both regular and distance mode.

Around 35 private universities including deemed universities are offering education programs in industry demand streams. Majority of them are located in Jaipur itself.

The two skill universities namely Bhartiya Skill Development University (BSDU) and Rajasthan ILD Skills University (RISU) are located in Jaipur.

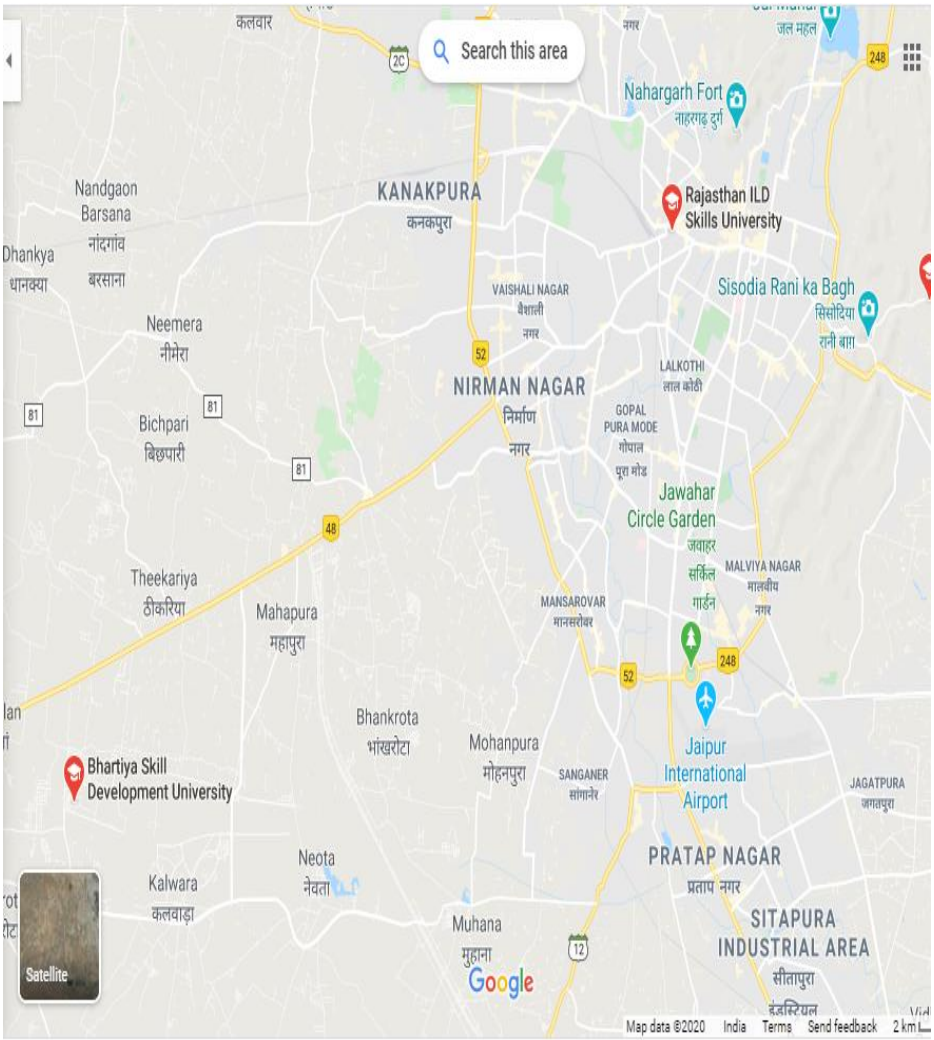

Figure 3.2. Map depicting the location of RISU& BSDU

3.3. Target Population

The target population proposed for this research is students studying Bachelor of Vocation (B.Voc.) skill course in Bhartiya Skill Development University, Jaipur, Rajasthan and Rajasthan ILD Skill University, Jaipur, Rajasthan. Students from all levels i.e., first year, second year, third year were selected.

3.3.1. Sampling Techniques

Simple Random Sampling technique is chosen because it is an unbiased surveying technique. A simple random sample is a subset of individuals chosen from a larger set. Each individual is chosen randomly and entirely by chance, so that each individual has the same probability. It is relatively easy to interpret the data collected, free of errors, cost effective and consumes less time.

3.3.2. Sampling Design

The respondents represented both RISU and BSDU. The respondents were enrolled active students undergoing skill education course only were selected. A random sample was drawn from the two universities representing both genders, various courses and years of study. A total of 540 questions were finalised.

3.3.3. Sample Size

Sample size formula helps in calculating or determining the minimum sample size which is required in order to know the adequate sample size or correct proportion of the population along with the confidence level and the margin of error. The sample size for the proposed study is calculated using the following formula.

$$\text{Sample size, } n = N * \frac{\frac{Z^2 * p * (1-p)}{e^2}}{[N - 1 + \frac{Z^2 * p * (1-p)}{e^2}]}$$

N = Population size

Z = Critical value of the normal distribution at the required confidence level

p = Sample proportion

e = Margin of error

A total of 346 respondents formed the sample size for the study.

3.3.4. Research Hypothesis

A research hypothesis is a specific statement of prediction, clear, and testable proposition about the possible outcomes of a scientific research study based on a particular property of a population, such as presumed differences between groups on a particular variable or relationships between variables. The research hypothesis is central to all research endeavours, whether qualitative or quantitative, exploratory or explanatory (Paul, 2008).

The purpose of this research is to study the impact of personal, demographic and skill education dimensions on entrepreneurial intention of students. Hypothesis is based on the review of literature which indicated the relationship between the variables influencing the key variable entrepreneurial intention (Bagheri & Pihie, 2015).

H0: There is no relationship between demographic dimension and entrepreneurial intention of skill university students.

H0: There is no relationship between personal dimension and entrepreneurial intention among skill university students.

H0: There is no relationship between skill education and entrepreneurial intention of skill university students.

3.3.5. Variables

In simple terms, a variable represents a measurable attribute that changes or varies across the research whether comparing results between multiple groups, multiple people or even when using a single person in an experiment conducted over time (Agravante, 2018).

3.3.5.1. Dependent Variable: A dependent variable is the variable that a researcher is interested to study about. Entrepreneurial Intention is the dependent variable in the present research study.

3.3.5.2. Independent Variable: An independent variable is a variable believed to affect the dependent variable. There are three independent variables in this research study.

Demographic factor (location, district, state), Personal factor (age, gender, social category, education qualification, additional qualification, extracurricular activities, information on parents) and Skill Education (Relevance of the Subjects, Entrepreneurial Inputs, Teaching Methodology, Educational Activities).

3.3.6. Tools for Collecting Data

- Structured Schedule/Questionnaire
- Focus Group Discussion

3.3.6.1. Development of Data Collection Instrument

Questionnaire is a prearranged set of questions that is being used to collect data from the respondents. Structured questionnaires are usually associated with quantitative research, which means research that is concerned with numbers (how many? how often? how satisfied?). It is the predominantly used data collection instrument in social science research (Bolarinwa, 2015).

As constructs are intangible and complex human characteristics or behaviours, a single question cannot measure them properly. They are better measured by asking a series of related questions covering different aspects of the construct of interest. The responses to these individual but related questions can then be combined to form a score or scale measure along a continuum (Morrison, 2015).

3.3.6.2. Construction of Questionnaire

The researcher has developed a structured questionnaire for data collection purpose. The dimensions (items) were carefully selected from review of literature, experience of the researcher, interaction with students, discussion with faculty members, entrepreneurs, officials and experts. The questionnaire was developed according to the dimensions of the research study to achieve the objectives. The three major dimensions are

a. Demographic/Personal
b. Skill Education
c. Entrepreneurial Intention

The questionnaire was a combination of series of open and close ended questions which were framed to evolve the complete and correct information from the respondents. Open ended questions were structured to evolve the personal/demographic and family information. To obtain the information on skill education and entrepreneurial intention of the students, close ended questions were used. The questionnaire was constructed and categorised as per the dimensions.

Five point Likert scale was used to allow the respondents to express how much they agree or disagree with a particular statement (Souitaris *et al.*, 2007). The instrument contain a series of questions that were framed as per the dimensions. Under each question, there were pool of statements to evolve the complete information on the stated question. The respondents need to rate each statement under a particular question on a five point Likert scale ranged as 1 being the least and 5 being the highest

1- Strongly Disagree
2- Disagree
3- Neither Agree or Disagree
4- Agree
5- Strongly Agree

The questionnaire was designed in such a way to gather statistically useful information based on the objectives. Negative questions were also framed to check the rationale of respondents. The questionnaire was properly constructed and when administered responsibly, can provide valuable data about the proposed research study. A draft questionnaire was prepared for establishing validity.

3.3.6.3. Validity

The importance of measuring the accuracy and consistency of research instruments (especially questionnaires) is known as validity (Bolarinwa, 2015). Validity is the amount of systematic or built-in error of a questionnaire. Validity is concerned with the extent to which an instrument measures what it is intended to measure. Validity of the instrument is ensured after extensive literature study and discussion with entrepreneurs, experts and

research supervisor. Validity of a questionnaire can be established involving a panel of experts which explore theoretical construct. The questionnaire was circulated among the experts in the field of entrepreneurship and skill development for validity judgement. They were requested to provide expert opinion on quality, quantity, objectivity, suitability and readability to students. The questionnaire was modified, revised and improved based on the critical suggestions offered by the experts as shown in **Appendix-I (1).**

3.3.6.4. Pre-Testing of Questionnaire

Pre-testing of questionnaire is an essential step in the research process. It is a well-known fact that designing a perfect survey instrument is impossible. However, researchers made all efforts to develop an effective questionnaire. Pre-testing or it is called Piloting is necessary to determine the effectiveness of survey questionnaire, before actually using it. The development of questionnaires, surveys and psychometric scales is an iterative research process that includes a number of carefully planned stages. Pretesting is a method of checking that questions work as intended and are understood by those individuals who are likely to respond to them. Pre-test can help the researcher to determine the strengths and weaknesses concerning question format, wording, order, clarity, question variation, meaning, task difficulty, respondent interest and attention or whether the questionnaire is taking too long time to administer and suitability to the participants. A pre-test is where a questionnaire is tested on a (statistically) small sample of respondents before a full-scale study, in order to identify any problems.

A total of 21 B.Voc. students pursuing the skill education (first, third, fifth semester) in Automotive Skills; Wood Work Skills; Refrigeration & Air Conditioning (RAC) Skills; Manufacturing Skills and Office Administration Skills were tested with the questionnaire. List of students was obtained from Admission Department of BSDU, Jaipur and verified with respective schools/departments. The students were asked to read the questionnaire thoroughly and list out the difficulties, if any. Some of the important issues were discussed with students and appealed them to give their frank opinion since they represent total population for the study. The researcher also

assessed the time needed by the respondents to fill it up. Importance of their feedback was explained in redesigning the questionnaire. The students were asked to mainly check for the following

a. Readability
b. Language
c. Difficult Words
d. Unclear terminology
e. Meaning
f. No. of questions
g. Length of the questionnaire
h. overall respondent well-being

3.3.6.5. Feedback of the students

All the students have opined that the questionnaire is interesting in general. Majority were comfortable with English. The reason being, the questionnaire contains very simple questions to draw information on self, family, skill education and entrepreneurial intention. The statements were easy to read and understand except for few words. Moreover, most of questions need to be rated on five point Likert Scale and does not involve much writing.

The students strongly felt that the researcher may read and explain the meaning for technical terms. The students could not follow few words like geographic area, order of birth, sibling and so on. The questions raised, doubts expressed, difficulty faced and problems encountered by students were well taken care. The suggestions offered were incorporated and the questionnaire was revised accordingly. All the students stated that the questionnaire is very interesting and triggers deep thinking about their future/career planning.

Students also expressed that there is no need of Hindi version or bilingual questionnaire. There were no specific issues with regard to length of questionnaire by students, since most of the questions are in statement form and need to be rated. Instead they said, the questions are thought provoking in nature. When it was carried out as per their suggestion, it was a stress free session for them to complete. Pre-Testing details were given in **Appendix-I (2).**

3.3.6.6. Reliability

Reliability of measure is established by testing for both consistency and stability. It is used to test all the questions in questionnaire either it were reliable or not with this study. Reliability analysis is done when question from all variables are well structured and can be understand by respondents. It means respondents answered the question without bias, with consistent and stable. Reliability refers to the degree to which the results obtained by a measurement and procedure can be replicated. Though reliability importantly contributes to the validity of a questionnaire, it is however not a sufficient condition for the validity of a questionnaire. Lack of reliability may arise from divergence between observers or instruments of measurement such as a questionnaire or instability of the attribute being measured which will invariably affect the validity of such questionnaire (Bolarinwa, 2015).

Reliability, like validity, is a way of assessing the quality of the measurement procedure used to collect data. Reliability is concerned with the ability of an instrument to measure consistently. In order for the results from a study to be considered valid, the measurement procedure must first be reliable. Lee Cronbach's Alpha is a measure used to assess the reliability, or internal consistency.

In the present research study, multi item scales are checked for reliability analysis with the help of Statistical Package for the Social Sciences (SPSS) software version 22.0. The Cronbach's Alpha values range from 0.69 to 0.95 for different segments of research instrument indicating that the data is suitable for confirmatory purpose. Items with Alpha above 0.7 were finally selected for the instrument which indicate that the questionnaire is reliable. The Alpha value for all the items is enclosed as **Appendix-I (3).** Lee Cronbach's Alpha formula is mentioned here under.

$$\propto = \frac{N \cdot \bar{C}}{\bar{v} + (N-1) \cdot \bar{C}}$$

N = the number of items

$\bar{C}$ = average covariance between item-pairs

$\bar{v}$ = average variance

3.3.6.7. Focus Group Discussion

A Focus Group Discussion (FGD) involves gathering people from similar backgrounds or experiences together to discuss a specific topic of interest. It is a form of qualitative research where questions are asked about their perceptions attitudes, beliefs, opinion or ideas. In focus group discussion participants are free to talk with other group members. It generally involves group interviewing in which a small group of 8 to 12 people are present (Savickas, 2002).

Additionally, as FGDs are structured and directed, but also expressive, they can yield a lot of information in a relatively short time. Particularly suited for obtaining several perspectives about the same topic. Therefore, FGDs are a good way to gather in-depth information about a community's thoughts and opinions on a topic (Baral *et al*., 2015).

Sociologists and psychologists have used the method since the 1940s. However, its popularity and application has grown across a wide range of disciplines including education communication and media studies sociology, feminist research, health research and marketing research (Nyumba *et al.*, 2018). The technique emerged as a qualitative data collection approach and a bridging strategy for scientific research and local knowledge.

The strength of FGD relies on allowing the participants to agree or disagree with each other so that it provides an insight into how a group thinks about an issue, about the range of opinion and ideas, and the inconsistencies and variation that exists in a particular community in terms of beliefs and their experiences and practices.

FGDs can be used to explore the meanings of survey findings that cannot be explained statistically, the range of opinions/views on a topic of interest and to collect a wide variety of local terms. In bridging research and policy, FGD can be useful in providing an insight into different opinions among different parties involved in the change process, thus enabling the process to be managed more smoothly. It is also a good method to employ prior to designing questionnaires (Tool Kit, 2009).

FGDs were supplemented to collect qualitative data. The researcher has conducted FGD to this effect.

3.3.6.8. Finalisation of Questionnaire

The questionnaire was finalised after pre-test, incorporating the suggestions, critical feedback offered by the experts and students. The final instrument for data collection is enclosed as **Appendix-I (4).**

3.3.7. Quantitative Method

Quantitative method is defined as a systematic investigation of phenomena by gathering quantifiable data and performing statistical, mathematical, or computational techniques. Quantitative research collects information from existing and potential respondents using sampling methods and sending out online surveys, online, polls questionnaires, etc., the results of which can be depicted in the form of numerical (Babbie, 2010). Structured questionnaire/ instrument was developed for data collection purpose.

3.3.8. Qualitative Method

Qualitative method is a type of social science research that collects and works with non-numerical data and that seeks to interpret meaning from these data that help understand the problem statement through the study of targeted populations or places (Crossman, 2020).

Focus Group Discussions (FGD) were conducted for describing, contextualizing, interpreting, and gaining in-depth insight into specific concepts of research problem and objectives to arrive at conclusion.

3.3.9. Primary Data Collection: Primary data was collected with the help of questionnaire and Focus Group Discussion.

3.3.10. Secondary Data Collection: Secondary data was collected from reputed national & international journals; books, reports, magazines, periodicals, articles, blogs, websites and other published data from government and nongovernment organisations.

3.3.11. Data Collection

The population of study consist of students of Bachelor of Vocation (B.Voc.) from Rajasthan ILD Skills University (RISU), Jaipur, Rajasthan and Bhartiya Skill Development University (BSDU), Jaipur, Rajasthan.

3.3.12. Rajasthan ILD Skills University (RISU)

RISU has been incorporated as Rajasthan Government State University vide Act No. 6 of 2017. RISU is an effective institutional intervention to implement National Skills Qualification Framework in Rajasthan state. Being a Government University, RISU is the affiliating body for a large number of institutions operating in skill and vocational training. Fifty-eight skill related institutions have been affiliated so far and more than 1000 students are pursuing skill based studies in these institutions. RISU follows the National Skills Qualifications Framework (NSQF), Level 5 for B.Voc. program and Level 8 for its M.Voc. programs (rajskills.edu.in).

The Vice Chancellor, RISU was requested to identify the relevant institutions for data collection. A total of 13 institutions from Jaipur, Ajmer, Udaipur, Sawai Madhopur were selected based on the criteria viz., type of skill course, nature of establishment (government and private), geographical location, etc. Official letters duly signed by the Vice Chancellor, RISU were sent to Head of the institutions indicating the objective for data collection, arrangements to be made for smooth collection of data, to have Focus Group Discussion (FGD) with students, interaction with Management and Faculty Members.

The researcher has contacted Head/Officials of the respective institutes, prepared a schedule and proceeded for data collection. Name of the institute, skill course offered, number of respondents and other details are provided in **Appendix-I (1).** Photographs reattached as **Appendix-I (2).** Geographical location of the institutions are shown in Figure. 3.23. and Figure 3.23.1.

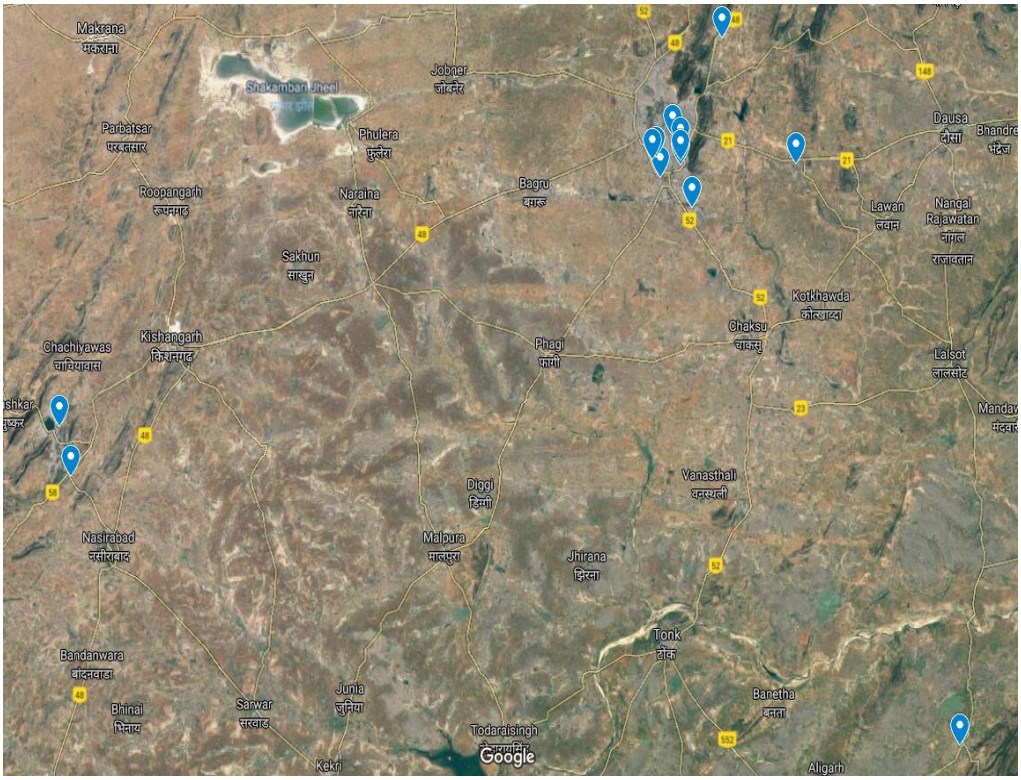

Figure 3.3. Location of institutions in Google map

Figure 3.4. Indicative locations in Rajasthan map

3.3.13. Bhartiya Skill Development University (BSDU)

BSDU has been incorporated as a State Private University vide GOR Act No. 3 of 2017 (BSDU Act). It is the first University in the country offering only Skills programs. It offers Skill Certificate, Diploma, Advance Diploma, Bachelor of Vocation (B.Voc), Post Graduate Diploma, Master of Vocation (M.Voc.) and Ph.D. in various skill areas. BSDU programs are in compliance with UGC instructions for Vocational Programs, AICTE instructions for Vocational Programs, National Skills Qualifications Framework (NSQF), National Occupational Standards (NOS), Skills Qualification Packs (QP), guidelines for Recognition of Prior Learning (RPL), guidelines of respective Sector Skill Councils (SSC) (www.ruj-bsdu.in).After due diligence from the President (Vice Chancellor), Principals of Schools/ Departments, the Researcher has collected the data from the students of BSDU. Focus Group Discussions were also conducted. The details are given in **Appendix-I (5)** and photographs are shown in **Appendix-I (6).**

3.3.14. Data Collection Process

The questionnaire that has been already validated, pre-tested and checked for reliability was distributed to the students. It was conducted like a session to obtain a true individual opinion of each student. The respondents were explained about the relevance of research study in the context of very recent B.Voc. course, skill education, objectives, usefulness of results and importance of data collection. Students were asked to read through the instructions carefully and fill up the questionnaire without gaps. They were expected to answer the questionnaire with correct and complete information. Despite the questions being simple, most of them need to be rated on the five point Likert scale and thus demands very little writing, the Researcher had taken interest and time to explain each question with suitable example for proper elucidation of the data. Students were encouraged to clarify the doubts and ask questions in case of ambiguity with the Researcher only. The respondents were advised to not to discuss with friends and other students in order to avoid influence.

Later, discussion was held on personal, skill education and entrepreneurial dimensions. The critical issues were debated. Students have freely expressed their opinion & constraints; shared the ideas and offered their valuable suggestions. It has provided an excellent insight for the research study.

3.3.15. Data Collection Experiences

The process of data collection is a very good learning experience for the researcher. In general, there was good cooperation from both the universities during the data collection process. Personal visits and telephonic discussions were held with the Hon'ble Vice Chancellors, Heads of the affiliated institutions, Dean, Director and Principals of the departments/schools. During the discussions, the purpose of research study and data collection was thoroughly explained. The Management and Faculty have extended excellent support, organised the students on time and made all other arrangements required for data collection. The key issues like demographic dividend, jobless growth, requirement of industry, need for entrepreneurship development, and vital role of skilled work force were explained to the students. The objectives and outcome of the research was also briefed. The actualities regarding education system, curriculum, job prospects, satisfaction levels and other important aspects related to skill education were also discussed. Students have appreciated the timely intervention of this research study and contributed by way filling up the questionnaire, offered suggestions and expressed their views.

However, the process of data collection is time consuming. Travelling to different places across Rajasthan state, coordination for common time, identifying the coordinator, availability of students in the campus, keeping other resources ready on time was little challenging. The data collection was conducted like a classroom session coupled with motivation and interpretation. Each and every question/statement was read for the benefit of the students. Making it interesting, facilitating them to understand the concept of entrepreneurship, explaining with suitable examples and taking all the students together to complete one by one was a greater challenge.

3.3.16. Analysis of Data

The statistical methods were used in accordance to the objectives of the study. Descriptive statistics like frequencies, cross tabulations/Pivot tables were constructed where ever possible. Range, standard deviations and simple percentages were worked out. Bar charts, Pie charts and Histograms were constructed to depict the results, trends etc. Relationship between the variables (independent and dependent variables) were computed using the Spearman's Rank Correlation Coefficient method (rho-ρ) because it is a non-parametric rank order correlation where the assumptions about the population is not made. This study has attempted to profile the skill development and as a function of Entrepreneurial Intention in Rajasthan only. The entire data set is a perception scaled from 1 to 5 at an ordinal level, and the data uses mostly nominal and ordinal scale of measurement. The SPSS version 20.0 was used for data analysis. MS Word and MS Excel were used to construct tables and graphs.

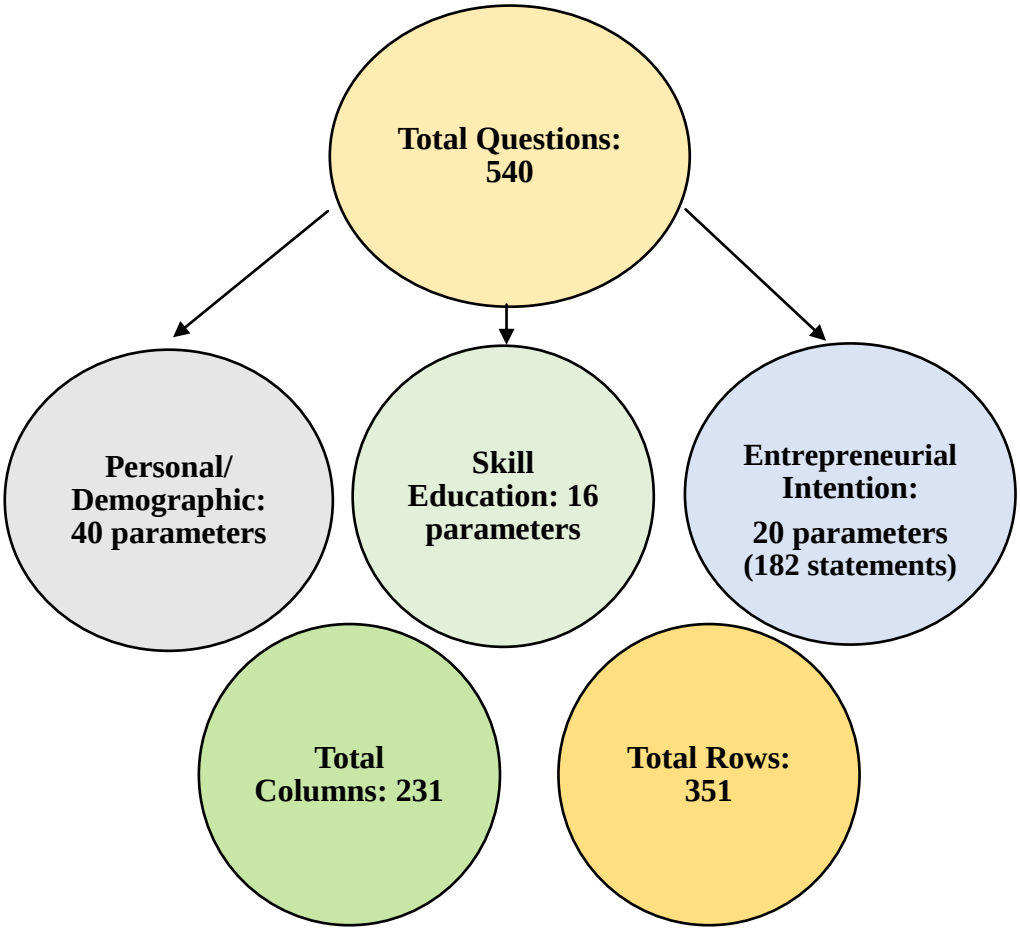

Figure 3.5. Analysis of data

3.4. Quantification of Variables

3.4.1 Independent Variables

A. Demographic/Personal Dimension

3.4.1.1. Age: Age is considered as number of completed years as on 01.01.2019. Age is considered as one of the variable as stated by Nisha, (2015) "A few factors like age, education, motivation and role model have significant influence on feasibility and desirability towards entrepreneurship". Self-evaluations achieve consistency during early adulthood and remain high before declining after age 60 (Trzesniewski *et al*., 2003).

3.4.1.2. Gender: Gender is included in the list of variables, since gender is one of the contextual factor which affect the transformation of entrepreneurial intentions into entrepreneurial actions (Shirokova *et al*., 2016). In gender, classification is made as Male &Female. The categories were classified based on frequencies and percentages.

3.4.1.3. District: The respondents native district is indicated.

3.4.1.4. State: State is identified based on the domicile from which the respondent hails.

3.4.1.5. Location: Location is indicated based on origin of the place from where the respondent hails and classified as City, Town and Village. The categories were classified based on frequencies and percentages.

3.4.1.6. Industrial Estate: The awareness of respondents about the presence of industrial estate in their locality is indicated. The categories were classified based on frequencies and percentages.

3.4.1.7. Category: The categories listed in the Govt. of India schedule is taken for the purpose of classifying the respondents into social categories namely General, OBC, BC, SC, ST, Minorities and others. The categories were classified based on frequencies and percentages.

3.4.1.8. Education Details: Educational qualification of the respondents were collected based on number of completed years of schooling/college education. The categories were classified based on frequencies and percentages. A few factors like age, education, motivation and role model have significant influence on feasibility and desirability towards entrepreneurship (Nisha, 2015).

3.4.1.9. Additional Qualification: Information on other qualifications like certificate programs were collected and quantified.

3.4.1.10. Information on Parents: Information on parents namely age, educational qualification, nature of occupation, nature of business, annual income were collected. The categories were classified based on frequencies and percentages.

3.4.1.11. Birth Order: The birth order of the respondent was computed as $1^{st,}$ 2^{nd}, 3^{rd}, 4^{th}, 5^{th} etc. The categories were classified based on frequencies and percentages. The intention of including this variable is that the later born children will have a capacity to take more risk and hence may have higher EI (Emst & Angst, 1983).

3.4.1.12. Information on Children in Family: The information on employment status of children in respondents' family is collected, tabulated and analysed. A positive relation is encountered between family back ground and business creation (Flavio *et al*., 2014).

All the above were hypothesised to have a conjectural relationship with dependent variable viz., Entrepreneurial Intention.

B. Skill Education Dimension

3.4.1.13. Reason for Joining the Programme: Respondents opinion is collected on the source of advice based on which the respondent made the decision to join the skill education course. The sources included are parents advise, senior's guidance, principal's motivation, influence of friends, career counselling, advertisement and others. The categories were classified based on frequencies and percentages.

3.4.1.14. Awareness about Entrepreneurship: The respondents were asked to indicate their awareness about concept of entrepreneurship. Responses were given weightage as **1** & **0** for **Yes** and **No** respectively. The categories were classified based on frequencies and percentages.

3.4.1.15. Entrepreneurship Subject in Course Curriculum: Respondents were asked to indicate whether entrepreneurship subject is included in their course curriculum. Presence of the subject is given the weightage of **1** and the absence is given as **0**.

3.4.1.16. Relevance of the Subject to Skill Education: The respondents were asked to rate the relevance of different category of subjects namely major elective, theory classes, skill training, general English, elementary mathematics, computer skills, open elective, entrepreneurship module, languages (French/others) etc. on a five point Likert scale ranging from Very High being 5, High 4, Optimum 3, Less 2 and Very Less being 1.

3.4.1.17. Adequacy of Entrepreneurial Inputs in Course Curriculum: The respondents were asked to rate the adequacy of entrepreneurial inputs in their course curriculum. Response was collected on important entrepreneurial subjects namely Achievement Motivation, Entrepreneurial Motivation, Business Idea Generation, Market Survey, MSME Schemes, Startup support, Financial Assistance, Institutional Mechanism, Intellectual Property Rights, Business Plan Preparation, Project Report Preparation, Mentoring, Industrial Visits, Case Studies, Screening of Videos/Films, Business Idea Completions, Success Stories, Entrepreneurs Interface and others on a five point Likert scale ranging from Very High being 5, High 4, Optimum 3, Less 2 and Very Less being 1.

3.4.1.18. Teaching Methodology Adopted: Respondents were asked to rate the use of different teaching methods in their course on a five point Likert scale ranging from Excellent being 5, Very Good 4, Good 3, Satisfactory 2 and Poor being 1. The teaching methods considered for the study were teaching by in-house university faculty, teaching of guest faculty, power point presentations, lectures, classroom notes, workshop/lab facilities, library facility and others.

3.4.1.19. Relevance of Educational Activities: Respondents were asked to rate the use of different educational activities in their course on a five point Likert scale ranging from Very High being 5, High 4, Optimum 3, Less 2 and Very Less being 1. The activities include study visits, expert lectures, competitions, quiz and others. The respondents were also asked to suggest inclusion of new subjects in their course curriculum which were elaborated in discussion chapter.

3.4.2. Dependent Variable

C. Entrepreneurial Intention Dimension

3.4.2.1. Carrier Goal after Skill Education: Respondents were asked to indicate carrier goal after their current skill education. The categories were classified based on frequencies and percentages.

3.4.2.2. Interest of Ecosystem: Respondents ecosystem consists of parents, siblings, friends, classmates, relatives and others. The ecosystem has aspirations on carrier goal of the respondent. The respondents were asked to mention their perception about the aspiration of ecosystem on respondent's carrier goal. The responses were classified based on frequencies and percentages. Research findings by Choukir *et al.*, (2017) suggest a Saudi entrepreneurial undergraduate student profile which revealed that the entrepreneurship socialization in Saudi context operated more and more through relatives and friends for both male and female students called by sociologist's agents of socialization.

3.4.2.3. Professional Preference of Respondents: The respondents were asked to rate their preference towards different professions on a five point Likert scale ranging from Very Successful being 5, Successful 4, Neutral 3, Somewhat Successful 2 and Not Successful being 1. The responses were classified based on frequencies and percentages.

The weightage given to different professions preferred are Government service (1), Private job (2), Agriculture (3), Family Business (4), Business in partnership (5) and Entrepreneurship (6).

3.4.2.4. Attributes of Entrepreneurship: The respondents were asked to indicate the attributing factor for preferring entrepreneurship as profession. The attributes considered were skill education, entrepreneurial inputs, family business background, inner urge to be in business, market demand, government policy and others for rating on a five point Likert

scale ranging from Strongly Agree being 5, Agree 4, Neither Agree/Disagree 3, Disagree 2 and Strongly Disagree being 1. The responses were classified based on frequencies and percentages.

3.4.2.5. Attraction Factor of Skill Education: Respondents were asked to identify the factor in skill education which attracted them towards skill education. The attraction factors namely internship in a good industry, suitable stipend in internship, absorption in the same industry after internship, to get good job and salary, to get employment abroad and others. The respondents were asked to place their opinion on a five point Likert scale ranging from Strongly Agree being 5, Agree 4, Neither Agree/Disagree 3, Disagree 2 and Strongly Disagree being 1. The responses were classified based on frequencies and percentages.

3.4.2.6. Job Seeking Behaviour: The respondents were asked to identify the important reasons for seeking job namely self satisfaction, to fulfill family's obligation, financial security, service opportunity, social security, for recognition and to be role model. The respondents were asked to place their opinion on a five point Likert scale ranging from Very Important being 5, Fairly Important 4, Important 3, Slightly Important 2 and Not Important being 1.

3.4.2.7. Preference of Job over Business: The respondents were asked to identify the important reasons for preferring job over business. Important reasons considered were independence, support to parents, livelihood, personal needs, pursue higher education, to earn more money, to have better living, to meet unforeseen expenses, saving for the future, enjoying life, to start own enterprise later and business is better than job. The respondents were asked to place their opinion on a five point Likert scale ranging from Very Important being 5,

Fairly Important 4, Important 3, Slightly Important 2 and Not Important being 1.

3.4.2.8. Opinion on Starting Own Business: Respondents were asked to indicate their opinion about starting own business. The respondents were asked to rate several factors around starting their own business namely keenness, risk factor, adequate education/ skills, motivation from family, finance, competition, market challenges, long gestation periods, lack of immediate returns, fear of failure, non-availability of adequate time to family, difficulty in getting marriage proposal, enjoyment in life and other on a five point Likert scale ranging from Strongly Agree being 5, Agree 4, Neither Agree/Disagree 3, Disagree 2 and Strongly Disagree being 1. The responses were classified based on frequencies and percentages.

3.4.2.9. Contribution of Skill Education for Development of Entrepreneurial Characteristics: The respondents were asked to identify to the important entrepreneurial characteristics contributed by skill education. They were asked to rate the extent of influence on a five point Likert scale ranging from Strongly Agree being 5, Agree 4, Neither Agree/Disagree 3, Disagree 2 and Strongly Disagree being 1. The responses were classified based on frequencies and percentages. Important entrepreneurial characteristics studied were risk taking ability, self-confidence, innovativeness, risk management, resource mobilisation, organisation abilities, management skills, entrepreneurial culture, positive attitude, self-SWOT analysis and motivation towards entrepreneurship.

3.4.2.10. Skill Education Lead Entrepreneurship: Respondents were asked to give their opinion on how skill education course has motivated them towards entrepreneurship. The respondents were asked to rate their opinion on a five point Likert scale ranging from Strongly Agree being 5, Agree 4, Neither Agree/Disagree 3, Disagree 2 and Strongly Disagree

being 1. The areas considered for rating were provision of adequate information about entrepreneurship, adequacy of curriculum to initiate a startup, motivation to be a job provider, provision of skill and knowledge to start a micro enterprise, networking with relevant departments and mentoring.

3.4.2.11. Preparedness to Become An Entrepreneur: Respondents were asked to indicate their preparedness to initiate a business by becoming as entrepreneur on a five point Likert scale ranging from Strongly Agree being 5, Agree 4, Neither Agree/Disagree 3, Disagree 2 and Strongly Disagree being 1. Eight important areas namely confidence to start a business, knowledge and skill to initiate a business, identification of prospective business opportunities, mobilisation of resources and funds for the business, penetration into the market, problem solving capacity in business and risk bearing capacity.

3.4.2.12. Motivating Factors to Take Up Entrepreneurship: The respondents were asked to indicate motivating factors to take up entrepreneurship on a five point Likert scale ranging from Strongly Agree being 5, Agree 4, Neither Agree/Disagree 3, Disagree 2 and Strongly Disagree being 1. Important motivating factors namely family business background, partnership opportunities, employment generation, social relevance, demand for new products, adequate resources, business policy, financial support, potential for more earning, inspiration from successful entrepreneurs, role models, desire for recognition, service orientation and good future prospects.

3.4.2.13. Job Orientation: Respondents were asked to give their opinion on different dimensions of job orientation on a five point Likert scale ranging from Strongly Agree being 5, Agree 4, Neither Agree/Disagree 3, Disagree 2 and Strongly Disagree being 1. The statements covered aspects namely

decent livelihood, confident future, failure possibilities in business, ease of doing business and freedom.

3.4.2.14. Comparison of Job with Business: Respondents were asked to compare job with business on different parameters namely earning potential, recognition, creating employment, freedom to make decisions and work, scope for innovation, regular income, safe future, social network, happiness in life, to be role model, facing the challenges, better marriage alliances and political prospects. The responses were classified based on frequencies and percentages.

3.4.2.15. Societal Response to Entrepreneurship: The respondents were asked to indicate their perception about entrepreneur by the society on a five point Likert scale ranging from Strongly Agree being 5, Agree 4, Neither Agree/Disagree 3, Disagree 2 and Strongly Disagree being 1. The responses were assessed on areas namely societal respect, expectation of society, entrepreneurship by choice or by chance, family profession, encouragement for women entrepreneurs and gender bias.

3.4.2.16. Role of Decision Maker: Respondents were asked to rank different persons in the ecosystem namely self, parents, elders, teachers, friends and others based on their influence on the futuristic decisions of the respondents. The responses were classified based on frequencies and percentages.

3.4.2.17. Vision of the Respondents: The respondents were asked to indicate their final desire in the direction of entrepreneurship on a five point Likert scale ranging from Strongly Agree being 5, Agree 4, Neither Agree/Disagree 3, Disagree 2 and Strongly Disagree being 1. The respondents were asked to comment on areas namely professional goal, entrepreneurial initiative, desire to gain confidence through work and availing any opportunity to become entrepreneur.

3.4.2.18. Timeline for Entrepreneurship: Respondents were asked indicate definite time line for initiating their own enterprise on a five point Likert scale ranging from Strongly Agree being 5, Agree 4, Neither Agree/Disagree 3, Disagree 2 and Strongly Disagree being 1. The time line ranged between immediate to never.