

## **VALUE CHAIN RENOVATION A CHALLENGE TO SMALL ALLIED AND AGRI-STARTUPS IN INDIA**

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### **Abstract:**

Now a day Start-ups play vital roles in enhancing innovation in a society. Innovations give direction to startups for easier solutions to complex problems. The entry of entrepreneurs and startups in agricultural sectors enrich the technology in these sectors in India. The advanced technology in these sectors improved the productivity. The study is to understand the marketing challenges faced by agriculture startups and entrepreneurs in Odisha. Agriculture startups are not able to market their products due to the mindset of Indian Farmers. Research based on the challenges in both allied and agri-startups in rural India. Most vital factors as challenges are observed and verified to know the extent of relationship for failure or success. Demographic variables importance also observed to verify the challenges through statistical tools.

### **Introduction:**

Startups are the simpler form to do great things by a series of small things unified together. Today India is experiencing the disruptive innovations in startups to solve several issues in different fields. The entry of startups is not only creating new opportunities for employment but also have a ripple effect on the socio-economic factor of the society in which they exist. (1)

In order to promote innovations in the society Startups has a vital role. These startups emerged with novel ideas and with less staff and with more hours of work in a day but still have modern approach to compel to find innovative ways to solve various issues. Now days startups give solution to farmers in various ways and can able to reduce the burden. The entry of entrepreneurs and startups has changed the way to lead the agriculture through disruptive innovations in India. (2)

Developed countries with a knowledge-based citizen enhance startup ecosystem in terms of investment and actively designing long-term economic policy to secured future. The same should be reflected to prompt the underdeveloped and developing countries to diversify investment in various startups by innovation, creating employment opportunities and maintain economic growth, encouraging competition among companies for better economic system, promoting research based innovation system and encourage a sense of proactivity within the society. Startups play an important role to reshape the world and encourage new startups to come forward for innovation and creativity. In order to enhance the economic growth entrepreneurship plays a key role and with their small ideas bigger innovative solutions can be made to change the future. (3)

With increase in population quantity and quality of food enhanced which in turn gave pressure to the performance of farms. Agri-tech startups created their own identity through

solutions to various problems related to agricultural value chain, product and service. Govt. directly or indirectly has to take initiatives to flourish agri-startups in India. India already created reputation in global arena through strong base of startups. Today India has to move forward to push agri-startups worldwide. (1)

### **Literature Review:**

Covid 19 pandemic has brought unprecedented impact on economy, society, business performance, people welfare and their social behavior across the nations (GDA, 2020, Di Vaio et al., 2020, Boin, 2009, Pinillos 2021 and Quarantelli, 1988) and performance of the global economy severely affected. As a result, the cloud of uncertainty hovered on growth of startups and Small Scale Business (SSB) which further accentuated by trade restriction and stringent lockdowns (Gregurec et al., 2021, Roy et al., 2020). The severity of Covid 19 affected startup business due to lack of adequate availability of resources (Mainly on labor, capital, market etc.) and increased vulnerability during the crisis. As per Beatrice 2020, the vulnerability arises as most of startups rely on personal investors, friends and financial institution which a step back from investment during the crisis. (Kuckertz, et al., 2020) suggested in his work that the startups are successfully utilising the available inputs as a quick response to challenges but their development and innovations are at huge risk. Further startups are widely recognized for an efficient resource handler, their role in fight against Covid 19 is indispensable (Almeida 2020, Bhooshan and Kumar, 2020) and also are unsung heroes during the Covid 19 crisis (Maritz et al., 2020). Many start-ups in India suffered from amid liquidity crisis, unavailability of investor funds and weak demand in market have tailored their products, changed their technologies and invested in portfolios for long-term growth potential (Bhooshan and Kumar 2020, Sedláček and Sterk, 2020). Certainly, for startups business the crisis is expected to bring in upward economic flow (Evans and Bahrani, 2020 and Kuckertz et al., 2020). Thus, it is clear startups have adopted resilient crisis management strategies and now require a better coping mechanism and government policy measures to reinvigorate the spirit of entrepreneurship. Further Covid 19 is viewed as a once in century crisis (Economic Survey 2020-21), metaphorical black swan event in effect a surprising, unpredictable and evolving (Winston 2020, Haematology, 2020 and Whitworth 2020) which has greater significant in changing the global political economic environment. While many studies (Kuckertz, et al., 2020 and Ebersberger and Kuckertz) marked this as the opportunity to overhaul policy levers and is also a blessing in the disguise for entrepreneurship in India (Verma and Kumar, 2021). In fact, for agriculture, pandemic comes as an opportunity (Apostolopoulos et al., 2021) to move away from business as usual approach while promoting startups and sustainable agri-food system to accelerate green innovations (Galanakis et al., 2020) powering Atmnirbhar Abhiyan and also achieving \$ 5 trillion economy (Singh et al., 2020) as agriculture shares nearly 20 percent (with present GDP share). Amid Covid 19 disruption in 2020, the sector is inspiration and is the only sector with positive growth rate (3.4%) in the pandemic year 2020-21 and contributed about 19.9 percent after 17 years to country's GDP (Economic Survey 2020-21) and 44% of workforce still directly or indirectly depend on agriculture. With their innovation, agriculture startups expected contribute and sustain the growth while creating adequate employment opportunities to the youth. There is dearth of empirical studies to contemplating the impact of covid 19 on agri-startups. In addition, the comprehensive study to understand the various

functional and executional challenges of the startups is also missing from the discourse. The study was conducted to know the impact of covid 19 on startups business, identify the strategies adopted to cope-up with it and to know the major government policy initiatives adopted by the startups to overcome the covid 19 crisis.

As per Jennifer Bouey (2020), if this pandemic is prolonged and market demand dries up, it may force small and medium enterprises (SMEs) to lay off workers in the wake of the lack of visible revenues, which will further hamper demand in the market. Our survey reveals that about 4% of the start-ups will not be able to sustain their current venture if the pandemic is prolonged for another six months to a year.

Start-ups in their seed phase are the most vulnerable because they usually arrange funds from personal investors, friends and banks, given those institutional funding agencies are not ready to invest (Beatrice Kessler 2020).

These start-ups are likely to be affected adversely and deserve special attention, as they are in a sensitive and fragile stage of their business lifecycle (Baker et al 2020). Even with the resilient crisis-management strategies that start-ups are adopting at individual levels, better coping mechanism and government-initiated policy frameworks to redesign, rework or reinvent the technologies and protocols in a post-covid-19 scenario are required, thereby creating the paradigm for a new normal within a minimum response time. However, the empirical understanding on the functioning and challenges of agri-start-ups is virtually absent in India.

Agricultural marketing focused not only domestic market but also international market as well (Acharya, 1998). The results say that the floriculture is meant for commercial purpose, where small and medium enterprise depends on these farming activities.

### **Research Gap**

The study is focussed on the value chain challenges faced by agriculture startups and entrepreneurs in Odisha. As per the literature review few research has completed in this sector but most of the sectors in manufacturing like the cement, textile, healthcare, engineering, automobile, tyre, consumer durables, luggage, instrumentation, chemicals and petrochemical. According to the expectation, agriculture startups are not able to market their products and maintain appropriate value chain due to the lack of knowledge of Indian farmers. Even Farmers are less proactive to understand the need of the appropriate distribution channel. Neither the Agriculture startups have the right resources to understand the farmers' behaviour nor do they use right Research platforms to market the farmers' products. The Research Gaps exactly try to focus the following issues, which need to be addressed:

- Financial issues with Agriculture Startups
- Agriculture Value Chain Issues related to marketing

### **Objectives**

Value chain system differs from startup to startup as the operations are different. The study objectives broadly considered the challenges in value chain system in the agriculture and allied startup in Odisha. The objectives also are to explore the Agri and Allied Startups and their marketing operations in Odisha and to identify the various marketing challenges in value chain system of Agri and Allied startups.

### Hypothesis

The research gap has given direction to six hypotheses which has formulated for the study. As per the hypothesis statistical model related to the relationship of independent variables and dependent variables associated with the value chain system of agr-startups and allied startups. The following six hypotheses formulated.

#### Hypothesis I

- $H_0$  = There is no significant relationship between gender of the respondents with types of startups.
- $H_1$  = There is a significant relationship between gender of the respondents with types of startups.

#### Hypothesis II

- $H_0$  = There is no significant relationship between age of the respondents with types of startups.
- $H_1$  = There is a significant relationship between age of the respondents with types of startups.

#### Hypothesis III

- $H_0$  = There is no significant relationship between educational qualification of the respondents with types of startup.
- $H_1$  = There is a significant relationship between educational qualification of the respondents with types of startup.

#### Hypothesis IV

- $H_0$  = There is no significant relationship between the success status of the respondents with types of startup.
- $H_1$  = There is no significant relationship between the success status of the respondents with types of startup.

#### Hypothesis V

- $H_0$  = There is no significant relationship between the challenging variables with success of startup
- $H_1$  = There is a significant relationship between the challenging variables with success of startup

#### Hypothesis VI

- $H_0$  = There is no significant relationship between the investment type with success of startup
- $H_1$  = There is a significant relationship between the investment type with success of startup

### **Research Methodology**

Here an empirical research based on the survey method is being used to get a proper insight into the problems in the value chain system of various agri and allied startups. For developing the paperinteraction has taken place with the investors those are with either agri-startups or allied startups. Various categories of investors have considered knowing the exact impact of the business environment on value chain system of their startups. Equal importance has been given to both primary and secondary data and primary data through questionnaire are

collected from the various parts of state Odisha (An eastern state of India). The different districts of Odisha were being chosen based on the proximity of the first district Khordha and in order to increase the number of observations different districts like Cuttack, Puri, Berhampur, Sambalpur and Balasore are taken. Mostly the sampling techniques like stratified random and convenient sampling methods were used to get the data from various locations.

**Analysis**

Pilot survey conducted among 30 startup owner to design the questionnaire and to study the appropriateness of the questionnaire. Again for questionnaire validity few academicians considered to evaluate the various form of questions along with the scale used in final draft of questionnaire. In order to determine the exact sample size total number of agri-startup and allied startup owners considered.

**Sample Size Validity**

The total population size for the startup owner in village area of highly established six districts of Odisha (Khordha, Cuttack, Puri, Berhampur, Sambalpur and Balasore) is around 250 numbers. With the margin of error of 0.05 the sample size came is 154. As per the simulation studies the normally distributed indicator variables with zero missing data, a required sample size for a simple Factor Analysis model is about N = 150 (Muthén and Muthén, 2002). For conducting this research 151 respondents are being considered.

**Demographic Profile of the Respondents:**

The below table presents the details about the demographic profile of the respondents in terms of gender, age group, education, marital status, types of startups and family annual income.

**Table-1**

**Demographic Profile of the Respondents**

| Demographic Variables | Frequencies         | Respondents' Number (N) | Percentage |
|-----------------------|---------------------|-------------------------|------------|
| Gender                | Male                | 113                     | 74.83      |
|                       | Female              | 38                      | 25.17      |
|                       | Total               | 151                     | 100.00     |
| Age Group             | Below – 30          | 0                       | 0.00       |
|                       | 31-40               | 78                      | 51.66      |
|                       | 41-50               | 48                      | 31.79      |
|                       | Above 50            | 25                      | 16.56      |
|                       | Total               | 151                     | 100.00     |
| Education             | Higher Secondary    | 28                      | 18.54      |
|                       | Graduate            | 60                      | 39.74      |
|                       | Post Graduate       | 45                      | 29.80      |
|                       | Professional Degree | 18                      | 11.92      |
|                       | Total               | 151                     | 100.00     |
| Marital Status        | Married             | 128                     | 84.77      |

|                        |                           |     |        |
|------------------------|---------------------------|-----|--------|
|                        | Unmarried                 | 23  | 15.23  |
|                        | Total                     | 151 | 100.00 |
| Types of Startup       | Agri-Startup              | 93  | 61.59  |
|                        | Allied-Startup            | 58  | 38.41  |
|                        | Total                     | 151 | 100.00 |
| Average Monthly Income | Less than Rs.50,000       | 33  | 21.85  |
|                        | Rs.50,001 – Rs.2,50,000   | 53  | 35.10  |
|                        | Rs.2,50,001 – Rs.5,00,000 | 45  | 29.80  |
|                        | Above Rs.5,00,000         | 20  | 13.25  |
|                        | Total                     | 151 | 100.00 |

Source: Field Investigation

**Relationship of types of finance and success of startups:**

The startups of allied and agribusiness are classified on the basis of the investment types like Angel Investors, Accelerators, Crowdfunding and Venture capital to verify the success relationship with the investments. F-test conducted to verify the relationship of investment types with the success of allied or agribusiness startups. The table-2 shows the following results as F-value of 4.384 at 0.005 levels of significance. The significance p-value here is 0.005 which is lesser than 0.05.

**Table-2**

| ANOVA          |                |     |             |       |      |
|----------------|----------------|-----|-------------|-------|------|
| Success        |                |     |             |       |      |
|                | Sum of Squares | df  | Mean Square | F     | Sig. |
| Between Groups | 2.934          | 4   | .978        | 4.384 | .005 |
| Within Groups  | 32.788         | 147 | .223        |       |      |
| Total          | 35.722         | 151 |             |       |      |

From the ANOVA table-2 the p-value < 0.05 hence, Null Hypothesis rejected. There is a relationship of types of Investment with the success of the venture like Agri-startup or Allied startup.

H1 = Success of a startup is related to types of finance to startups

**Chi-Square Analysis:** Success based on types of startup

In order to understand the success or failure of a business is based on the types of business. Data from the various startup organizations had taken and tested through the chi-square test to evaluate the success rate associate with the agri-startup or allied startup. Success or Failure is on the basis of types of startups that is Agri-Startup and Allied Startups.

*H0 = Success of a startup is not related to types of startups (allied or agri-startups)*

Table-3

| Tests of Normality |             |                    |    |      |              |    |      |
|--------------------|-------------|--------------------|----|------|--------------|----|------|
|                    | Startuptype | Kolmogorov-Smirnov |    |      | Shapiro-Wilk |    |      |
|                    |             | Statistic          | df | Sig. | Statistic    | df | Sig. |
|                    |             |                    |    |      |              |    |      |

EXPERIMENTAL INVESTIGATION TO EXAMINE THE PERFORMANCE BEHAVIOUR OF COMBUSTION IGNITION ENGINE USING WATER-ADDED BIODIESEL AT FIXED CR.

|                                       |                |      |    |      |      |    |      |
|---------------------------------------|----------------|------|----|------|------|----|------|
| Achievement                           | Allied-Startup | .393 | 58 | .000 | .621 | 58 | .000 |
|                                       | Agri-Startup   | .468 | 93 | .000 | .536 | 93 | .000 |
| a. Lilliefors Significance Correction |                |      |    |      |      |    |      |

Table-4

|              |                |                | Achievement |         | Total |
|--------------|----------------|----------------|-------------|---------|-------|
|              |                |                | Failure     | Success |       |
| Startup-type | Allied-Startup | Count          | 35          | 23      | 58    |
|              |                | Expected Count | 22.3        | 35.7    | 58.0  |
|              | Agri-Startup   | Count          | 23          | 70      | 93    |
|              |                | Expected Count | 35.7        | 57.3    | 93.0  |
| Total        | Count          | 58             | 93          | 151     |       |
|              | Expected Count | 58.0           | 93.0        | 151.0   |       |

Table-5

|   | Value               | df | Asymp. Sig. (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
|---|---------------------|----|-----------------------|----------------------|----------------------|
| Pearson Chi-Square  | 19.152 <sup>a</sup> | 1  | .000                  |                      |                      |
| Continuity Correction <sup>b</sup>  | 17.676              | 1  | .000                  |                      |                      |
| Likelihood Ratio  | 19.198              | 1  | .000                  |                      |                      |
| Fisher's Exact Test   |                     |    |                       | .000                 | .000                 |
| Linear-by-Linear Association  | 19.025              | 1  | .000                  |                      |                      |
| N of Valid Cases  | 151                 |    |                       |                      |                      |
| a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 22.28. |                     |    |                       |                      |                      |
| b. Computed only for a 2x2 table  |                     |    |                       |                      |                      |

The result came as Pearson chi-square test value of 19.152 came with the p-value of 0.00 in the table-5 is less than 0.05. This shows the rejection of null hypothesis and the acceptance of alternative hypothesis.i.e.

*H1 = Success of a startup is related to types of startups allied or agri-startups*

**Chi-Square Analysis: Success based on gender of the startup owners**

In order to understand the success or failure of a business is based on the gender of the owner of the startups. Data from the various startup organisations had taken and tested through the chi-square test to evaluate the success rate associate with the male and female owners of the startups. Success or Failure is on the basis of gender male and female startup investors. Test

of normality for chi-square test shown in the table-6 and the data are normal.

**Table-6**  
**Test of Normality**

|             | Gender | Kolmogorov-Smirnov <sup>a</sup> |     |      | Shapiro-Wilk |     |      |
|-------------|--------|---------------------------------|-----|------|--------------|-----|------|
|             |        | Statistic                       | df  | Sig. | Statistic    | df  | Sig. |
| Achievement | Male   | .411                            | 113 | .000 | .608         | 113 | .000 |
|             | Female | .365                            | 38  | .000 | .633         | 38  | .000 |

a. Lilliefors Significance Correction

**Table-7**

| Gender * Achievement Cross tabulation |        |                |             |         |       |
|---------------------------------------|--------|----------------|-------------|---------|-------|
|                                       |        |                | Achievement |         | Total |
|                                       |        |                | Failure     | Success |       |
| Gender                                | Male   | Count          | 41          | 72      | 113   |
|                                       |        | Expected Count | 43.4        | 69.6    | 113.0 |
|                                       | Female | Count          | 17          | 21      | 38    |
|                                       |        | Expected Count | 14.6        | 23.4    | 38.0  |
| Total                                 |        | Count          | 58          | 93      | 151   |
|                                       |        | Expected Count | 58.0        | 93.0    | 151.0 |

**Table-8**

| Chi-Square Tests                   |                   |    |                       |                      |                      |
|------------------------------------|-------------------|----|-----------------------|----------------------|----------------------|
|                                    | Value             | df | Asymp. Sig. (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
| Pearson Chi-Square                 | .859 <sup>a</sup> | 1  | .354                  |                      |                      |
| Continuity Correction <sup>b</sup> | .539              | 1  | .463                  |                      |                      |
| Likelihood Ratio                   | .849              | 1  | .357                  |                      |                      |
| Fisher's Exact Test                |                   |    |                       | .441                 | .231                 |
| Linear-by-Linear Association       | .853              | 1  | .356                  |                      |                      |
| N of Valid Cases                   | 151               |    |                       |                      |                      |

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 14.60.  
b. Computed only for a 2x2 table

The result came as Pearson chi-square test value of 0.859 came with the p-value of 0.354 in the table-8 and is more than 0.05. This shows the acceptance of null hypothesis and rejection of alternative hypothesis.i.e.

H0 = Success of a startup is not related to gender of the startup owner

**F-Test:**



F-test can be done through ANOVA table, which explains the validity of the regression equation to fit the data (i.e., predicts the dependent variable). In the table- the output of the ANOVA analysis is to understand whether there is a statistically significant difference between the group means. The result has shown in the table-9 that the significance value is 0.281, which is less than 0.05 and Hence F-test is not statistically significant.

**Table-9**  
**(F-test to study the validity of the variables)**

| ANOVA <sup>a</sup>  |            |                |     |             |        |                   |
|---|------------|----------------|-----|-------------|--------|-------------------|
| Model   |            | Sum of Squares | df  | Mean Square | F      | Sig.              |
| 1   | Regression | 11752.861      | 5   | 2350.572    | 70.031 | .281 <sup>b</sup> |
|   | Residual   | 4866.887       | 146 | 33.565      |        |                   |
|   | Total      | 16619.748      | 151 |             |        |                   |
| a. Dependent Variable: Marketable Product Amount  |            |                |     |             |        |                   |
| b. Predictors: (Constant), Expenses in Transport, Land Expenses as Own or Leased, Expenses due to Electricity and Water, Expenses in Technology, Labour Expenses for Production |            |                |     |             |        |                   |

As p-value is more than 0.05 hence null hypothesis is accepted. Thus it is proved that there is no relationship of types of expenses with the success of the startups.

**Regression Analysis**

In the table-10 R value has shown which is simple correlation and is 0.841 which indicates a high degree of correlation and the R<sup>2</sup> value is 0.707 indicates how much of the total variation in the dependent variable like marketable yield in startup can be explained by the independent variable, different kinds of expenses like Expenses in Transport, Land Expenses as Own or Leased, Expenses due to Electricity and Water, Expenses in Technology, Labour Expenses for Production. These variables can able to explain 70.7% of the dependent variable.

**Table-10**  
**(Regression variables correlation for factor fitness)**

| Model Summary   |                   |          |                   |                            |                   |          |     |     |               |
|---|-------------------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|
| Model   | R                 | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics |          |     |     |               |
|   |                   |          |                   |                            | R Square Change   | F Change | df1 | df2 | Sig. F Change |
| 1   | .841 <sup>a</sup> | .707     | .697              | 5.79351                    | .707              | 70.031   | 5   | 145 | .000          |
| a. Predictors: (Constant), Expenses in Transport, Land Expenses as Own or Leased, Expenses due to Electricity and Water, Expenses in Technology, Labour Expenses for Production |                   |          |                   |                            |                   |          |     |     |               |

**Table-11**

| Coefficients-a  |                   |                             |            |                           |        |      |
|---|-------------------|-----------------------------|------------|---------------------------|--------|------|
| Model   |                   | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|   |                   | B                           | Std. Error | Beta                      |        |      |
| 1   | (Constant)        | .361                        | .214       |                           | 1.690  | .093 |
|   | Types of Expenses | -.079                       | .042       | -.154                     | -1.876 | .063 |
|   | Types of Startups | .297                        | .082       | .297                      | 3.614  | .000 |
| a. Dependent Variable: Success or Failure of the Business |                   |                             |            |                           |        |      |

There is the significance of constant and both the independent variables (0.093, 0.063 and 0.000 respectively). The coefficient values of both the independent variables are -0.079 and 0.297 respectively. This values show that the various kinds of expenses associated in the value chain system of the startup is less affected to the dependant variable (success).

$$\text{Success of the Startup} = 0.361 - 0.79 (\text{Types of Expenses}) + 0.297 (\text{Types of Startups})$$

So success of the startups neither depending upon the different kinds of expenses like Expenses in Transport, Land Expenses as Own or Leased, Expenses due to Electricity and Water, Expenses in Technology, Labour Expenses for Production nor even on the types of startups whether allied or agricultural startups.

**Findings:**

Sample size has taken as per the method of sample size determination with the total number of operational startups are around 250 numbers in six reputed districts of Odisha. The final sample size has taken for the research is 151 out of which 93 are agri-startups and 58 are allied startups as the availability and status of the startups. This number is also quite applicable to conduct confirmatory factor analysis in Structural Equation Modelling as per the suggestion of the author (Muthen and Muthen 2002).

The demographic profile of the start-ups of both allied and agri-startups are like male of 78.83% and female of 25.17%. Respondents in the category of age are 51.66% from 31-40 Yrs, 31.79% from 41-50 Yrs. and rest 16.56% from above 50 Yrs. Education wise the owners of start-ups are 18.54% of Higher Secondary, 39.74% of Graduate, 29.80% of Post Graduate and rest 11.92% of Professional degree qualifications. In terms of marital status 84.77% are married and 15.23% are unmarried. Finally, the income generated from the start-ups are like 21.85% earning less than Rs.50K per month, 35.10% earning Rs.50K-2.5L, 29.80% earning per month Rs.2.5L-Rs.5L and rest 13.25% earning per month above Rs.5L.

Start-ups have the options to get finance from various sources to run their business during the initial days and sometimes after expansions. The start-ups owner asked about the various options availed by them for their business like angel investors, accelerators, crowdfunding and venture capitals. Here the relationship of the types of finance with the success of the business studied through the data collected from the start-up owners. In order to study the relationship of types of finance with the success of business, F-test conducted. In order to conduct the F-test the data must be parametric one. Table shows p-value is more than 0.05 and the data are parametric in nature. ANOVA table shows in table-9 reflected the F-value

of 4.384 with the significance value 0.005 which is less than 0.05, hence null hypothesis rejected. This F-test result proves that there exists the relationship of types of finance with the success of the start-ups.

Various types of startups are present with different capacity and revenue model or value chain system. Success of a startup is depending upon the various kinds of value chain system and the environment where it operates. Sometimes it may be considered as the location plays a vital role in the success of the startups. Here the study conducted upon the types of startups and its relationship with the achievement or success. Here two kind of startups like allied and agri-startups are considered to verify the success associated with any kind of startups. Chi-square test has conducted to verify the relationship of success with the types of start-ups. For chi-square test the data must be non-parametric in nature. In the table 8 the Pearson Chi-square test value is 19.152 with the p-value of 0.000 (less than 0.05) hence Null Hypothesis rejected. It is proved from the chi-square test that success of start-ups is depending upon the types of startups which implies the success is associated with the types of business (Allied or Agri-startups).

Here another question is very often coming to mind as male are more successful entrepreneur than female. To answer the question, the research also conducted upon the owner of startups success is gender specific or not. In order to study the result chi-square test conducted to verify the success of the startup owners on the basis of their gender. Again normality test conducted to verify the non-parametric data as for chi-square test the data must be non-parametric in nature. In the table-8 the Pearson Chi-square test value is 0.859 with the p-value of 0.231 (more than 0.05) hence Null Hypothesis accepted. It is proved from the chi-square test that success of start-ups is not depending upon the gender of startups owners which implies the success is not associated with the gender of the businessman (Male or Female).

Every business runs through a type of supply chain with a strong value chain support. Various kinds of expenses associated with the startups or businesses. The most common expenses are land or lease expenses, transport expenses, electricity & water expenses, technology adoption expenses and labour expenses. The successful value chain model is based on those expenses. F-test conducted to verify the relationship exists between the success of the business with the various kinds of expenses like land or lease expenses, transport expenses, electricity & water expenses, technology adoption expenses and labour expenses respectively. In table-10 F-value came 70.031 with the level of significance of 0.281 which is more than 0.05 hence Null hypothesis accepted. As null hypothesis accepted which means there is no relationship of the types of expenses with the success of the startups. So it is verified that the success of a startup is not depending upon the types of expenses in their value chains.

The study again has made on the various expenses relationship with the success of the startups. In order to study the relationship regression analysis conducted to verify the extent of correlation coefficient with the dependant variable success of the business. Table-10 show the R square value which shows the degree of independent variable like types of expenses and types of business can explain the change in dependent variable that is success of the start-up. Here the R square value is 0.841 means 84.1% of the dependent variable change can be explained by the independent variable like types of expenses and types of startups. Table-11 shows the significance of constant and both the independent variables (0.093, 0.063 and 0.000 respectively). The coefficient values of both the independent variables are -0.079 and 0.297

respectively. This values shows that the various kind of expenses associated in the value chain system of the startup is less affected to the dependant variable (success). This can be explained like the success of the startup is less or not depending upon the dependent variables like land or lease expenses, transport expenses, electricity & water expenses, technology adoption expenses and labour expenses respectively.

Startup Owners:

From the table-11 it was found that there exists the relationship of types of expenses with the success of the startups. The startup owners have to take wise decision related to the financial support from the third party. They are the financier who will help you in the long run growth and also create hindrance for growth. So proper business plan designing related to finance is essential from the initial stage and a proper revenue model with profit sharing must be mentioned clearly and legally.

From the table-11 it is verified that the success of the startups is depending upon the types of startup and its operational environment. As two types of startups (allied and agri-startups) operating in rural area are considered for the study the success ratios are different for different startups as per the chi-square test result. It is very much understood that the selection of appropriate kind of startup is very much essential to see the success and future growth. For this it is suggested that decisions for the startup must be on the basis of the knowledge of technology, operation and value chain system of startup which the owner initiated.

From the table-11 it is proved through the chi-square test that success of start-ups is not depending upon the gender of startups owners which implies the success is not associated with the gender of the businessman (Male or Female). It is understood that the success of the statrup is not gender specific. Nobody should think that the growth will increase if somebody will be male or female to get more success.

Every start-up has gone through the various kinds of expenses in various heads. Table-11 verified through the F-test that the types of expenses are no way related to the success of the startups in both the cases (Allied or Agri-startups). The various kind of expenses like land or lease expenses, transport expenses, electricity & water expenses, technology adoption expenses and labour expenses which are associated with the supply chain system of the startups but these expenses impact is not there in the success of the venture. This implies that startup owners have to maintain the proportionate of various expenses which may be higher or lower depending upon the growth and sustainability of the businesses. They have to take very much careful decisions regarding the increase or decrease of expenses to get growth and sustainability.

The degree of involvement of the independent variables is like various expenses to the dependent variable success of business through regression analysis. It is understood the success of the startup is less or not depending upon the dependent variables like land or lease expenses, transport expenses, electricity & water expenses, technology adoption expenses and labour expenses respectively. It can be generalised that giving more time to the revenue model by cutting expenses in various head is not a wise decision for the success of the business rather to spend more time on innovative design and marketability of the product in various markets.

### **Conclusion:**

The conclusion can be drawn on various ways by giving the relative importance to various suggestions. Conclusion will point out few issues to be resolving very shortly or early to get the right result or success. The first issues or challenges related to the expenses associated with the various kind of expenses like land or lease expenses, transport expenses, electricity & water expenses, technology adoption expenses and labour expenses which are associated with the supply chain system of the startups but these expenses impact is not there in the success of the venture. This implies that startup owners have to maintain the proportionate of various expenses which may be higher or lower depending upon the growth and sustainability of the businesses. They have to take very much careful decisions regarding the increase or decrease of expenses to get growth and sustainability.

Again the following eight issues mostly external are challenging in rural areas for all startup owners. The new or the existing startup owners should give more attention to the following eight issues like market information issues, resource and govt. related issues, intermediaries and transport issues, production and value addition issues, market condition related issues, labour related issues, demand information issues and technology adoption related issues. Here the startup owners have to give importance not only to the environment but also to the value chain system where they are running their businesses.

### **Limitations and Implications for further Research:**

None of the social researches is free from limitations. As the respondents (Startup owners or startup investors) are exposed to various marketing stimuli in terms of challenges in the form of new launches both in agri-startups and allied startups therefore the responses may vary over a period of time.

The future research can also address the issue of the rural startup holder especially allied and agri-startup owners such as issues with money lenders and changes expenses in labour turnover. The future researcher can focus on evaluating the various schemes launched by government to startup holders and banking assistance, loan and credit mechanism also can be taken for study.

While this research has made an important contribution to the consideration of how to manage and enhance the issues associated with the sustainability and growth of allied and agriculture startups, further research is needed to explore the other kinds of startups in urban area and semi-urban areas and their challenges. Qualitative evidence gathered in the course of this study demonstrates that allied and agri-startup owners are directly experiencing financing crisis and lacking in advanced technology in rural areas. Future research should focus on the financial management of startups related to the cost associated in every aspect of the value chain and optimal model for minimize the cost of production.

Although allied and agri-startup owners agreed with the schemes promoted by the government and privileges given to them are far away to meet both ends. Future research could explore the impact and importance of advanced startup technology and methods practiced in developed countries to adopt in India.

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