EMPOWERING WOMEN THROUGH ENTREPRENEURSHIP IN INDIA

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ABSTRACT
We live in a world where we consider a woman an equal personality to the man, but to what extent it is followed is unknown. Women suffer due to a lack of emotional or financial support. Nevertheless, after bearing all the sufferings, reaching their goals is the real woman empowerment. In this paper, we have highlighted the relevance of women entrepreneurs in the context of India and deduced how women could be empowered through entrepreneurship. For this, women's difficulties in bringing out their efforts and awareness about the government's policies in promoting women's entrepreneurship were studied. A questionnaire was formulated, and 200 women in the age group 16-25 years were surveyed. The data collected through our questionnaire was exhaustively cleaned and thoroughly analyzed to state the conclusion of our findings.

INTRODUCTION

Entrepreneurship means to identify any unexploited opportunity and convert it into profitable innovation. Entrepreneurs are the people who identify an opportunity to start a business for profit earning, for social welfare or to innovate in any field according to their interest. There are 582 million (approx.) entrepreneurs in the world out of which only 126 million (approx.) are women entrepreneurs.
Women are considered as a very important part of a country's growth. That is why; they must have a right to live with freedom and to make their own independent decisions.

Women's entrepreneurship is an important source of the economic process. Women entrepreneurs generate job opportunities not only for themselves but also for others and collectively offer society. They try their best to provide an altogether different solution to management, organization, and business problems. Nevertheless, even after that, women still do not dominate the entrepreneur's community in the country. Women entrepreneurs often report gender-based barriers while starting and growing their

businesses. Some very common issues include: discriminatory property, marital status, inheritance laws, cultural practices, restricted mobility, lack of access to formal financial solutions; and limited access to information and networks, etc.

Although, women have been participating in the growth of the world since a very long time but in the current era, they are creating a space of recognition for themselves through entrepreneurship. They are becoming the root of overall development for every part of the society. Through entrepreneurship, women are fulfilling their self-actualization needs and finding a better way to improve themselves in decision making. Women are contributing in the success through innovation, smart work and uniqueness in their efforts.

Whenever we discuss about entrepreneurs, we should never forget to mention what women entrepreneurs like Sarah Breedlove, Kalpana Saroj, Indra Nooyi, Shahnaz Hussain, Jyoti Nayak, Ranjana Kumar etc. have done for the world. We can categorize women entrepreneurs into three categories:

Educated and skilled women entrepreneurs who work in large and medium sector to take the initiative and manage the business as well as a man. Such entrepreneurs are acquainted with basic managerial training and educational qualifications. For example, a woman with an MBA degree heading medium sector and large units. With their skills and qualifications, they exploit every opportunity available to them to reach a very superior position and have a competitive edge over others to set up and manage the units.

Women entrepreneurs with no education or any formal training in management work in small sector. While working in small-scale industries, they develop skills required to manage their work. Such women often select product(s) with which they are familiar like garments, weaving, pickles, dolls and handicrafts. Some of these is f entrepreneurs may even have ventured into engineering, electronics, chemicals and pharmaceuticals to make surgical instruments, furniture and pottery. Women entrepreneurs under this category need some special privileges to overcome social handicaps that are often experienced by them like attitudinal reluctance of officers, lack of knowledge, too many formalities involved in completing a particular task, etc.

Women entrepreneurs working in cities and slums to help other women having lower means of livelihood. Their commitment inspires organizations to come forward and help economically weaker sections. Such women entrepreneurs need Government support to promote their wok and provide financial assistance at a concessional rate. Preferential purchasing policy of government are specially created to help such institutions to manufacture and sell products like files, chalk, stationery, etc. to the government.
The paper is divided into six sections. Section 1 gives Literature Review, Section 2 highlights the methodology used, Section 3 defines terminology used in the paper for a better understanding, Section 4 gives an interpretation of the results, the paper is concluded in Section 5.

1. LITERATURE REVIEWS

Although, the Government of India has initiated a lot of policies and programs for budding women entrepreneurs but there is a need of some immediate alterations in them. Bhartiya Mahila Bank, Annapurna Scheme, Stree Shakti, Orient Mahila Vikas Yojana Scheme, Dena Shakti Scheme are some of the steps taken by the government to support women entrepreneurs who have capabilities but need money to arrange for required resources. These schemes financial help to women to start a new venture.

However, some women find it difficult to take loans through these schemes due to high interest rates, short time period of repayment, lack of complete knowledge about the procedure, fear of on time loan repayment etc.

The initiative taken by the Ministry of Women & Child Development during 1986-1987 under the name "Support to Training and Employment Programme for women", assisted women to develop entrepreneurship and employability skills. Some of the corrections in this scheme were always felt. First, duration of loan repayment should be based on venture's development only as in India 20% of new businesses fail in the very first year of operations and only 50% of new businesses survive till the fifth year of operations. Second, rate of interest on loans should be less than the rate of earnings. Moreover, the main goal of the government should be to provide a convenient procedure to opt for loans and trainings.

2. METHODOLOGY

The study includes the qualitative as well as quantitative data. A questionnaire was used to collect the behavioral data of women regarding the topic of the paper. 200 Respondents were selected from different cities including Delhi/NCR, Chandigarh, Lucknow, Chattisgarh, Odisha, Jharkhand, West Bengal, Punjab, Uttarakhand, Rajasthan, Assam and Bihar. They were specifically chosen in the age group 16-25 years.

Some respondents did not fill data for certain. For example, some did not give information about their annual family income. So, to maintain the consistency in results, missing values were filled by the mean income. Several graphs were plotted and tables were created to better understand the data.

Logistic Regression was used to generate a prediction model. The model allows users to know how likely it is for a woman with similar attributes to take up entrepreneurship in future. Another model was developed using k-means algorithm to form groups of women with similar conditions. The value of 'k' was adjusted to improve the efficiency of the model. A decision tree was also constructed to ease the process of decision.

3. KEY TERMINOLOGY USED

Logistic Regression- Also known as Logit Regression or Logit Model, is a mathematical model used in statistics to use already available data to estimate the probability of occurrence of an event. Mathematically, the expression for logistic regression can be given as,

$$p / 1\text{-}p = \exp (b_0 + b_1 x) \qquad \textbf{(i)}$$

Decision Tree- A decision tree is a supervised machine learning algorithm that constructs a hierarchical tree-like structure to depict decisions and their consequences at each level.

ROC Curve- It is a graphical plot that represents the diagnostic ability of a binary classifier by changing its threshold.
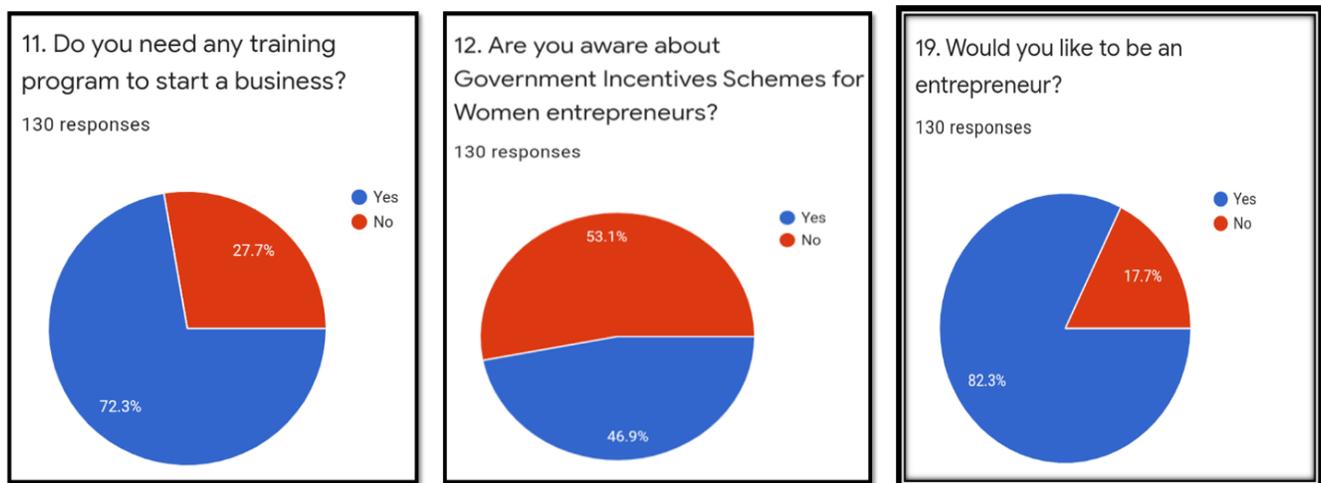
k- means- It is a popularly used technique for vector quantization. The algorithm partitions n observations into k clusters or groups in such a way that each observation is added to the cluster with nearest mean.

$$J = \sum_{j=1}^{k} \sum_{i=1}^{n} \left\| x_i^{(j)} - c_j \right\|^2 \qquad \textbf{(ii)}$$

4. INTERPRETATION OF RESULTS

From the data collected, it can be easily understood that women have strength to initiate a venture but some of them are not getting the opportunity to initiate and most of them are not aware of the available opportunities and schemes offered by the government. Only 46.9% women were aware of the Government schemes, rest 53.1%had not even heard of the schemes. There are 72.3% women who need a training program so that they can grab an opportunity. Out of 100%, there are 82.3% women who really want to start their own venture to become a successful entrepreneur.

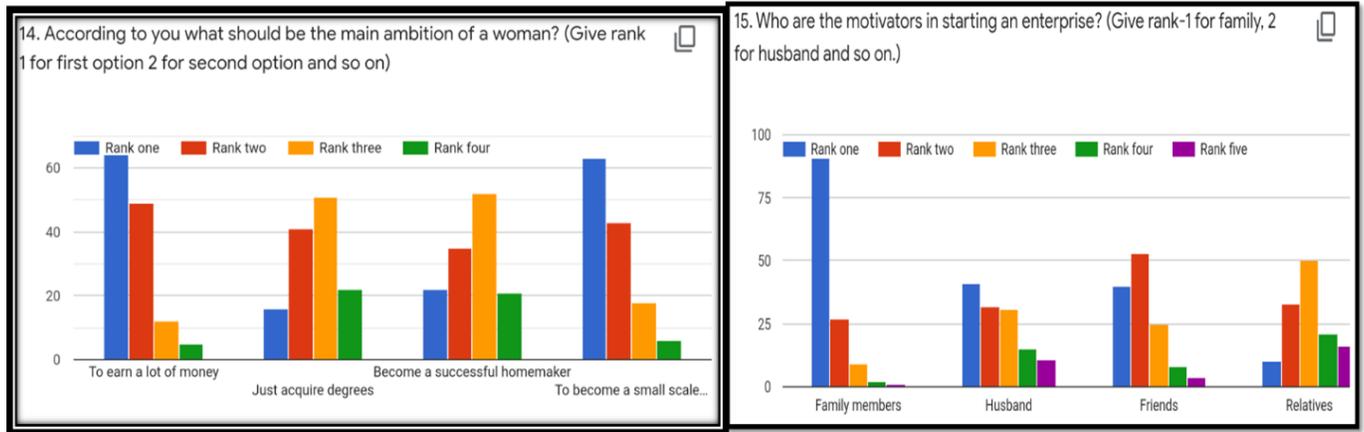*Figure 1* **Responses obtained from young women**

(Source: own research)

The women have different fields of interest. It was found that 43.8% of women are interested in social field, 31.5% are interested in lifestyle, 16.2% are interested to initiate in technological field, and 8.5% are interested in industrial field.

6.2% women are ready to take moderate level of risk while starting their new business. They have a passion to start their own venture in order to fulfill their self-esteem needs. 52.3% women think that business knowledge is far more essential to start a new venture than formal education. A large number of women want to become a self-reliant entrepreneur but they feel that they need proper training and financial support. They need a platform where they can polish their skills and become a self-reliant person.

Figure 2 **Responses regarding ambition and motivations for women entrepreneurs**

(Source: own research)

The main ambition of a woman can be ascertained from the research data as most of the respondents want to earn a lot of money by becoming a successful entrepreneur. For them, the best motivators are their family members, friends and their own passion. Other useful pieces of information deduced after thoroughly analyzing the questionnaires are presented in Table 1.

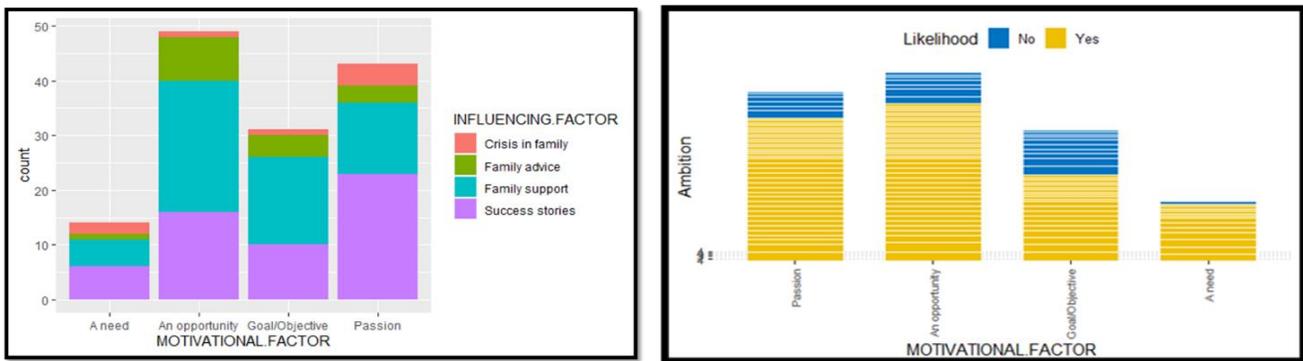*Table 1* **Analyzing and Interpreting Questionnaire Responses**

FIELD	15.9% Technological	8% Industrial	43.5% Social	32.6% Lifestyle
RISK	11.6% High	8% Low	76.1% Moderate	4.3% No Risk
MOTIVATIONAL FACTOR	10.1% Need	31.2% Passion	23.2% Goal/Objective	35.5% An Opportunity
LEVEL OF VENTURE	12.3% Micro	34.8% Small	45.7% Medium	7.2% Large
YOUR SKILLS	22.5% Business Skills	38.4% Leadership Skills	25.4% Entrepreneurial Skills	13.8% Other Skills
BUSINESS KNOWLEDGE	52.3% Strongly Agree	3.1% Strongly Disagree	41.5% Slightly Agree	3.1% Slightly Disagree
KIND OF RISK	20.3% Financial Risk	5.2% Product and Service Risk	73.2% Both	1.3% No Risk
IMPORTANT SKILLS	10.9% Commitment and Determination	13.8% Innovative and Creative	3.6% Self Reliant	71.7% All
FORMAL EDUCATION	25.4% Strongly Agree	8% Strongly Disagree	50.7% Slightly Agree	15.9% Slightly Disagree
TRAINING	71% Needed	29% Not Needed	--	--
GOVERNMENT SCHEMES	44.9% Aware	55.1% Not Aware	--	--
INFLUENCING FACTOR	40.6% Success Stories	11.6% Family Advice	5.8% Crisis in Family	42% Family Support
ENTREPRENEURIAL ATTITUDE	34.1% Profit Earning	31.2% Gaining Knowledge	26.1% Risk Taking	8.7% Other
COMPONENT OF ENTREPRENEURSHIP	36.2% Risk Tolerance	33.3% Entrepreneurial Attitude	24.6% Power To Generate Income	5.8% Finance
LIKELIHOOD	82.6% Yes	17.4% No	--	--

(Source: own research)

In figure 3, we see that women become entrepreneurs when they have family support and they get a suitable opportunity. There are high chances that a woman will become an entrepreneur when she gets an opportunity and the support of her family.

Figure 4a shows that among all the four sectors- industrial, social, technological and lifestyle, a large number of women are interested in starting a medium level venture in the social sector. After the social sector, most of the women are interested in discovering something new in lifestyle sector at medium level. The next choice of women is starting a new business in the technological sector. In the technological sector, large numbers of women are ready to start a venture at a small level. The least numbers of women are interested in industrial sector innovations.
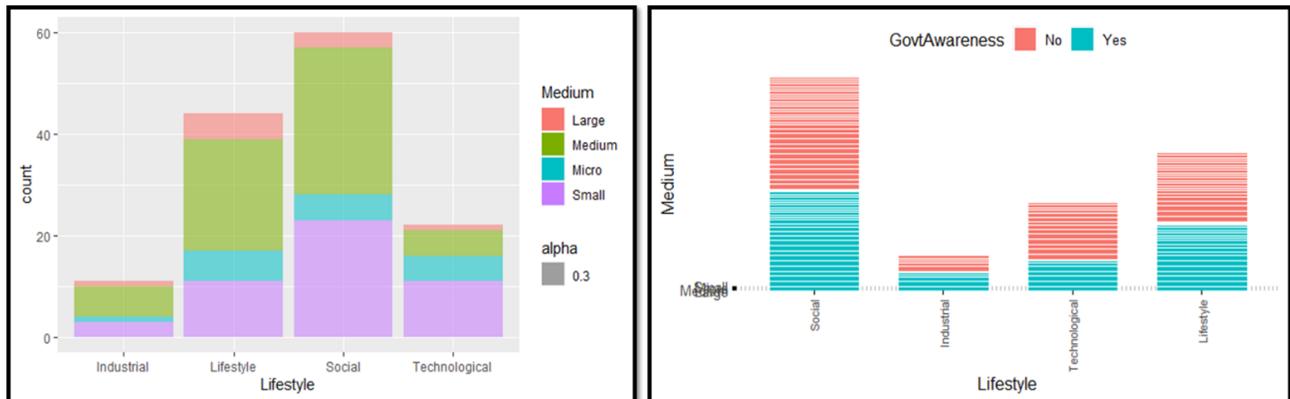
Figure 3 **Motivational Factor in Women Entrepreneur**

(Source: own research)

Figure 4b shows a graph that represents a large number of women who want to initiate a venture in social sector at medium level are not aware about the government incentives/schemes available. Similarly, in case of technological and lifestyle sector there is a large number of women who are not aware about available benefits provided by the government but they want to initiate the business at medium level. In case of industrial sector women are more aware of Government schemes than other sectors.

Figure 4 **(a) Women's Interests, (b) Government Awareness**

(Source: own research)

Table 2 clearly indicates that majority women become excellent entrepreneurs when they get an opportun**ity** and they prefer learning from other successful entrepreneurs' stories. Other women who are highly inspired by successful stories become entrepreneurs when they have a set goal or passion to do something different from others.

Very less number of women becomes an entrepreneur when they are already inspired by success stories of other successful entrepreneurs and there is a stringent need in their lives to start a venture of their own. There is high probability of women to be an entrepreneur when they get their family advice along with an opportunity than other factors including passion, objective and any need.

If we consider crisis in family as an influencing factor than it would be their passion which will push women to become an entrepreneur than their goals, an opportunity and any need.

Table 2 **Motivational and Influencing Factor in Women Entrepreneur**

Motivational Factor	Influencing Factor		
	Crisis in Family	Family Advice	Success Stories
A Need	2	1	5
An Opportunity	1	8	24
Goal/ Objective	1	4	16
Passion	4	3	13

(Source: own research)

Table 3 presents the relation between the fields of innovation and the level of business. A large number of women want to innovate at a medium level in social and industrial sectors, followed by the lifestyle sector. In the technological sector, women are more curious to innovate at a small level. The reason for this may be constant changes in the technology sector and the need to always stay up-to-date.

Table 2 **Relation between the fields of innovation and the level of business.**

Field	level of venture- medium			
	Large	Medium	Micro	Small
Lifestyle	1	6	1	3
Industrial	5	22	6	11
Social	3	29	5	23
Technological	1	5	5	11

(Source: own research)

Table 4 reveals the relationship between the fields in which women are interested to innovate and the level of risk they want to take in a particular field. Maximum numbers of women are interested to bear moderate level of risk in all the fields of innovation. In the lifestyle sector no woman assumes zero risk. While in technological field no women is ready to take high level of risk.

Table 3 **Relation between the fields of innovation and acceptable risk level**

FIELD	RISK LEVEL-MODERATE			
	HIGH	LOW	MODERATE	NO RISK
LIFESTYLE	1	2	8	0
INDUSTRIAL	8	2	32	2
SOCIAL	7	6	45	2
TECHNOLOGIC AL	0	1	19	2

(Source: own research)

Table 4: Relationship between the fields in which women are interested in innovating, and the level of risk Logistic Regression Model was used to describe the data set and explain the relationship between a dependent binary variable (i.e., likelihood of becoming an entrepreneur or not) and one or more independent variables that may be nominal, ordinal, interval or ratio-level.
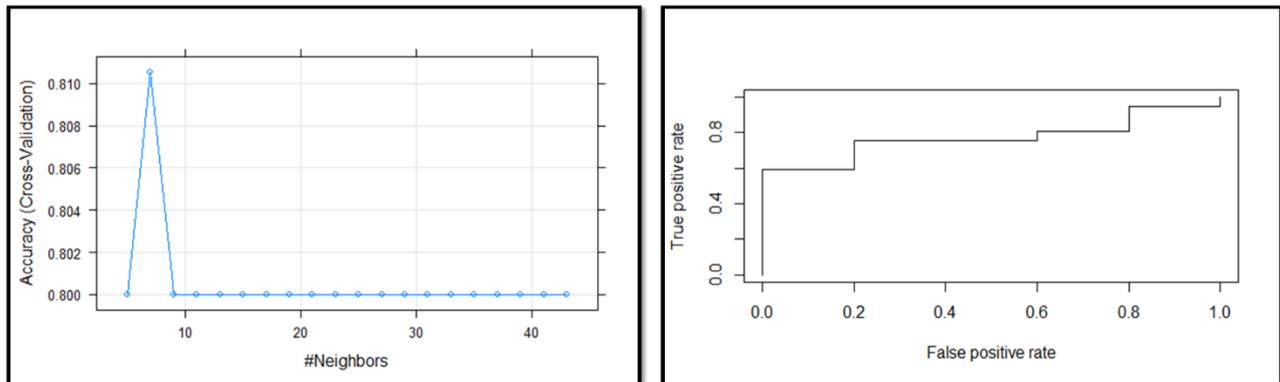
Initially, we got an accuracy of 77% that is quite evident from the Confusion Matrix and ROC Curve plotted.

Confusion Matrix

Particulars	False	True
No	**1**	**4**
Yes	**4**	**33**

To improve the accuracy of our prediction, we used the k-means algorithm. Results were analyzed by varying the number of clusters. It was found that maximum accuracy of 82.5% was achieved when numbers of unique clusters were equal to 5. The result can be understood from the graph shown in figure 5 in the figure that plots accuracy against number of nearest neighbors.

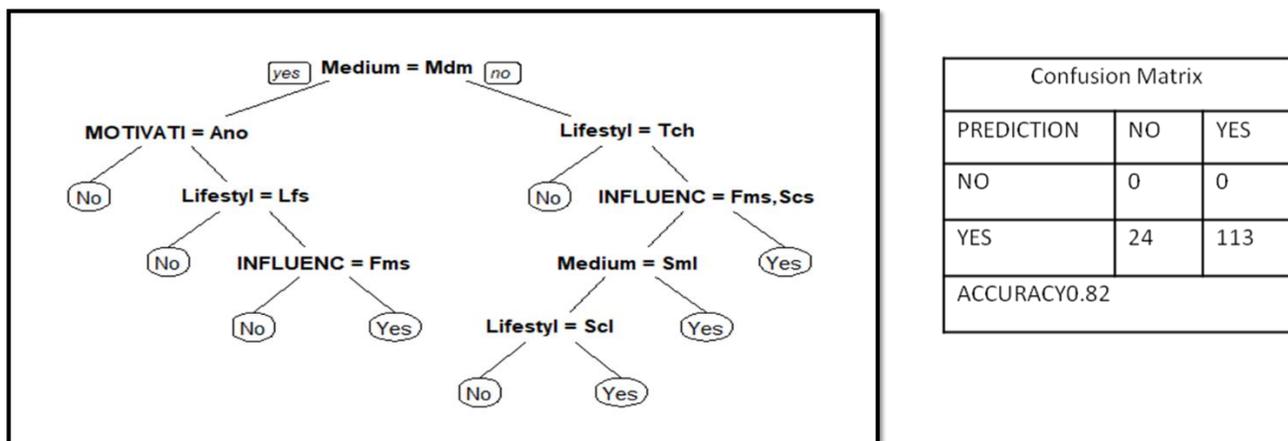*Figure 2* **(a) Accuracy against neighbors (b) ROC Curve**

(Source: own research)

A decision tree was plotted to understand how the machine classifies individual entries in our data set. We have plotted the likelihood of a woman with specified features to become an entrepreneur. By looking at the decision tree, we can deduce the following information.

- A woman is likely to become an entrepreneur if she gets an opportunity and has full family support. With these two factors, she prefers to start a medium-level venture.
- If the level of venture is large, family support and success stories of successful women entrepreneur's influence women to become an entrepreneur. However, women under this category do not choose to start any technology related business.
- Most women who do not want to start a medium level venture prefer to start-up either a small venture or large-scale venture in society related products or services.

Our decision tree gave results with an accuracy of 82.5% (as shown in figure 6). The accuracy can also be verified through the Confusion Matrix given below.

Figure 3 **Decision Tree and its Confusion Matrix**

(Source: own research)

CONCLUSION

The findings reveal that there is a need of immediate alterations in some of the policies for the betterment of budding women entrepreneurs. A lot of women can initiate some new projects but they do not find an opportunity due to lack of knowledge, finance, guidance and support. Through the study of this paper it can be concluded that not just the social, technological, industrial, and lifestyle sectors are the choice of budding women entrepreneurs but they have a lot more strength to innovate, research, and apply in the real world.

The study breaks a lot of myths about women. Women are capable enough to take risk; even some of the women are ready to bear moderate and high level of risk for social and lifestyle sector. They are smart enough to assess the rapid change in the technology that is why they prefer low level of risk in technological sector. The women who are interested in technological sector are aware about most of the Government schemes available to the entrepreneurs of technological field. The effective motivator for the

keen women is an opportunity in their interested field. Medium level is the highest preferable level to start a venture in all the fields.

A large number of women assess themselves as a good leader. They think that business knowledge is equally important as to have some basic skills. A large number of women think that they may face financial risk while starting a new business. Half of the women in the survey have a view that formal education is really very necessary to become an entrepreneur. More than half of the women are keen to take part in any of trainings which government can provide to them and in which they can learn something that will help them in their venture. But it is a matter of concern that more than a half of the women are unaware of the available benefits given by the government to the budding entrepreneurs. They can face challenges and cope up with them. The only necessary factor is equality in the society. The more freedom and open space women will get, we will have even more successful women entrepreneurs. It will not only help in their self-growth but the whole society will move to the real direction of growth.

Our findings would be helpful in assisting budding women entrepreneurs, analyzing or implementing some new Government policies for their better growth.

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