An Entrepreneurial Ecosystem for prospective Entrepreneurs at Bengaluru: A study by Dr. Santhosh M[a]

Abstract

Bengaluru, the startup capital of India has become synonym for budding entrepreneurs who wish to explore their entrepreneurial skills in wide spectrum of opportunities ranging from IT to catering. The city has a vibrant business environment which caters to all business models making Bengaluru the most sought after destination for starting a new venture.The present study makes a sincere effort to identify the various factors that supports the entrepreneur to make his dream a reality. This research aims to provide a comprehensive framework of the fields, elements, relations and phases on which future research in the field of entrepreneurial ecosystem in Bengaluru can be based and oriented.Convenience sampling technique is employed to source 219 respondents who are presumed to be Prospective Entrepreneurs. Primary data is gathered by administering structured questionnaire after validating the instrument. The demographic attributes and risk taking ability of the prospective entrepreneur is collated. A Hypothesis model is developed based on the outcome of the study. The model is validated for its accuracy and significance. The study finds that the demographic factors of an individual has significant impact on the decision making ability and willingness to take calculated risks in life. The place for operating business undoubtedly remains a critical component for the success or failure of a business model.

Keywords:

Entrepreneur, Ecosystem, Age, Willingness, Gender, occupation

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1. Introduction:

India, considered as the land of opportunities has opened new avenues to different business models. World's second largest population, multi culture , flexible workforce, skilled manpower have become the driving force to motivate young population of India to pursue Entrepreneurship. The young population of India is very ambitious and quite determined to achieve something great in their life. The various schemes offered by government both state and central has promoted small and medium scale industries in India.

The stable government at the centre and many pro industry policies were encouraged foreign direct investments to India. The cosmopolitan cities, better infrastructure, IT capabilities have made many cities the most sought after destination for investments. The Research and development facilities

in India were paid ways to many industries to set up their knowledge centers in India which has boosted the R and D activities. The universities and higher education centers in India have also made a significant impact on developing entrepreneurial mindset amongst the students by setting up ED cells and Incubation centers in their premises.

Entrepreneurial ecosystems are defined as a set of interdependent factors coordinated in such a way that entrepreneurial ecosystems as 'combinations of social, political, economic, and cultural elements within a region that support the development and growth of innovative startups and encourage nascent entrepreneurs and other actors to take the risks of starting, funding, and otherwise assisting high-risk ventures'.

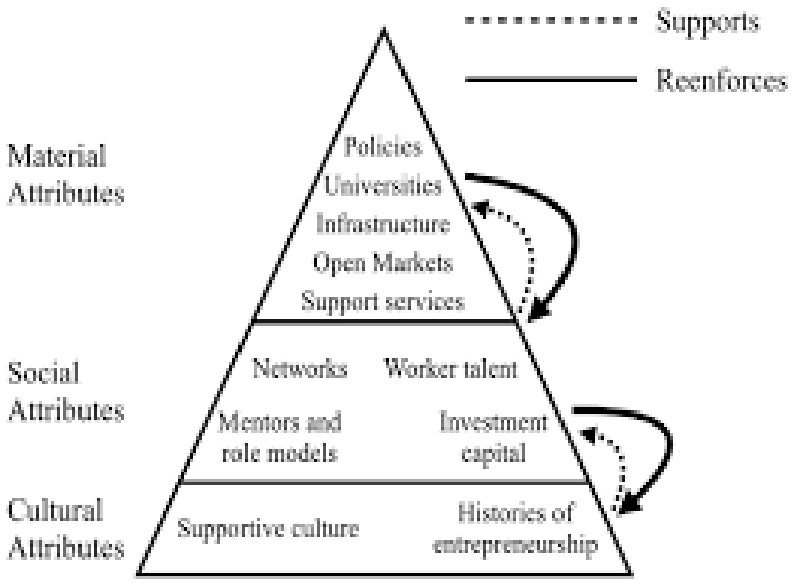


Fig.1.1: Relationships between attributes within entrepreneurial ecosystems (Spigel, 2015)

Bengaluru, the capital city of the Indian state of Karnataka finds an important place in Global business chart. Bengaluru, the IT capital of India accounts to the largest IT exports of India and houses several hundreds of IT companies which has made Bengaluru as the silicon valley. The growth in Infrastructure viz., Metro train, Outer ring roads, Express ways, Seamless public transport systems, Internet connectivity, smart city project have contributed significantly in enhancing the Brand Bengaluru as the most sought after destination for business. Bengaluru is not just a place, it's a movement. The city's vibrant infrastructure, cosmopolitan culture and skilled manpower have encouraged many budding entrepreneurs to start their venture in the city. Increase in disposable income, lifestyle changes, better employment opportunities have become the key success factors to enhance the business opportunities in Bengaluru. The climate of Bengaluru which is pleasant throughout the year compliments its strength.

2. Need for study

In a city like Bengaluru, where there is huge population, we find number of people who graduate every year, out of that only few get jobs and in present days we see that there are more number of job seekers rather than job creators so, the study helps in knowing the certain factors in Bengaluru city influencing a person to become an entrepreneur.

3. Scope of study

The scope of the present research is wide and deep at the same time, which witnesses 219 responses in Bengaluru city. This research aims to provide a comprehensive framework of the fields, elements, relations and phases on which future research in the field of entrepreneurial ecosystem in Bengaluru can be based and oriented. Its ambition is to provide a good guideline for researchers who are aiming to make further researches.

4. Objectives of study

1) To analyse the relationship between the various demographic attributes of an individual and entrepreneurial ecosystem.

5. Research Design:

1) Type of Research: Applied Research
2) Sampling Technique: Convenience Sampling
3) Sampling Unit: Budding Entrepreneurs in Bangalore city.
4) Sample size: 219
5) Data collection tools: Structured Questionnaire through Google forms.
6) Sources of Data: Primary and Secondary
7) Statistical tools employed: Correlation, Regression, Chi-Square test, t-test, ANOVA

Methodology: Multiple Linear Regression using Principle of Least Squares

Sample: Random sample of 219 people details is used for the analysis.

6. Results and discussion:

Analysis of Relation between Age group, Gender, Occupation & Willingness of an Individual Influencing Entrepreneurial Ecosystem in Bangalore

Descriptive Statistics									
	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Age group of Individual	219	1	3	2.00	.535	.000	.165	.556	.328
Occupation of Individual	219	1	3	1.49	.645	.957	.164	-.179	.327
Willingness of Individual	219	1	5	3.83	1.268	-.781	.164	-.455	.327

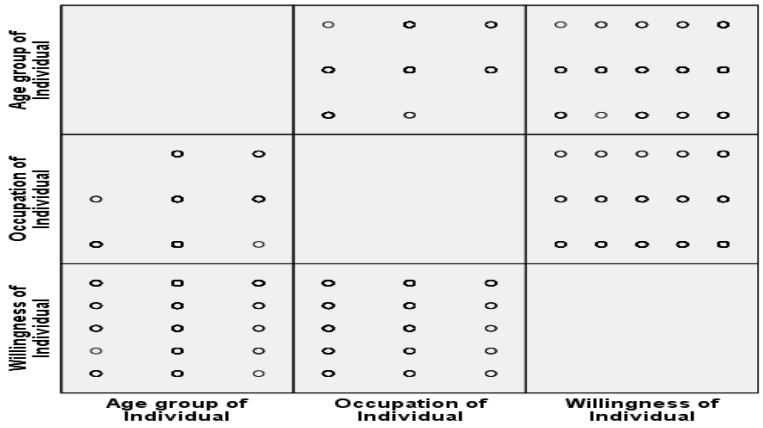
The average Age group of Individual is 2with standard deviation 0.535 which is quite low indicates that data is not consistent. Skewness coefficient 0.000 which indicates symmetrical data. Kurtosis is positive 0.556 and moderate which indicates non-normality of variables.

The average Occupation of Individual is 1.49 and with standard deviation 0.645 which is Moderate which indicates that data is consistent. Skewness coefficient is 0.947 is positive which indicates majority of Occupation of Individual has more than average. Kurtosis is -0.179 negative and low which indicates normality of variables.

The average Willingness of Individual is 3.83and with standard deviation 1.268 which is Moderate which indicates that data is consistent. Skewness coefficient is -0.781 is negative which indicates majority of Willingness of Individual has less than average. Kurtosis is -0.455 negative and low which indicates normality of variables.

Correlation analysis

Correlation analysis between three variables is carried out to see if there is any association between them. A matrix scatter plot will indicate the presence of such relation



Willingness of Individual, the dependent variable seems to have positive correlation with both the independent variables- Occupation of Individual&Age group of Individual. However the correlation between two independent variables seems to be good. This can be confirmed by observing Karl Pearson's Correlation Coefficient values.

	Willingness of Individual	
Occupation of Individual	Pearson Correlation	.029
	Sig. (2-tailed)	.665
	N	219
Willingness of Individual	Pearson Correlation	1
	Sig. (2-tailed)	
	N	219
Age group of Individual	Pearson Correlation	.204**
	Sig. (2-tailed)	.002
	N	218

**. Correlation is significant at the 0.01 level (2-tailed).

Correlation Coefficient between Occupation of Individual and Willingness of IndividualInfluencing Entrepreneurial Ecosystem in Bangalore

Correlation coefficient is 0.029 which indicates positive degree of correlation. The significance of this correlation coefficient is confirmed by t-test

Hypothesis:

H_0: There is no significant relationship between Occupation of Individual and Willingness of IndividualInfluencing Entrepreneurial Ecosystem in Bangalore

H_1:There is a significant relationship between Occupation of Individual and Willingness of Individual Influencing Entrepreneurial Ecosystem in Bangalore

Crosstab

			Willingness of an Individual					Total
			Very high	High	Neutral	Low	Very low	
Occupation of Individual	Student	Count	10	10	30	26	53	129
		Expected Count	9.4	10.0	29.5	24.2	56.0	129.0
	Employee	Count	4	5	18	12	33	72
		Expected Count	5.3	5.6	16.4	13.5	31.2	72.0
	Self employed	Count	2	2	2	3	9	18
		Expected Count	1.3	1.4	4.1	3.4	7.8	18.0
Total		Count	16	17	50	41	95	219
		Expected Count	16.0	17.0	50.0	41.0	95.0	219.0

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.040[a]	8	.932
Likelihood Ratio	3.237	8	.919
Linear-by-Linear Association	.189	1	.664
N of Valid Cases	219		
a. 4 cells (26.7%) have expected count less than 5. The minimum expected count is 1.32.			

The significance value from the t-test is less than 0.01, hence the null hypothesis is rejected at 1% level of significance.

Correlation Coefficient between Age group of Individual and Willingness of IndividualInfluencing Entrepreneurial Ecosystem in Bangalore

Correlation coefficient is 0.204 which indicates positive degree of correlation. The significance of this correlation coefficient is confirmed by t-test

Hypothesis:

H_0: There is no significant relationship between Age group of an Individual and Willingness of Individual Influencing Entrepreneurial Ecosystem in Bangalore

$H_{1:}$ There is a significant relationship between Age group of an Individual and Willingness of Individual Influencing Entrepreneurial Ecosystem in Bangalore

Crosstab								
			Willingness of Individual					Total
			Very high	High	Neutral	Low	Very low	
Age group of Individual	15-20	Count	6	1	9	5	10	31
		Expected Count	2.3	2.4	7.1	5.8	13.4	31.0
	20-25	Count	9	14	38	32	63	156
		Expected Count	11.4	12.2	35.8	29.3	67.3	156.0
	25-30	Count	1	2	3	4	21	31
		Expected Count	2.3	2.4	7.1	5.8	13.4	31.0
Total		Count	16	17	50	41	94	218
		Expected Count	16.0	17.0	50.0	41.0	94.0	218.0

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17.944[a]	8	.022
Likelihood Ratio	16.628	8	.034
Linear-by-Linear Association	9.016	1	.003
N of Valid Cases	218		
a. 4 cells (26.7%) have expected count less than 5. The minimum expected count is 2.28.			

The significance value from the t-test is less than 0.01, hence the null hypothesis is rejected at 1% level of significance.

Testing the Association between Gender and Willingness of Individual Influencing Entrepreneurial Ecosystem in Bangalore

To find if there is any significance association between Gender and Willingness of Individual, Chi-square test is carried out.

Hypothesis:

H_0: There is no significant relationship between Gender of an Individual and Willingness of Individual Influencing Entrepreneurial Ecosystem in Bangalore

$H_{1:}$ There is a significant relationship between Gender of an Individual and Willingness of Individual Influencing Entrepreneurial Ecosystem in Bangalore

Gender of Individual * Willingness of Individual Cross tabulation								
			Willingness of Individual					Total
			Very high	High	Neutral	Low	Very low	
Gender of Individual	Female	Count	2	6	20	10	19	57
		Expected Count	4.2	4.4	13.0	10.7	24.7	57.0
	Male	Count	14	11	30	31	76	162
		Expected Count	11.8	12.6	37.0	30.3	70.3	162.0
Total		Count	16	17	50	41	95	219
		Expected Count	16.0	17.0	50.0	41.0	95.0	219.0

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.199[a]	4	.056
Likelihood Ratio	9.062	4	.060
N of Valid Cases	219		
a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 4.16.			

Chi-square test statistic value= 9.199 with significance value more than 0.01, and hence the null hypothesis is accepted at 1% level of significance. Thus we infer that gender is significally not associated with spending scores of customers.

Hypothesis model:

Willingness of Individual = B_0 + B_1* Age group of Individual + B2* Occupation of Individual

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.930	.332		8.827	.000		
	Age group of Individual	.586	.178	.247	3.295	.001	.789	1.267
	Occupation of Individual	-.186	.149	-.094	-1.249	.213	.789	1.267
a. Dependent Variable: Willingness of Individual								

The estimated model is:

Spending Score of customers = 2.930 + 0.586 *Age group of Individual + (-0.186)* Occupation of Individual

Interpretation of regression coefficient

B0 = 2.930 minimum Willingness of Individual that can be expected when Age group
Occupation of Individual are 0.

- B1 = (0.586) implies the effect of Age group on Willingness of Individual. This means when Willingness of Individual Increases we can expect an average age of (-0.586)
- B2 = (-0.186) implies the effect of Occupation of Individual on Willingness of Individual. This means when the Willingness of Individual decreases we can expect an average annual score of (-0.186)

Comparing the two independent variables to find which is more influential we refer to standardised beta which suggests that Age group of Individual is more influencing than Occupation of Individual [0.247 > (-0.094)]

Test of significance of regression coefficient

- t- test is carried out to find if the regression coefficients are statistically significant
- Null hypothesis: the regression correlation is not significant, Bi = 0 for i=1,2
- Test statistic value t = (3.295) with significance value 0.001 less than 0.01, hence the null hypothesis is rejected at 1% level of significance. Hence we infer that the regression coefficient for B1 is statistically significant.
- Test statistic value t = (-1.249) with significance value 0.213 more than 0.01, hence the null hypothesis is accepted at 1% level of significance. Hence we infer that the regression coefficient for B2 is not statistically significant.

  Test for multicollinearity: the inter correlation of independent variables is known as multicollinearity. Presence of multicollinearity affects the model. To find if there is if there is significant multicollinearity we refer to Variance Inflation Factor (VIF). If VIF values are less than or equal to 5 it indicates absence of significant multicollinearity. Here VIF = 1.267 less than 5 indicates there is no significant multicollinearity.

Model accuracy and its significance

The prediction power of the model is determined by the Coefficient of Determination, $R^{2.}$ It explains the amount of variance of the dependent variable that is captured by the model.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.220[a]	.048	.040	1.243

a. Predictors: (Constant), Occupation of Individual, Age group of Individual
b. Dependent Variable: Willingness of Individual

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.927	2	8.464	5.474	.005[b]
	Residual	332.449	215	1.546		
	Total	349.376	217			

a. Dependent Variable: Willingness of Individual
b. b. Predictors: (Constant), Occupation of Individual, Age group of Individual

Here the value of R^2 implies 4.8% variation in Willingness of Individual is captured by the model.

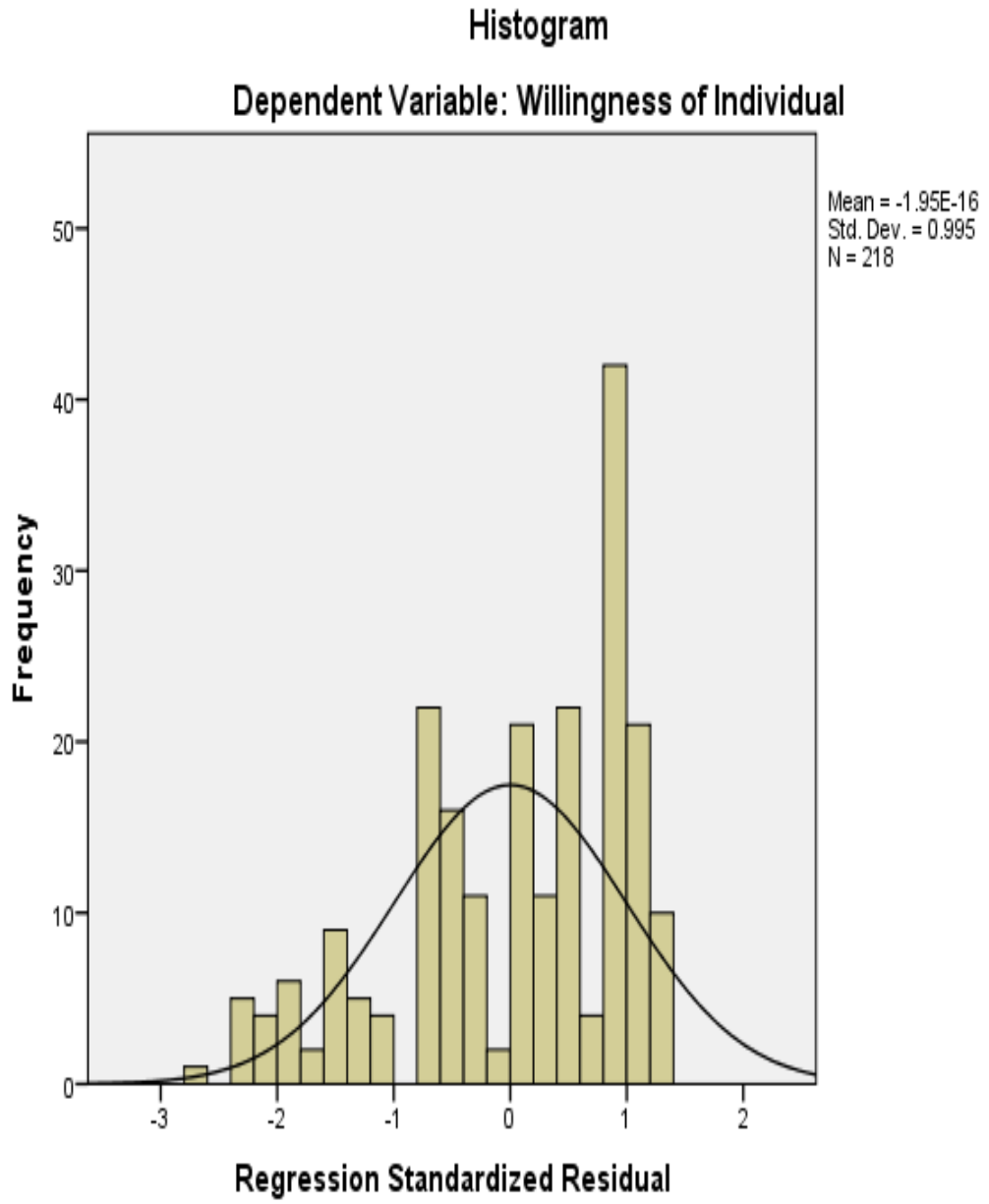
A model is considered to be useful for prediction if R^2 is at least 60%. This indicates that the model that has poor prediction accuracy. Significance of R^2 is tested using ANOVA.

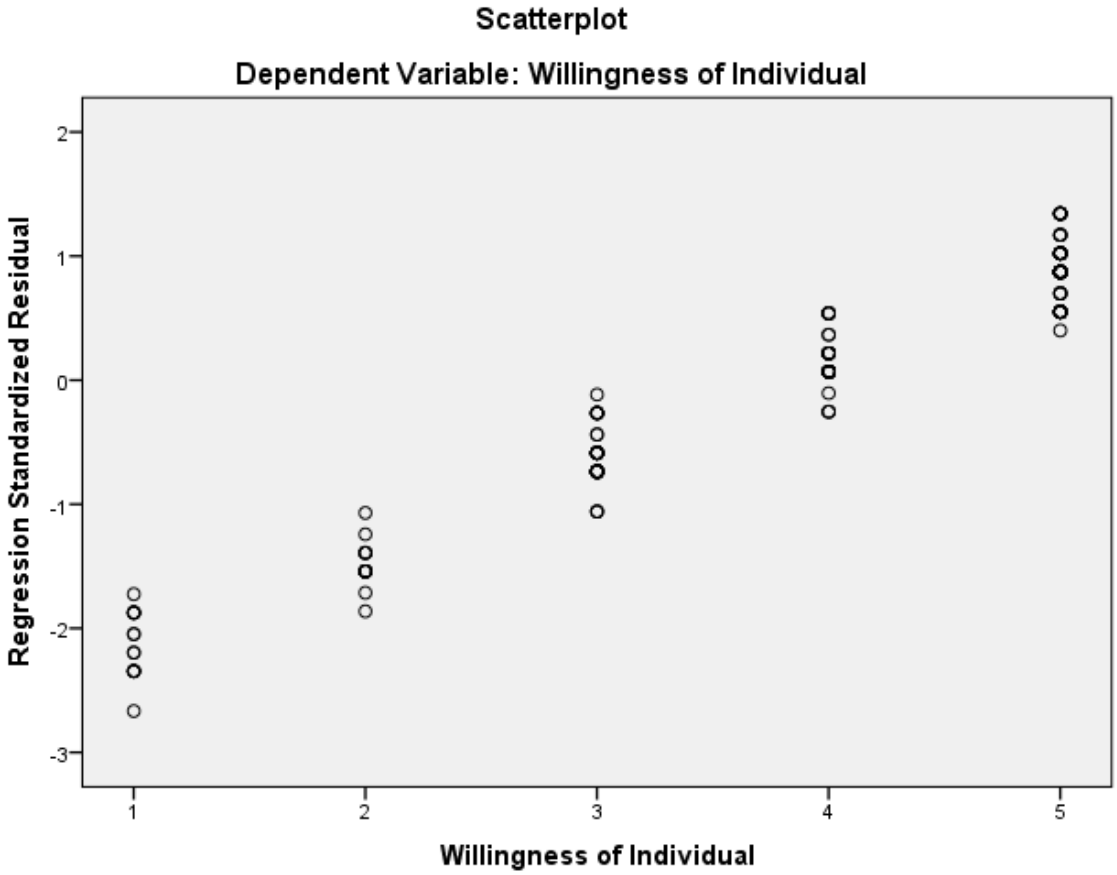
Null hypothesis: the coefficient of determinance is not significant,
coefficient of determinance = 0

ANOVA test static value 5.474 with significance 0.005less than 0.01, hence the null hypothesis is rejected at 1% level of significance. Hence we infer that the coefficient of determinance is statistically significant. In other words the model is accepted as significant.

Residual analysis:

Residuals are the difference between the observed and predicted values. Residuals are supposed to be normally distributed with mean = 0 and negligible variance. Also they should not be correlated with the dependent variable. These two factors are observed from the graph given below.





The histogram indicates normality of the residuals with mean almost zero ($-1.95*10^{-16}$) and negligible variance (0.995). The scatter plot is in increasing pattern and indicates presence of positive correlation between residual and dependent variable. This implies that the model is suitable with two independent variables. Hence the model maybe used for future predictions.

Conclusion for Data Analysis:

There is a substantial relation between Spending score of customers on age and annual income and it is estimated as **Willingness of Individual = B_0 + B_1* Age group of Individual + B2* Occupation of Individual**

The Regression coefficient of Age group of Individual is not statistically significant and Occupation of Individual is statistically significant. The overall prediction accuracy of the model is lesser than 60% and the model is not statistically significant. There is no significant multicollinearity between the two independent variables. Residual analysis also indicates the model is sufficient due to the absence of correlation with dependent variable. Hence the model can be used for future prediction.

7. Key Findings

1) The factors that support an entrepreneur are age group, occupation, gender and willingness of an individual.
2) For any entrepreneur to become successful it requires strong support from his family and friends and also encouragement at tougher time.
3) The family based entrepreneur face less problems in case of loss but an independent entrepreneur need more confidence and trust for themselves to face any struggles that comes during his entrepreneur journey.
4) We pay attention to the successful product by an entrepreneur, but we never know what they have overcome. Their daily rejections, criticism and empty bank account, they always says things like "I will make it, may be not immediately but absolutely and definitely."
5) So, potential entrepreneurial attitude drives us to conduct a research on ecosystem as Bangalore, whether it is favourable or not to start their venture, in terms of age, gender, Government policies and financial privileges.
6) Outcome of the present research can be summarised as- age group as 20-30, and shows immense interest in starting the venture. But because of lack of idea regarding what type of venture to start, only few succeed in it.
7) Out of 200 responses more than 75% agreed that Bangalore is the right place to start the venture.

8. Conclusion

Bangalore city undoubtedly remains one of the best places in the country to start new venture. The city has offered various infrastructural as well as intellectual facilities that boost entrepreneurial ecosystem. Overall to conclude this research, 3P's are very important to succeed in entrepreneurship which is Patience, Perseverance and Persistence.

9. References

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