



How Do Determinants Influence Women's Entrepreneurship? A Quantitative Assessment Of The Tribal People Of Purulia, West Bengal, India

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ABSTRACT

Purpose

The goal of this study is to carry out a thorough quantitative analysis in order to pinpoint the critical factors affecting women's entrepreneurship in Purulia district's tribal communities. The study intends to evaluate the significance and effect of these factors in order to offer insightful recommendations and useful information for the promotion of tribal women's entrepreneurship in the area.

Methodology

The study employed a comprehensive research design utilising primary resources with cross-sectional questioning to 196 women entrepreneurs from Purulia using multistage random sampling.

Findings

The study reveals age, education, entrepreneurial background, business training accessibility, physical infrastructure, government programs, and family nature significantly influence tribal women's entrepreneurship in Purulia district, while finance, market access, advertisement, technology, transportation, motivation, and women's organizations are insignificant. Adaptation towards advancement will be augmented through the enhancement of key determinants for women's entrepreneurship, which have been identified through this study.

Key Words: Women Entrepreneurship, Tribal Women Entrepreneurship, Entrepreneurship Stage Transformation, Tribal Economy, Binary Logistic Regression, Purulia.

INTRODUCTION

Entrepreneurship is a relatively new phenomenon acknowledged as a critical instrument for empowering socially disadvantaged classes. Poverty and entrepreneurship have a complicated relationship. Although business can help reduce poverty, it is important to consider the type of entrepreneurship. The International Development Agency has commissioned studies that examine women's issues from a variety of angles. Many of the tips for female entrepreneurs' success have been gleaned from research done in developed nations (Lerner et al., 1997). In developing nations like India, the scenario is different in the case of women entrepreneurs, where the gender gap is a common issue.

According to the 2016 economic census of the West Bengal government, the total number of women entrepreneurs was 831337. This economic census report finds Purulia district at the bottom stage (second lowest) in terms of the percentage share of established women entrepreneurs. The percentage share of established women entrepreneurs in Purulia district was 1.38, while this value for the top-ranked district (Murshidabad) was 18.21%. (Department of Planning and Statistics, Govt. of West Bengal, Economic Census, 2016 <http://wbpspm.gov.in/publications/Economic%20Census>).

Purulia district of West Bengal is severely affected by poverty due to a lack of human resource formation, doldrums of socioeconomic capabilities and education, and also very few occupational diversifications. Limited livelihood opportunities among people, especially among the tribal population, account for the poverty in this district (Guchhait & Sengupta, 2020). The study by Chandra, H. (2020) identified Purulia district as the highest district in terms of percentage of poverty incidence among all districts in West Bengal. It was 26%, which is more than 173% of the average value of the state and 371% more than the lowest percentage of poverty incidence in the East Midnapur district.

It is often known that tribal women's entrepreneurship promotes women's emancipation and economic growth. In the tribal economy, it helps to create new jobs for themselves and others (Mozumdar et al., 2020). Aboriginal women business owners provide society with numerous solutions to management, organisation, and business difficulties. Economists and decision-makers have focused on the idea of rural development as the sole way to address the multifaceted issues of poverty, unemployment, and social backwardness in rural areas. In developing nations, there is a shortage of studies on this topic (Truman, 2018). Research has demonstrated how tribal women's entrepreneurship significantly benefits their families and communities (Singhraul et al., 2016). There are a significant number of tribal people living in Purulia district (18.45%), which ranks third among all districts of the state in terms of the percentage of tribal population (Census, 2011). In West Bengal, 5.8% of the population belongs to ST out of the total population, and Purulia district consists of 10.21% of the ST population out of the total ST population of West Bengal (Census 2011, <https://www.censusindia.co.in>).

In order to ascertain the factors that impact the success of female entrepreneurs, it is crucial to conduct a comprehensive and ongoing analysis at the national, urban, and organisational levels. This will enable the provision of targeted and enduring assistance to these businesses. On the other hand, A restricted quantity of investigations have been conducted in various regions of the country to pinpoint factors that affect the consummation of micro and small enterprises (MSEs). This includes Anshika et al. (2021), Shahu et al. (2021), (2023), Mohanty & Samal (2022), (2023), to mention a few. Our current study identifies the determinants (independent variables) that mostly influence a single determinant (dependent variable) of women's entrepreneurship (tribal) to transform the initial level of entrepreneurship to an advanced level using quantitative analysis (binary logistic regression) and Karl Pearson's correlation coefficient through primary data.

TRIBAL PROFILE IN WEST BENGAL AND PURULIYA

The distribution of tribal population is not even if we take a look at the concentration of the tribal population district-wise in West Bengal. A significant population of ST live in Purulia district (18.45% out of total population, 2011 census), where Darjeeling ranked top (21.5%) and second-ranked Jalpaiguri (18.89%) is slightly ahead of Purulia district. According to the 2011 census, West Bengal had 5296953 ST population (5.8% out of the total population), which was less than the national average (8.6%). In 2011, there were 6 districts, namely Bankura (10.25%), Dakshin Dinajpur (16.43%), Jalpaiguri (18.89%), Paschim Midnapur

(14.88%), and Purulia, above the national scale, and Bardhaman (6.34%), Birbhum (6.92%), and Maldah (7.87%), including those six districts, were above the state level. Districts like Kolkata (0.24% ST out of total population), Haora (0.31%), Purba Mednipur (0.55%), Cooch Behar (0.64%), Soth 24 Parganas (1.19%), Murshidabad (1.28%), North 24 Praganas (2.64%), and Nadia (2.72%) have a very low ST population concentration.

Purulia district consists of 20 C.D. blocks where the concentration of ST population is peripheral, and it seems that blocks with higher accessibility consist of a lesser number of ST population (Manbazar-II block is an exception). If we take a geographical look, it is observed that ST population concentration is higher in the eastern and south-western parts of the district (near Ayodhya Hills). Westren and south-western part of the district lacks ST population, whereas adjacent to Bankura, Jhargram, and Jharkhand state borders near Banduwan, Balrampur, and up to Baghmundi block have abundant proportions of ST population. Banduwan block (51.86% ST out of total population) was the highest among all blocks, followed by Manbazar-II block (48.97%), Santuri (31.95%), and Balrampur (31.71%), where Para block (5.15%) was the lowest among all blocks, followed by Purulia-II (5.20%), Raghunathpur-II (6.42%), Purulia-I (8.37%), and Joypur (9.8%) in terms of ST population out of total population. Here is the profile of the blocks with ST population concentration.

| Block Name | Total Popn | ST Popn | Percentage of ST Popn | Female ST Popn | Female ST Popn (%) |
|-----------------|------------|---------|-----------------------|----------------|--------------------|
| Para | 200621 | 10335 | 5.15 | 5050 | 48.86 |
| Purulia-I | 151188 | 12655 | 8.37 | 6216 | 49.12 |
| Purulia-II | 157862 | 8213 | 5.20 | 4068 | 49.53 |
| Raghunathpur-I | 117760 | 12599 | 10.70 | 6219 | 49.36 |
| Raghunathpur-II | 113790 | 7302 | 6.42 | 3598 | 49.27 |
| Neturia | 101427 | 22616 | 22.30 | 11157 | 49.33 |
| Santuri | 78515 | 25083 | 31.95 | 12551 | 50.04 |
| Kashipur | 200183 | 49537 | 24.75 | 24761 | 49.98 |
| Hura | 143575 | 36561 | 25.46 | 18357 | 50.21 |
| Puncha | 123855 | 30641 | 24.74 | 15410 | 50.29 |
| Manbazar-I | 154071 | 33942 | 22.03 | 16898 | 49.78 |
| Manbazar-II | 97164 | 47580 | 48.97 | 23744 | 49.90 |
| Banduwan | 94929 | 49232 | 51.86 | 24744 | 50.26 |
| Brabazar | 170564 | 33096 | 19.40 | 16415 | 49.60 |
| Balrampur | 137950 | 43738 | 31.71 | 21597 | 49.38 |
| Baghmundi | 135579 | 34038 | 25.11 | 16768 | 49.26 |
| Jhalda-I | 137143 | 15608 | 11.38 | 7651 | 49.02 |
| Jhalda-II | 148156 | 18917 | 12.77 | 9302 | 49.17 |
| Arsha | 154736 | 33568 | 21.69 | 16791 | 50.02 |
| Joypur | 133349 | 13074 | 9.80 | 6396 | 48.92 |

Table 1: Block Wise Distribution of St Population of Purulia District
Source: Census of India, 2011

TRIBAL WOMEN ENTREPRENEURSHIP

The Oxford Dictionary defines the term as “the activity of setting up a business or businesses, taking on financial risks in the hope of profit.” The most acceptable definition of entrepreneurship is "a person or group of persons who assumes the risk and understands the economic activity and provides goods, services, and employment for society." Various experts on entrepreneurship defined the terms entrepreneur and entrepreneurship differently. The word entrepreneurship is derived from the French language. In the earlier 16th century, it was applied to those who were engaged in the military expedition. From the 17th century on, the word was used for those who were engaged in civil engineering activities such as fortification. The

word entrepreneurship was used for business for the first time in the 18th century (Dr. Sushama Rajeev Hasabnis, 2017).

Entrepreneurs are not innovators; rather, they are "organisation builders," or people with the ability to create organizations. They must be able to use the fresh ideas of other inventors to the benefit of their own organisations (Harbison & Reyna R., 2015). Entrepreneurs are those who are able to detect and assess business possibilities, assemble the resources needed to seize them, and take the required steps to achieve success (ILO, 2011). According to Danhof, an entrepreneur's duties may be broken down into three main categories: gathering pertinent information, assessing that information in terms of profit, and starting the business. Danhof's definition places a lot of focus on making choices or exercising judgment. According to the analysis of Danhof (1969), entrepreneurship is :“An entrepreneur is primarily concerned with changes in the formula of production over which he has full control. He devotes correspondingly little time to the carrying out of a specific formula”. According to Schumpeter's view, the entrepreneur seizes potentially lucrative possibilities. Entrepreneurs are driven to make money for a variety of reasons, including the desire to build a private dynasty as well as the desire to enhance consumption standards. He seeks to maximise his profits through inventions and the will to win in a fiercely competitive environment. His distinct quality is that he finds satisfaction in applying his skills to solve issues (Schumpeter, 1934).

The term "women entrepreneurs" refers to individuals or groups of individuals who start, plan, and run a business. To qualify as "women entrepreneurs," women must innovate, start, or adopt an economic activity. According to govt of India a woman-owned business is one that is: "owned and controlled by a woman having a maximum financial interest of fifty-one percent of the capital and giving at least fifty-one percent of the employment generated in the enterprise to women”. Tribal entrepreneurs are women who come from various tribal communities that the Indian government recognizes as Scheduled Tribes. Women who take the initiative, formulate a business or industry, and produce job possibilities for others are said to be developing their women's entrepreneurship. Less than 13.76% of all entrepreneurs are women. It indicates that just 8.05 million of the 58.5 million operational enterprises have female bosses. OBC: 40.60%, SC: 12.18%, ST: 6.97%, and Others (40.25%) make up the majority of businesses owned by women entrepreneurs, while the following socioeconomic and religious groups make up the remaining 40.25 percent: Hindus (65.6%), Muslims (12.84%), and Christians (5.2%). Among these entrepreneurs, 5.29 million women (65.7% of all entrepreneurs) operate in non-agricultural sectors, while 2.76 million women (34.3% of all entrepreneurs) work in the agriculture sector.

Participaton of Women in Enterepreneurship in Different Caste

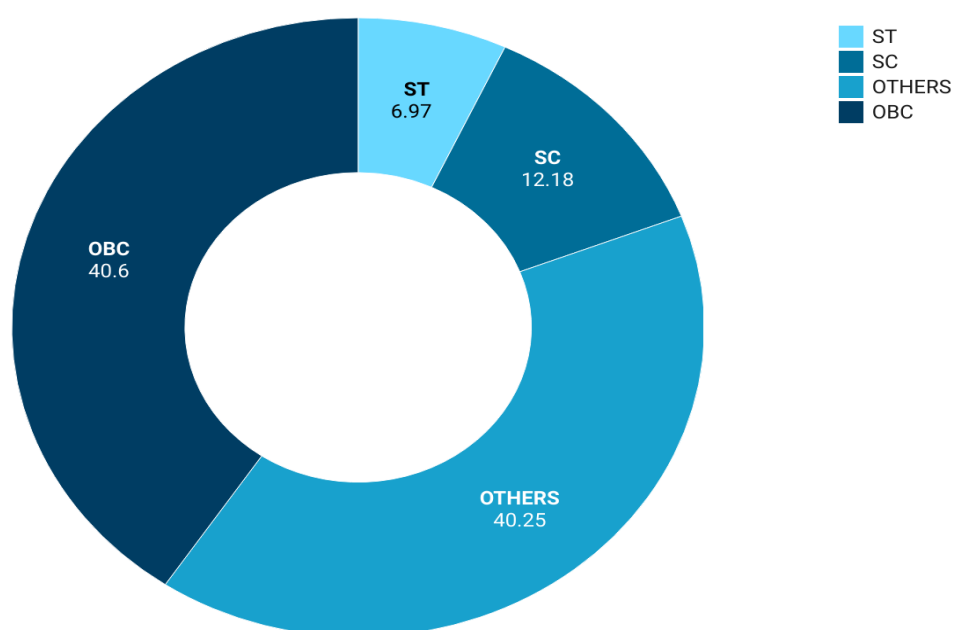


Diagram 1: Caste Wise Participation of Women in Entrepreneurship in India

Source: Census of India, 2011

OBJECTIVES OF THE STUDY

- To determine the variables that mostly influence the entrepreneurship of tribal people in Purulia district using quantitative analysis
- Measure the impact among variables and their magnitude to find out possible suggestions for the advancement of tribal women's entrepreneurship in Purulia district.

LITERATURE REVIEW

This section of the article represents an empirical literature review of different articles by research scholars, journals, publications, reports, government data, news articles, and magazines to create a comprehensive idea about women's entrepreneurship and different variables. A literature review encompasses more than a mere compilation of sources; it entails the examination, integration, and critical assessment of these sources in order to provide a comprehensive understanding of the current state of knowledge pertaining to the subject matter (McCombes, 2023). Additionally, it is worth noting that the aforementioned piece of work may function independently as a research article, commonly known as a "review" or "expert review," and has the potential to be published in scholarly publications that employ a peer-review process (Paul & Criado, 2020).

Age: Age is said to be a factor that influences women's entrepreneurship, particularly indigenous women. While age has a favourable correlation with entrepreneurship, among tribal women in the analysed example, this correlation was not statistically significant. (S. Naveen et al., 2023). According to a different study, tribal women prioritise entrepreneurship after the age of thirty because, at that point in their lives, they are more mature and can better withstand the pressures of living in a culture that is controlled by men, particularly in rural areas (Singhraul et al., 2016). But according to a Saudi Arabian study on female entrepreneurship, there is no meaningful relationship between age and female entrepreneurship (Aljarodi et al., 2022).

Education level: For Indigenous women to be empowered and to make decisions that impact their ability to participate in the economy, succeed as entrepreneurs, and make decisions, education is essential. Many studies revealed that education level increases the chance of entrepreneurship development among tribal women. The study of women entrepreneurs in sub-Saharan Africa by Swid et al. (2023) demonstrated that higher education helps to overcome obstacles such as financial access, market gain, and cultural and gender stereotypes.

Entrepreneurship experience: A different study of entrepreneurship explains that previous entrepreneurship experience has an impact on helping to create a new business. With this consistency, Carranza (2018) mentioned that longer entrepreneurial experience has a positive and significant impact on the establishment of new businesses. In the context of Pakistan, Shakeel et al. (2020) argued that previous entrepreneurship experience helps to find the marketplace, opportunities, and market trends, which helps to overcome the obstacles to creating a new business.

Access to finance: Every startup business requires finance; in the case of tribal businesses, there is no exception to this. Accessibility to finance helps ensure the profitability of firms. Some researchers suggested that the availability of capital helps to increase technology, which increases product quality and quantity. Vosuri Sondhya Rani and Nata Rajan (2023) suggested that the availability of finance has a positive and significant impact on women's entrepreneurship development.

Access to market: The market is necessary for all of the products. So access to the market helps to increase business. In the case of the tribal economy, tribal women frequently encountered difficulties in entering the new market (S.Naveen et al., 2023). Shetty (2018) identified that a lack of market connection creates a hindrance to the growth of women's entrepreneurship in India. So it is clear that the success of entrepreneurship is positive and significantly depends on creating a market and networks.

Access to physical infrastructure: The absence of tangible infrastructure can hinder successful entrepreneurship. Besides, this inadequate infrastructure quality might cause harm to the safety and welfare of women. Access to infrastructure services includes electricity, serviceable roads, water supply, telephone,

post office, media, and all the other things that are needed for development. Danga et al. (2019) stated that poor infrastructure is one of the important causes of the unsatisfactory performance of small-scale entrepreneurs.

Benefits of government programs: Government programs can accelerate or help establish a new business. The Indian government has implemented various schemes and policies for tribal indigenous women to establish new businesses (Koneru, 2017), such as the distribution of chicks, ducking backyard poultry development, diversified production of fish products by women, etc. The Ministry of Tribal Affairs has been launching some schemes for tribal women but has not implemented them properly.

Advertisement: Advertising has a crucial role in sending news about the product to the target audience, which has a significant relationship with the sale of the product. Bist (2023) suggested that advertising can differentiate one company from another and also develop a loyal client base. On the other hand, some of the researchers suggested that advertising can create a brand image and brand recognition for a company.

Nature of family: The nature of family is used as the determinant factor of women's entrepreneurship. In this context, women who are living in a joint family can access more land than their competitors who live in a nuclear family. Besides this, women who can live in joint families can get work experience from their elders and also get financial support. On the other hand, Muniyitha (2015) and Soomro et al. (2019) argued that there is a significant and negative relationship between joint family and women's entrepreneurship.

Technology: The establishment of any level of entrepreneurship through technology is one of the most important factors. Technology can expand the market and market understanding for entrepreneurs. Tribal women can export their products through e-commerce, social media, and other marketing strategies with the help of technology to enhance their revenue generation (Prabhakaran et al., 2023). On the other hand, this study is associated with primary-level tribal women's entrepreneurship; thus, technology may not be significant for tribal revenue generation.

Product holding facility: In this context, most of the tribal people are associated with agriculture, milk products, animal husbandry, small hotels, handicrafts, mask making, and Chau dancing. With this line, all of them are needed for product holding. Prabhakaran et al. (2023) suggested that this can lead to a reduction of waste products and establish a consistent supply chain in the market.

Mode of transportation: In the context of tribal women's entrepreneurship, transportation is one of the prominent factors in the success of their business. Delivery of the product at the perfect time in the perfect place can enhance the customer base. For example, bikes, trucks, and buses are capable of covering larger distances than carts or bicycles. This way, the business owner can expand their business territory.

Motivation: Motivation can act as a catalyst for tribal women to establish new businesses. Women can get motivation from their family members, NGOs, and organizations. According to Khan (2020), women facilitate their own interests and passions, ultimately leading to the attachment of financial autonomy.

Decision-making ability: Decision-making ability is the most desirable character trait for an entrepreneur. Some studies suggest that people who have more decision-making ability are more successful in establishing a new business. With this constraint, a study conducted by S. Naveen et al. (2023) in the Mayurbhanj district of Odisha revealed that there is a positive impact of decision-making on women's entrepreneurship.

Studying feasibility before starting a business: Before starting a business, owners should be concerned about the feasibility of this journey. If the owner studies feasibility before starting, they can be ready for any upcoming situations. Besides this, Singhraul et al. (2016) suggested that education facilities can offer information and access to resources for businesses.

Connection with women's organizations: on this day. Women's groups are playing a very important role in women's entrepreneurship. In the organisation, they can get motivation, suggestions, and awareness about new schemes, address business-related challenges, and get monetary support (Dutta & Gailey, 2012). So, the connection with women's organisations is a prominent factor in establishing entrepreneurship.

DATA AND STUDY AREA

In the study, both primary and secondary data are used. The primary data is based on a household survey of that particular area. At first, we selected the top six blocks of Purulia, which have the highest tribal populations. The selected blocks are Banduwan, Manbazar II, Santuri, Balrampur, Hura, and Baghmundi. After that, we randomly selected the tribally concentrated village with the help of local people. Data from various female business owners in the area is gathered using a purposive and cross-sectional sampling method. To gather data on the demographics of entrepreneurs and the traits of women entrepreneurs, a standardised questionnaire was used. Information was gathered from sample respondents' replies to analyse the importance of several elements in day-to-day business operations, including economic, social, managerial, legal, and administrative, training, and operational support factors. The information was gathered from business owners who work in the production of agricultural labour, the mask-making industry, animal husbandry and milk production, clothing, bricks, food processing, rice milling, and small commerce. The different books, census data of the Indian government, other study materials, and different journal papers are used as secondary data for the study.

Location Map of The Study Area

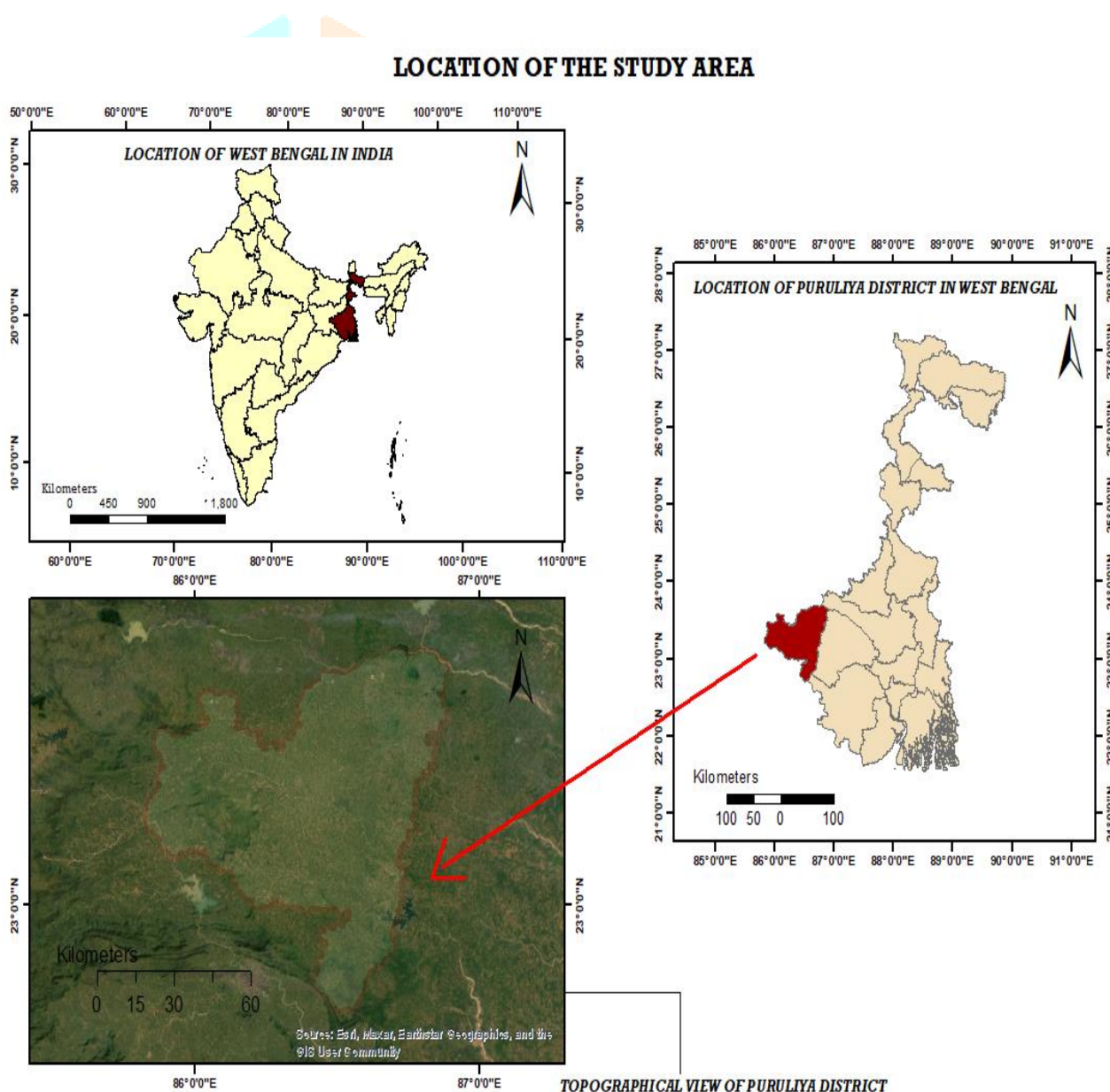


Diagram 2: Location Map of The Study Area

SAMPLING PROCESS

According to Cresswell (2014), in order to produce research findings with practical application, The researcher must choose the research design (strategy) that most effectively aligns with the study's objectives and requirements. Researchers can choose any design in this situation, depending on the type of research topic and the questions they want to ask to solve it. Researchers have the option to select from various research designs are determined by the study's aim, data gathering method, dimension, and research proposal. This is analogous to an architect who can choose from different building designs based on factors such as the intended function of the building, the construction process, and the timeline for construction, among other considerations. The total number of tribal women in Purulia is 117761. After the next step, the sample size is calculated using the following formula:

$$n = \frac{Z^2 pq}{e^2}$$

In this context, the variable "n" represents the sample size, while "Z" denotes the value obtained from statistical tables. These tables provide the area under the normal curve that corresponds to a specific area "α" at the tails. The complement of "α" (1 - α) represents the desired confidence level, such as 95%. For instance, a value of 1.96 is commonly used for a 95% confidence level. Additionally, "p" represents the estimated proportion of a specific attribute present in the population, with a value of 0.5. The variable "q" is calculated as (1 - p). Lastly, "e" represents the desired level of precision, with a value of 0.07. Hence, using this formula, the sample size of the study is 196.

RESEARCH DESIGN AND METHODOLOGY

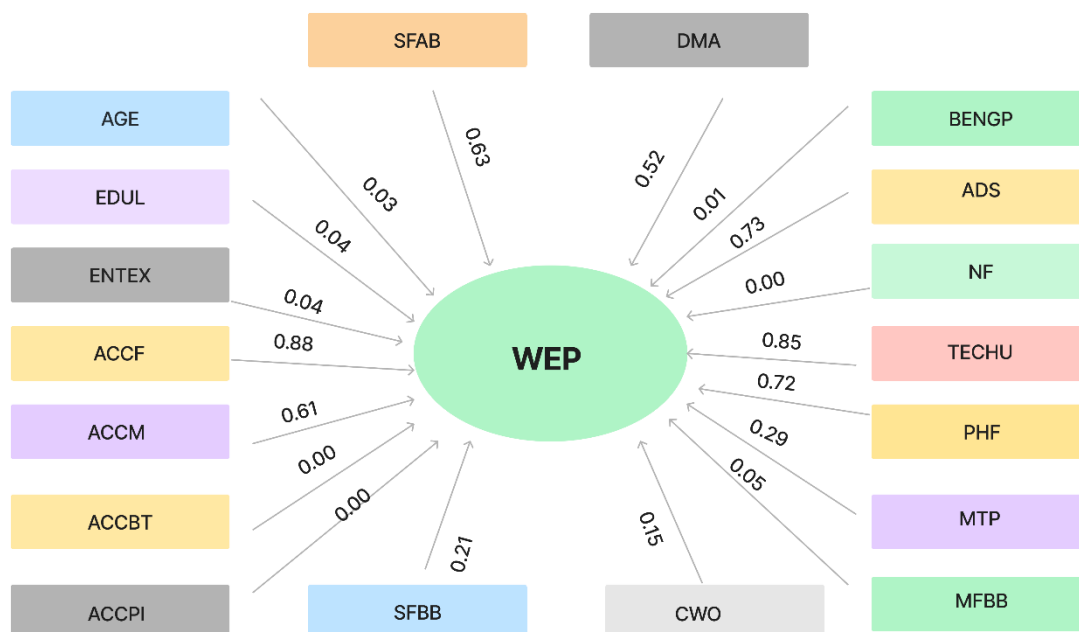
Instrument Determination

The data were obtained by using closed-ended questioning. A meticulous questionnaire was employed to gather data on socio-demographic factors, training, and development variables affecting the success of women entrepreneurs. The Likert scale was used to measure the responses. The Likert scale was segmented into four distinct categories, namely strongly agree, agree, disagree, and strongly disagree, to assess various assertions that encompass knowledge, emotions, and practical aspects. The four categories were then classified into two overarching groups, namely good and negative. The positive grouping includes replies that are classified as strongly agree and agree, whereas the negative grouping encompasses acknowledgment that are classified as disagree and strongly disagree.

Description of the dependent and independent variables

| Variables in models | Defination of variables |
|---|--|
| WEP (Women entrepreneurship performance) | The assigned value is 1 if she generates profit, otherwise the number is assigned as 0. |
| AGE (Age of the respondents) | Respondents with under 29 and above 18 is given 0, and above 29 is given 1. (because 29 age is the cutoff age between adult and young in indian context.) |
| EDUL (Education level of respondents) | Respondents who possess no formal education or have only completed primary education are assigned a value of 0, while those who have attained education above the primary level are assigned a value of 1. |
| ENTEX (previous entrepreneurship experience of respondents) | The value that has been designated or allocated. If the individual have prior experience in entrepreneurship, a value of 1 is assigned; otherwise, a value of 0 is assigned. |
| ACCF (Access to finance) | Respondents who have access to finance are assigned a value of 1, while those who do not have access are assigned a value of 0. |
| ACCM (Access to market) | Respondents who have access to the market are assigned a value of 1, while those who do not have access are assigned a value of 0. |
| ACCP (Access to physical infrastucture) | Respondents who have access to physical infrastructure are assigned a value of 1, while those who do not have access are assigned a value of 0. |
| BENGP(Benefit of govt support and programs) | The given value is 1 if an individual receives advantages and experience from government programmes; otherwise, the assigned value is 0. |
| ADS (Advertisement Status) | The respondents who allocated their capital towards advertisements were assigned a value of 1, while those who did not were assigned a value of 0. |
| NF (Nature of family) | A binary variable is assigned a value of 1 if the respondents reside in a joint family and a value of 0 if they reside in a nuclear family. |
| TECHU (Technology used) | A score of 0 is assigned to respondents who utilise conventional methods in their job, while a score of 1 is assigned to those that employ modern techniques. |
| PHF(Product holding facilities) | If there are facilities for holding products, the assigned value is 1. If there are no such facilities, the assigned value is 0. |
| MTP (Mode of transportation of the product) | A number of 1 is allocated to modern methods of transportation, such as buses, jeeps, and tractors, while a value of 0 is assigned to traditional methods. |
| MFBB(Motivation from family before starting business) | A value of 1 was assigned to respondents who reported receiving an incentive from a family member prior to engaging in business, while a value of 0 was assigned to those who did not receive such motivation. |
| SFAB(Motivation from family after starting business) | The value 1 assigned for respondents who got motivation from family member after business , 0 in case of she did not get. |
| DMA (Decision making ability) | A score of 1 is assigned to respondents who make decisions independently, while a value of 0 is assigned to those who do not. |
| SFBB (Studied facility before starting business) | If she has acquired knowledge on the subject of business feasibility, a value of 1 is assigned. Conversely, if she has not acquired such knowledge, a value of 0 is assigned. |
| CWO (Connection with women organization) | If she possesses affiliations with women's organisations, her assigned value is 1; otherwise, it is 0. |

Figure 1: Abbreviations and values for dependent and independent variables



Flowchart 1: Relations of Independent Variables with The Dependent Variables.

The summary measures are subsequently derived by assigning a binary value of "1" to respondents who answered affirmatively to two or three of the components and a binary value of "0" to respondents who responded negatively to two or three of the integral. All variables were measured using ratio scales. In a similar manner, the variable that was dependent on the study, specifically the execution of women entrepreneurs in terms of profitability, was assessed utilising the Likert scale, which consisted of four categories: strongly agree, agree, disagree, and strongly disagree. Subsequently, the four aforementioned section were subsequently consolidated into two distinct classifications, namely positive and negative. The positive group encompasses replies that indicate strong agreement, and the negative category comprises responses indicating disagreement or severe disagreement. The measures for the dependent variable are established by assigning a value of "1" when respondents provide a positive response to three components and a value of "0" when respondents provide a response to two categories.

DETERMINATIONS OF VARIABLES IN MODEL

In this study, there are two types of variables. One of the dependent variables for the current study is the entrepreneurship performance of tribal women in that area. Along with age, education level, previous entrepreneurship experience, access to finance, access to the market, access to physical infrastructure, benefits of government support and programmes, advertisement status, nature of family, technology used, product holding facilities, modes of transportation of the product, motivation of family before and after starting a business, decision-making ability, studied facilities before starting business, and connection with any women organisation are the independent variables for this empirical study. In the case of tribal women entrepreneurs, the nature of family, access to finance, government aid, government programmes, and their benefits are the most important. Women's options for choosing a livelihood are restricted by gender, society, and cultural standards (Heintz et al., 2017) and their responsibilities to the welfare of their families (Sahu et al., 2021). Tribal women who have access to finance are able to make better socioeconomic decisions, raise their spending, save more money, and boost their income levels (Pati, 2011).

Most of the researchers suggested multiple-linear regression and binary logistic regression for a study about women's entrepreneurship. For example, Nkatha (2016) and Hasan (2016) use the multiple line regression method. On the other hand, Mozumdar et al. (2020), and Wallace et al. (2018) use the binary regression method for the study of women's entrepreneurship. Both logistic regression and multiple regression can be utilised in studies examining the performance of MSEs. If the dependent variable used as the performance metric is continuous, several linear regressions can be selected. Alternatively, a binary logistic regression model is suitable when the dependent variable is a discrete or categorical measure used to assess performance. Some of the researchers claimed that the binary logistic regression model needs to be tested.

That's why the independent variable was computed to check for the presence of a multicollinearity problem among the independent variables. In this study, 18 independent variables are taken into account, and their contingency coefficients are measured by SPSS version 26.

The formula of this testing is

$$Y_i = a + b_1x_1 + \dots + b_{18}x_{18}$$

Here Y_i is dependent variable (Tribal women entrepreneurship), a is the regression constant, b_{1-18} is the slope of regression line, x_{1-18} is the independent variables.

RESULTS AND DISCUSSION

Demographic profile of survey participants

Questionnaires were delivered to the sample respondents during the data gathering process. The response rate achieved a value of 100%. All participants have submitted their completed questionnaires. There are 75.51% of respondents above the age of 29. The minimum and maximum ages are 71 and 19, respectively. In this regard, 60.20% of the women in the sample are illiterate. The majority of them have only completed primary school. Moreover, 83.67% of the sample population is married. On the other hand, 68.36% of the population lives in a joint family.

Discuss of Performance Determinant

The identification of factors that have a substantial impact on the performance of women entrepreneurs in micro and small enterprises necessitates the use of econometric scrutiny. In present context, the study employed binary logistic regression analysis, specifically utilising the logit model, in order to ascertain the characteristics that exert a substantial influence on the success of women entrepreneurs. Therefore, it was suggested that the profit of the firm be used as a metric for evaluating the achievement of women entrepreneurs in micro and small enterprises (MSEs). Figure 3 represents the result of the logistic regression of each variable and also indicates that there is no multicollinearity dispute among the independent variables (all VIF values are near 1). On the other side, Table 3 shows the correlation matrix (Pearson's correlation) of each dummy variable.

Figure 3 confirms that **age** has a significant and positive impact on tribal women's entrepreneurial performance in Purulia. This indicates that people who are much older than their competitors show better performance in their businesses. Age creates the experience; that's why they are achieving their goal in their business. Römer (2022) suggested that the propensity for engaging in entrepreneurial endeavours has a roughly linear relationship with advancing age among persons who possess a preference for exclusive employment of personnel. Moreover, a research study revealed that individuals aged 50 and above who engage in entrepreneurial activities exhibit a higher likelihood of achieving success compared to their counterparts in their 20s (Barratt, 2021). The values of B and $\text{Exp}(B)$ are 1.100 and 3.004, respectively. So, one unit increase in age helps to increase 3.004 times, or 200.4%, economic performance.

The table of regression and correlation shows that there are positive and significant relations between **education** and tribal women's entrepreneurship performance at the $p < 0.05$ level. The results show that the tribal women who managed and owned businesses with higher formal education were more successful than their competitors, who had less formal education. This result is consistent with Namasembe & Manzanera Ruiz (2021) and Ahmedov et al. (2021), who stated that the acquisition of formal education has the capacity to facilitate the recognition and cultivation of inherent entrepreneurial traits in women, hence exerting a significant influence on their inclination to participate in entrepreneurial endeavours. The values of B and $\text{Exp}(B)$ are 1.114 and 3.046, respectively. So, one unit increase in education level helps to increase 3.046 times, or 204.6%, the entrepreneurial performance of tribal women in Purulia.

On the other hand, **entrepreneurship experience** is positively and highly significant with the economic performance of tribal women. This emphasises that women who have previous entrepreneurship experience have achieved more success in their businesses. This study is consistent with Tian et al. (2022) and Burke et al. (2018) who stated that previous experience in entrepreneurship has a favourable impact on entrepreneurial goals, particularly for young entrepreneurs, by boosting the number of people who become

self-employed through workable company ventures. The regression table suggested that the values of B and Exp(B) for previous entrepreneurial experience are 1.107 and 3.026. That means one unit increase in experience helps to increase 3.026 time to create new entrepreneurship.

The study confirmed that **business training** is one of the important factors that impacted tribal women's entrepreneurship. It has a significant and positive impact on the economic performance of tribal women. This means women who have business training show better results than others who have no business training. This result is consistent with Ho et al. (2018) and Garcia et al. (2020), who stated that the likelihood of someone launching a new business is 1.5% higher for those who acquire training. The regression table suggested that the values of B and Exp(B) are 2.036 and 7.661, respectively. That means that every unit increase in business training improves tribal women's economic performance 7.661 times.

The output of the regression analysis in figure 3 shows that access to **physical infrastructure** is statistically significant and has a positive relationship with the performance of women entrepreneurs. This result is similar to that of Bullough et al. (2015), who consider that women entrepreneurs with higher accessibility to physical infrastructure have shown higher performance in terms of profit. The values of B and Exp(B) for ACCPI are 2.231 and 10.191, respectively. So, with a one-unit increase in ACCPI, the odds of the performance of woman entrepreneurs will increase 10.191 times. Besides, this Pearson correlation test also shows that access to physical infrastructure is positively associated with tribal women's entrepreneurial performance.

Correlation matrix of the independent variables with outcome variable

| Correlations | | AGE | EDUL | ENTEX | ACCF | ACCM | ACCBT | ACCPI | BENGP | WEP | ADS | NF | TECHU | PHF | MTP | MFBB | SFAB | DMA | SFBB | CWO | |
|--------------|---------------------|-----|---------|--------|--------|---------|--------|--------|--------|--------|--------|---------|---------|---------|--------|--------|--------|--------|--------|--------|-------|
| AGE | Pearson Correlation | 1 | -.196** | .343** | -0.009 | -0.050 | .302** | -.167* | -.154* | .363** | -0.002 | 0.088 | 0.004 | -0.009 | 0.031 | -0.037 | 0.067 | -0.012 | 0.055 | -0.065 | |
| | Sig. (2-tailed) | | 0.006 | 0.000 | 0.897 | 0.489 | 0.000 | 0.020 | 0.032 | 0.000 | 0.979 | 0.221 | 0.958 | 0.897 | 0.669 | 0.606 | 0.354 | 0.862 | 0.447 | 0.367 | |
| EDUL | Pearson Correlation | | 1 | -0.048 | .203** | 0.050 | -0.016 | 0.031 | 0.055 | 0.069 | 0.101 | -0.007 | -0.023 | 0.101 | .146* | 0.026 | 0.027 | 0.059 | .151* | 0.093 | |
| | Sig. (2-tailed) | | | 0.504 | 0.004 | 0.484 | 0.819 | 0.671 | 0.444 | 0.340 | 0.160 | 0.919 | 0.746 | 0.161 | 0.041 | 0.721 | 0.705 | 0.415 | 0.035 | 0.194 | |
| ENTEX | Pearson Correlation | | | 1 | 0.027 | -0.084 | .270** | 0.109 | 0.030 | .349** | -0.104 | .167* | -0.097 | -0.024 | -0.090 | -0.031 | .144* | 0.020 | 0.067 | -0.135 | |
| | Sig. (2-tailed) | | | | 0.710 | 0.244 | 0.000 | 0.129 | 0.672 | 0.000 | 0.147 | 0.019 | 0.175 | 0.740 | 0.208 | 0.671 | 0.044 | 0.777 | 0.347 | 0.060 | |
| ACCF | Pearson Correlation | | | | 1 | -.231** | -0.028 | 0.039 | 0.085 | 0.053 | 0.115 | 0.045 | 0.013 | 0.087 | .220** | 0.102 | .230** | 0.048 | 0.058 | 0.004 | |
| | Sig. (2-tailed) | | | | | 0.001 | 0.701 | 0.587 | 0.235 | 0.458 | 0.107 | 0.536 | 0.857 | 0.227 | 0.002 | 0.154 | 0.001 | 0.507 | 0.423 | 0.959 | |
| ACCM | Pearson Correlation | | | | | 1 | -0.013 | 0.065 | -0.035 | -0.005 | 0.059 | 0.028 | -0.030 | 0.073 | 0.025 | 0.013 | -0.022 | -0.011 | -0.046 | 0.094 | |
| | Sig. (2-tailed) | | | | | | 0.855 | 0.367 | 0.622 | 0.948 | 0.414 | 0.699 | 0.679 | 0.306 | 0.731 | 0.852 | 0.756 | 0.873 | 0.522 | 0.189 | |
| ACCBT | Pearson Correlation | | | | | | 1 | 0.132 | 0.054 | .389** | -0.006 | .159* | -0.052 | -0.030 | 0.079 | .170* | 0.001 | -0.002 | .175* | 0.136 | |
| | Sig. (2-tailed) | | | | | | | 0.065 | 0.455 | 0.000 | 0.931 | 0.026 | 0.467 | 0.673 | 0.269 | 0.017 | 0.992 | 0.976 | 0.014 | 0.058 | |
| ACCPI | Pearson Correlation | | | | | | | 1 | 0.061 | .392** | 0.062 | 0.045 | 0.009 | -0.022 | .198** | 0.038 | -0.078 | 0.015 | 0.110 | -0.123 | |
| | Sig. (2-tailed) | | | | | | | | 0.392 | 0.000 | 0.388 | 0.531 | 0.901 | 0.759 | 0.005 | 0.594 | 0.275 | 0.837 | 0.123 | 0.086 | |
| BENGP | Pearson Correlation | | | | | | | | 1 | .265** | 0.031 | 0.077 | 0.047 | 0.107 | -0.019 | -0.082 | 0.074 | -0.024 | 0.036 | -0.052 | |
| | Sig. (2-tailed) | | | | | | | | | 0.000 | 0.668 | 0.284 | 0.512 | 0.134 | 0.787 | 0.256 | 0.300 | 0.738 | 0.618 | 0.472 | |
| WEP | Pearson Correlation | | | | | | | | | 1 | -0.080 | .307** | -.164* | 0.087 | 0.050 | -0.050 | 0.027 | -0.034 | 0.095 | -0.127 | |
| | Sig. (2-tailed) | | | | | | | | | | 0.266 | 0.000 | 0.022 | 0.223 | 0.485 | 0.486 | 0.709 | 0.640 | 0.184 | 0.076 | |
| ADS | Pearson Correlation | | | | | | | | | | 1.000 | -.345** | .201** | 0.034 | 0.006 | 0.130 | -0.086 | .175* | 0.093 | 0.108 | |
| | Sig. (2-tailed) | | | | | | | | | | | 0.000 | 0.005 | 0.635 | 0.936 | 0.069 | 0.229 | 0.014 | 0.194 | 0.132 | |
| NF | Pearson Correlation | | | | | | | | | | | 1 | -.495** | .324** | .151* | 0.080 | 0.058 | -0.067 | .219** | -0.096 | |
| | Sig. (2-tailed) | | | | | | | | | | | | 0.000 | 0.000 | 0.035 | 0.266 | 0.419 | 0.351 | 0.002 | 0.181 | |
| TECHU | Pearson Correlation | | | | | | | | | | | | 1 | -.334** | -0.098 | .154* | 0.103 | 0.021 | 0.033 | 0.082 | |
| | Sig. (2-tailed) | | | | | | | | | | | | | 0.000 | 0.173 | 0.031 | 0.150 | 0.775 | 0.649 | 0.251 | |
| PHF | Pearson Correlation | | | | | | | | | | | | | 1 | 0.071 | -0.011 | -0.002 | 0.066 | 0.069 | .161* | |
| | Sig. (2-tailed) | | | | | | | | | | | | | | 0.324 | 0.876 | 0.980 | 0.360 | 0.338 | 0.024 | |
| MTP | Pearson Correlation | | | | | | | | | | | | | | 1 | .180* | 0.104 | 0.034 | 0.121 | -0.013 | |
| | Sig. (2-tailed) | | | | | | | | | | | | | | | 0.012 | 0.147 | 0.637 | 0.092 | 0.857 | |
| MFBB | Pearson Correlation | | | | | | | | | | | | | | | 1 | .282** | -0.131 | -0.024 | 0.013 | |
| | Sig. (2-tailed) | | | | | | | | | | | | | | | | 0.000 | 0.068 | 0.743 | 0.860 | |
| SFAB | Pearson Correlation | | | | | | | | | | | | | | | | 1 | -.179* | -.154* | 0.022 | |
| | Sig. (2-tailed) | | | | | | | | | | | | | | | | | 0.012 | 0.031 | 0.764 | |
| DMA | Pearson Correlation | | | | | | | | | | | | | | | | | 1.000 | .148* | -0.005 | |
| | Sig. (2-tailed) | | | | | | | | | | | | | | | | | | 0.038 | 0.939 | |
| SFBB | Pearson Correlation | | | | | | | | | | | | | | | | | | 1 | -0.007 | |
| | Sig. (2-tailed) | | | | | | | | | | | | | | | | | | | 0.917 | |
| CWO | Pearson Correlation | | | | | | | | | | | | | | | | | | | | 1.000 |
| | Sig. (2-tailed) | | | | | | | | | | | | | | | | | | | | |

Figure 2: Karl Pearson's Test Showing Relationship Among Variables

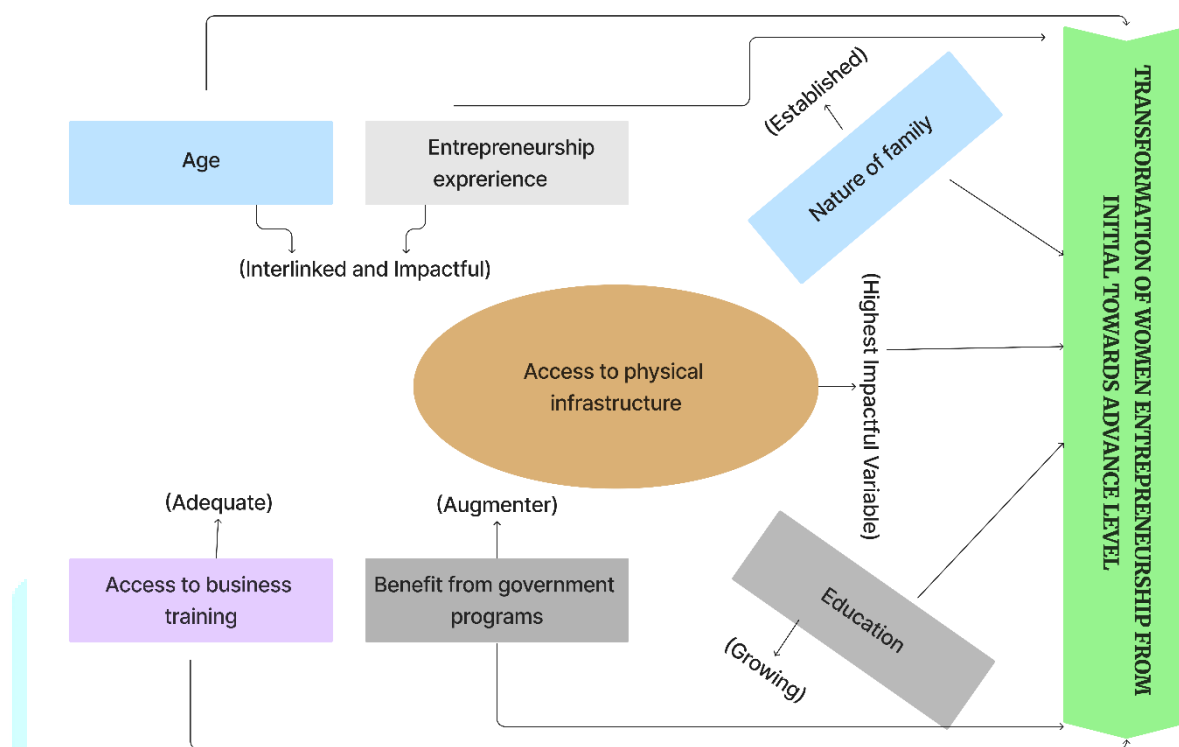
Results of The Logit (Entry Method) Model and Multicollinearity Test Showing Determinants That Influence Woman Entrepreneurs' Performance, N = 196

| Variables in the Equation | | B | S.E. | df | Sig. | Exp(B) | VIF |
|---------------------------|----------|--------|-------|----|------|--------|-------|
| Step 1a | AGE | 1.100 | 0.510 | 1 | 0.03 | 3.004 | 1.323 |
| | EDUL | 1.114 | 0.533 | 1 | 0.04 | 3.046 | 1.164 |
| | ENTEX | 1.107 | 0.536 | 1 | 0.04 | 3.026 | 1.317 |
| | ACCF | 0.076 | 0.517 | 1 | 0.88 | 1.079 | 1.265 |
| | ACCM | 0.239 | 0.465 | 1 | 0.61 | 1.270 | 1.119 |
| | ACCBT | 2.036 | 0.536 | 1 | 0.00 | 7.661 | 1.328 |
| | ACCPI | 2.321 | 0.518 | 1 | 0.00 | 10.191 | 1.136 |
| | BENGP | 1.348 | 0.484 | 1 | 0.01 | 3.849 | 1.104 |
| | ADS | 0.189 | 0.539 | 1 | 0.73 | 1.208 | 1.343 |
| | NF | 2.042 | 0.661 | 1 | 0.00 | 7.709 | 1.895 |
| | TECHU | 0.119 | 0.623 | 1 | 0.85 | 1.127 | 1.614 |
| | PHF | 0.197 | 0.546 | 1 | 0.72 | 1.217 | 1.322 |
| | MTP | -0.522 | 0.495 | 1 | 0.29 | 0.594 | 1.217 |
| | MFBB | -1.244 | 0.621 | 1 | 0.05 | 0.288 | 1.326 |
| | SFAB | 0.282 | 0.585 | 1 | 0.63 | 1.325 | 1.316 |
| | DMA | -0.298 | 0.467 | 1 | 0.52 | 0.743 | 1.111 |
| | SFBB | -0.644 | 0.512 | 1 | 0.21 | 0.525 | 1.260 |
| | CWO | -0.837 | 0.578 | 1 | 0.15 | 0.433 | 1.175 |
| | Constant | -3.625 | 1.085 | 1 | 0.00 | 0.027 | |

Figure 3: Binary Logistic Regression Model

The regression analysis figure 3 reveals that **benefit of government programs** is one of the important parameters for development of Tribal women entrepreneurship. It has positive and significant relationship with the performance of women entrepreneurship. It is also confirmed that in correlation matrix figure 2, Benefit of government program has a positive and significant relationship with women entrepreneurship. It implies that benefit of government program is directly proportional with entrepreneurship performance. This result is similar as Michael & Pearce (2009), P Vijaya. (2021), Kunesh, (2022), GAO (2022) who stated that entrepreneurs who receive government benefits are in a better financial position than their peers to carry out their business operations. From the figure 3 we can say one unit increase of benefit of government programs helps to increase 3.849 times or 284.9 % of entrepreneurial performance.

In addition to the above discussion, the regression output indicates that the **nature of family** is positive and highly significant for tribal women's entrepreneurship. There is a tendency for tribal people to be united and stay in a joint family. That's why the nature of family is the positive and significant parameter in both regression and correlation analysis. Figure 2 and figure 3 show that a woman who lives in a joint family has 7.709 times, or 670.9%, better financial performance than her competitor who lives in a nuclear family. Debnath (2016) also found the same result with the nature of the family of tribal women entrepreneurs.



Flowchart 2: Influential Variables for Transformations of Women Entrepreneurship Stage

RECOMMENDATION

The current study evaluates 18 variables, including women's entrepreneurship (the dependent variable), to find out the correlation among variables, mostly impactful independent variables, and found accessibility to physical infrastructure (Exp (B) 10.191 with a significant value of 0.00). To transform the tribal women's entrepreneurship in Purulia from the initial stage to the advanced stage, an evaluation of the independent variable is necessary. Already established factors such as the nature of family and the united nature of the tribal people of Purulia are growing in education, which can augment their entrepreneurship through benefits provided by the government. Adequate access to business training can be interlinked with previous entrepreneurial experience and influenced by the age factor. Accessibility to physical infrastructure or accessories for production was the key factor in the growth of tribal women's entrepreneurship in Purulia district.

LIMITATIONS OF THE STUDY

The study approached 18 variables, both dependent and independent, to measure the impactful variable and its magnitude in terms of women's entrepreneurial performance. Our observed variables measured the primary level of entrepreneurship, which was almost more than 98% of the total sample, so the variables measured the impact but could not find an impact on higher-level entrepreneurship as well as advanced-level entrepreneurship. Finding the proper channels for the advancement of entrepreneurship is a truly difficult task. Although our study found some variables that measured some impactful variables that indirectly influenced the entrepreneurship of women entrepreneurs among the tribal women of Purulia district,

CONCLUSION

The study concluded that for primary-level entrepreneurs and to boost the performance level of women entrepreneurs, access to physical infrastructure, access to business training that tribal people learned from their ancestors (subsistence existence type occupation), and their nature to stay together constructed an isthmus between the primary-level and secondary-level of entrepreneurship, which helped them move towards the advanced level of entrepreneurship. The variables that were found through the study are constraint in terms of uniqueness but magnitude, and their impact directly and indirectly paints some different pictures of the suburban entrepreneurship of the state.

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