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A STUDY ON INNOVATIVE PRACTICES ADOPTED BY MICRO SMALL MEDIUM ENTERPRISES (MSME's) IN INDIA FOR ECONOMIC DEVELOPMENT: CASE OF WOMEN ENTREPRENUERS IN MSME'S

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Keywords:

Innovative practices, SME's, Economic Development, Women Entrepreneurs, Andhra Pradesh, Post Covid, issues and challenges

Introduction:

Covid-19 has totally shattered the world economic conditions, whether developed, developing or underdeveloped countries has been the victims of this corona virus, suffered tremendously. Many nations depend on their economy mainly on industrial sector whether it is large scale, medium scale, small scale or even micro. According to the World Trade Organization (WTO, 2016) SME's represent over 90 per cent of the business population, 60-70% of employment and 55% of GDP in developed economies. The International Finance Corporation (IFC) estimates those 65 million firms, or 40% of formal micro, small and medium enterprises (MSMEs) in developing countries. This results shows the significance of SME's in economic development of a country.

After COVID -19 drastic changes occurred i.e., lot of fluctuations in economic conditions of several countries. Many countries suffered with greater economic crisis due to this pandemic covid-19 and effected GDP growth. From large to small industries grieved with this situation as lock down persisted for long period of timeand the companies were to shut down for almost 6 months to one year. Most of the small scale and micro industries were completely closed due to long halt in production or service during that time. To overcome this situation many governments made new amendments and policies in favor of industries for its recovery and growth again. India is among the countries have changed policies regarding industrial development to encourage SME's. Government of India withstanding to SME's financially announced moratorium opportunity even for the SME's because

SME's employ around 40% of India's workforce. Around 1.3 million SME's contribute 45% to India's manufacturing output and 40% of India's total export. There are around 6000 products manufactured by 31.7% MSME's while the remaining 68.2% are engaged in providing various services.

The Study was done for the women entrepreneurs in MSME's as respondents in 26 districts of Andhra Pradesh. Based on the issues and challenges faced by the women entrepreneurs with analysis of the data and the study would advise to the Government of Andhra Pradesh on how to improve MSME's economically by supporting them with policy decisions and developing strategies, this study was also gave scope for the researchers who are focusing on SME's and women entrepreneurs.

The study was also gave the scope to woman entrepreneurs about innovative thinking about their companies' products or services and most of these SME's have almost shut down due to pandemic in Andhra Pradesh as well as in other states in India. This study provides strategies and also helps in forecasting the probable situations and developing innovative practices in production of goods or services with sustainability

Objectives of the research:

1. To study the global economic crisis post pandemic
2. To understand the role of SME's in Indian economy
3. To study the policies adopted by Government of Andhra Pradesh towards SME's
4. To examine the issues and challenges faced by woman entrepreneurs in SME's
5. To analyze the impact of SME's on economic growth in Andhra Pradesh
6. To evaluate the innovative technologies adopted by women entrepreneurs at SME's in Andhra Pradesh

MSME's Profile:

Micro, Small and Medium Enterprises (MSME) sector has emerged as a highly vibrant and dynamic sector of the Indian economy over the last five decades. MSMEs not only play crucial role in providing large employment opportunities at comparatively lower capital cost than large industries but also help in industrialization of rural & backward areas, thereby, reducing regional imbalances, assuring more equitable distribution of national income and wealth. MSMEs are complementary to large industries as ancillary units and this sector contributes enormously to the socio-economic development of the country.

Khadi is the proud legacy of our national freedom movement and the father of the nation. Khadi and Village Industries (KVI) are two national heritages of India. One of the most significant aspects of KVI in Indian economy is that it creates employment at a very low per capita investment. The KVI Sector not only serves the basic needs of processed goods of the vast rural sector of the country, but also provides sustainable employment to rural artisans. KVI today represent an exquisite, heritage product, which is 'ethnic' as well as ethical. It has a potentially strong clientele among the middle and upper echelons of the society.

Coir Industry is an agro-based traditional industry, which originated in the state of Kerala and proliferated to the other coconut producing states like Tamil Nadu, Karnataka, Andhra Pradesh, Orissa, West Bengal, Maharashtra, Assam, Tripura, etc. It is an export oriented industry and having greater potential to enhance exports by value addition through technological interventions and diversified products like Coir Geotextiles etc. The acceptability of Coir products has increased rapidly due to its 'environment friendly' image.

Ministry of Micro, Small & Medium Enterprises (M/o MSME) envision a vibrant MSME sector by promoting growth and development of the MSME Sector, including Khadi, Village and Coir Industries, in cooperation with concerned Ministries/Departments, State Governments and other Stakeholders, through providing support to existing enterprises and encouraging creation of new enterprises.

The Micro; Small and Medium Enterprises Development (MSMED) Act was notified in 2006 to address policy issues affecting MSMEs as well as the coverage and investment ceiling of the sector. The Act seeks to facilitate the development of these enterprises as also enhance their competitiveness. It provides the first-ever legal framework for recognition of the concept of "enterprise" which comprises both manufacturing and service entities. It defines medium enterprises for the first time and seeks to integrate the three tiers of these enterprises, namely, micro, small and medium. The Act also provides for a statutory consultative mechanism at the national level with balanced representation of all sections of stakeholders, particularly the three classes of enterprises; and with a wide range of advisory functions. Establishment of specific funds for the promotion, development and enhancing competitiveness of these enterprises, notification of schemes/programmes for this purpose, progressive credit policies and practices, preference in Government procurements to products and services of the micro and small enterprises, more effective mechanisms for mitigating the problems of delayed payments to micro and small enterprises and assurance of a scheme for easing the closure of business by these enterprises are some of the other features of the Act.

On 9 May 2007, subsequent to an amendment of the Government of India (Allocation of Business) Rules, 1961, erestwhile Ministry of Small Scale Industries and the Ministry of Agro and Rural Industries were merged to form the Ministry of Micro, Small and Medium Enterprises (M/o MSME). This Ministry now designs policies and promotes/ facilitates programmes, projects and schemes and monitors their implementation with a view to assisting MSMEs and help them to scale up.

The primary responsibility of promotion and development of MSMEs is of the State Governments. However, the Government of India, supplements the efforts of the State Governments through various initiatives. The role of the M/o MSME and its organizations is to assist the States in their efforts to encourage entrepreneurship, employment and livelihood opportunities and enhance the competitiveness of MSMEs in the changed economic scenario. The schemes/ programmes undertaken by the Ministry and its organizations seek to facilitate/provide: i) adequate flow of credit from financial institutions/banks; ii) support for technology up gradation and modernization; iii) integrated infrastructural facilities; iv) modern testing facilities and quality certification; v) access to modern management practices; vi) entrepreneurship development and skill upgradation through appropriate training facilities; vii) support for product development, design intervention and packaging; viii) welfare of artisans and workers; ix) assistance for better access to domestic and export markets and x) cluster-wise measures to promote capacity-building and empowerment of the units and their collectives.

Definition of Medium Enterprises: Investment in Plant and Machinery or Equipment:Not more than Rs.50 crore and Annual Turnover; not more than Rs. 250 crore is considered to be Medium Enterprises in India

Source:
https://www.google.com/search?q=medium+enterprises+in+india&rlz=1C1CHBD_enIN905IN906&sxsrf=AJOqlzWZ5YbAqmtQUWD9hu4LZgZ9LXgf5A:1678474024125&source=lnms&tbm=isch&sa=X&ved=2ahUKEwjs2OP_gtL9AhWN1XMBHQFdBAkQ_AUoAnoECAEQBA&biw=1366&bih=625&dpr=1#imgrc=xdnBIavLaIvGuM

Definition of Small Enterprises: Investment in Plant and Machinery or Equipment: Not more than Rs.10 crore and Annual Turnover; not more than Rs. 50 crore is considered to be Small Enterprises in India

Source:https://economictimes.indiatimes.com/small-biz/sme-sector/small-business-accounting-why-it-is-essential-for-smes-to-go-for-book-keeping/articleshow/56995493.cms

Definition of Micro Enterprises: Investment in Plant and Machinery or Equipment: Not more than Rs.1 crore and Annual Turnover ; not more than Rs. 5 crore is considered to be Small Enterprises in India

Source: google.co.in

Definition of SHG's (Small Health Groups): Government of Andhra Pradesh have undertaken comprehensive eradication of poverty in rural and urban areas through the Velugu programme. As a part of the programme SHGs (Self Help Groups) are formed in order to develop, strengthen, and empower the women. Various activities have been undertaken through these SHGs for poverty eradication and upliftment of the poor. Though these activities were able to create new sources of income, it has been observed that these activities help them only till they are able to actively participate in income generating activities. Generally in old age physical strength deteriorates and mental stability diminishes, money power becomes bleak coupled with negligence from the younger generation. These problems are of greater magnitude for the women because they generally tend to spend disposable income on their children rather than saving for their old age. Keeping this in view, there was a need for some initiative which would provide them social and income security during their old age.

Source:google.com/msme

Background (Review) of the research:

Murat Bayraktar stated that "SMEs have an important role to attain the Sustainable Development Goals (SDGs) and to promote inclusive and sustainable economic growth, employment, fostering innovation and to decrease income inequalities around the world".

According to EY GM ltd "The small and medium enterprise (SME)* segment is a pillar of economic expansion for the ASEAN countries. SMEs are responsible for up to 99% of all business establishments, over 90% of employment, and contribute almost 60% of the gross domestic product (GDP) in many ASEAN countries."

LuftimCania mentioned in their research on Albania "The SMEs are the main contributors to the economy, because they alleviate poverty, increasing opportunities for employment and allocate resources in a fairer distribution"

MSc. DonjetaMorina opined that "A more attractive business environment would enable young entrepreneurs to enter this sector, and thus increase employment opportunities for interested individuals and reduce the country's poverty line".

AyansolaOlatunji Ayandibu observed that "SMEs contribute a large percentage of GDP to its economy, special interests should be given to them so as to make them perform well and affect the economy positively. SMEs contribution to employment reduces poverty etc makes an economy to grow well. It reduces crime rate, since it has provided for those that are unemployed"

Claret Mendonca stated in their study thathuman capital is the key asset of entrepreneurs. It includes formal education, specific business skills, industry experience and networks the entrepreneur brings to the business. Although women entrepreneurs in the study sample are highly educated, their education and experience is not related to their field of activity. More women actively participating in the economic activities at the local level, creating solutions to the local problems, providing employment to the other women and marginalized sections of the society, would bring in much needed change in attitude, visibility, acceptance and support to women in business.

T. Nagalakshmi discussed in their study that "Women entrepreneurs' represent a group of women who have broken away from the beaten track exploring new avenues of economic participation. Among the reasons for women to manage organized enterprises are their skill, knowledge and expertise, their talents and abilities in business, and a compelling desire of wanting to do something positive and constructive utilization of their expertise".

S.Ammani et al., opined that "Entrepreneurial women have played an important role in the development of India. Government or international donors wishing to promote small businesses will need to identify talented women who pursue hobbies and seek professional recognition. For example, talented women can be recruited from craft and art shows, garden shows, cooking competitions and other such venues and encouraged to see their hobbies as money making venture. Providing them low cost or free training in starting a small business will ensure those that do are successful.

Mohammad ShamsulHoquesyas mentioned that Development of leadership capabilities among women entrepreneurs is valuable for leading and managing entrepreneurship businesses. women's entrepreneurship businesses help in developing leadership behaviors, particularly supportive, participatory, directive, and achievement-oriented leadership practices, among women entrepreneurs. Women entrepreneurs also practice directive (instruct team members about tasks, give due charges and duties, become assertive and demonstrate self-productive leadership behavior). They also exercise achievement-oriented leadership behaviors (build self-confidence and self-efficacy, drive employees towards higher results, pay attention to continuous improvement of team performance, and make tasks pleasant and meaningful)

AladinAladin found that SMEs and economic growth has a one-way causal relationship, government continues to work together and collaborate with SMEs to accelerate SMEs productivity considering the contribution of SMEs to economic growth in their country.

NawalAbdalla Adam stated that during the COVID-19 epidemic crisis, in strengthening the link between innovation practices and the performance and survival of SMEs using the PLS-SEM algorithm. the relationship between SMEs' innovation practices, external support, and business performance and survival, all indicators for measuring enterprise performance should be considered, and the types of innovation must be addressed.

Hidayet KESKĠN mentioned that"SMEs have an important role in terms of their economic share in developed and developing economies though there are different definitions of SME among various organizations and countries. SMEs are vital actors for enhancing innovation, competitiveness, entrepreneurship and the establishment of an effective innovation system for developing countries.

PullaiahDudekula observed that Women entrepreneurs play the role of change makers both in the family and also in the society and inspire other members of the society to take up such activities. They are assets of the nation as they are engaged in certain productive activities.

Asian Development Bank Institute, Tokyo in their annual report SMEs in Developing Asia New Approaches to Overcoming Market Failures mentioned that about Indian economy Micro, small, and medium-sized enterprises (MSMEs) have gained increased attention in India in recent times, considering their strategic importance to the economy and the country. MSMEs play an important role in generating employment—48.8 million MSMEs in the country provide employment to 111.4 million people. MSMEs in the manufacturing sector alone produce more than 6,000 products and contribute 7.7% of the gross domestic product (GDP) of the country. Similarly, MSMEs in the services sector contribute 27.4% of the country's GDP.

Chandrasekhar Singh observed that organizations working for the cause and economic advancement of women's empowerment aim to boost the socio-economic profile of a nation in which women make up almost half of the country 's population. The role of women in entrepreneurial enterprise typically ranges significantly across the world, varying from just over 1.5% to 45.4% of adult women in the workforce. 19.9 percent of women ages of 18 and 64 are launching and operating new companies in factor-driven economies.

Suchitra and Ramesh pai stated that woman entrepreneurs in India have less facilities compared to male entrepreneurs. More research should be needed for woman entrepreneurs. There are many challenges for women entrepreneurs. They also mentioned thatwomen are playing multi-role and facing different challenges, from setting up the business to its continuation. The government takes various measures to motivate women's entrepreneurship in the country. The work-life balance of women entrepreneurs is very challenging. Digitalization has brought challenges and opportunities to women in continuing their businesses. Highly educated women must be encouraged to run their businesses instead of working under someone.

Raj Karan and Shikha Shokeen found that "Women business is picking up significance in India in the wake of monetary progression and globalization". Women being the key sexual orientation of the general populace have extraordinary limit and potential to be the supporter in the general financial advancement of any country.

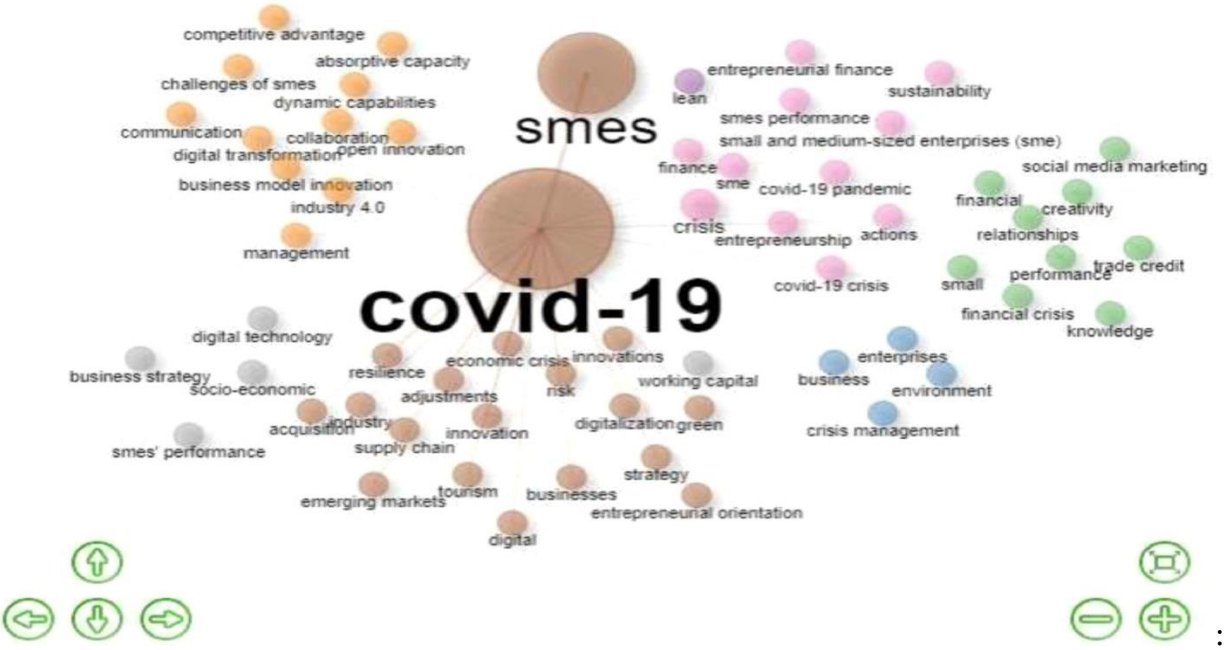
Hattab observed that female are always stressed to take the approval from her male companion - something that makes the entire entrepreneurial journey more difficult.

Viju in their study discussed that insufficient financial support for female entrepreneurs in the Middle East also harms the relationship with key stakeholders such as suppliers, customers, and distributors, as well as the creation of obstacles for investment opportunities

Significance of the project:

The review of the literature on MSME's reveal certain gaps in available knowledge. Thus, there is uncertainty regarding the actual spread of the Small and medium enterprises (SME's) initiative, disagreement on the value of the implementation of SME's to overcome of COVID-19.The controversy over what SME'sinitiatives the government had taken that COVID-19 practices were not successfully controlled by SME's policies. To investigate these practices by addressing the SME'S activities in the area of woman entrepreneurship innovative practices. This shows that there should seek from SME's protection and safety point of view with respect to their financial and development in technology. To succeed in this statement, SME's is responsible for government to give better profits and economy and employment to the government. SME's may generate in cities, urban and rural areas. Building on the literature review, this section seeks to develop a theoretical framework that will enable this study to empirically scrutinize and produce endings that advance existing knowledge on the topic.There are no previous studies in Andhra Pradesh regarding SME's to know the improvement and innovative method after COVID-19 and to know the change management system in the business of the woman entrepreneurs with respect to innovative practices and policies. This study wasan opportunity for the researchers about SME's on economic growth after COVID-19 in Andhra Pradesh.

An Example of SME's in Covid-19 Crisis and Combating Strategies:



Source: Mohammad Rokibul Hossain, "SMEs in Covid-19 Crisis and Combating Strategies: A Systematic Literature Review (SLR) and A Case from Emerging Economy"

Issues and challenges of women entrepreneurs:

Albert Einstein says that "We cannot solve problems by using the same kind of thinking we used when we created them."

Post COVID-19 has been more challenging for everyone, and business owners have been particularly hard hit with new regulations among other challenges as this new normal was highly unpredictable and highly complicated because the pandemic has intensely and excessively affected women-owned businesses.Some of the issues and challenges are listed below:

- financial transactions online
- New learning and Re-skilling
- Importance of technical skills and business operations
- Cultural and societal norms whether it is new normal or earlier and new experience into knowledge
- Cultural barriers and Systematic difficulties
- Business processes and Resilience to tackle uncertain circumstances
- Vulnerabilities and Exogenous shock
- Socio-cultural influences that inhibit the entrepreneurship growth
- Gender discrimination and Socio-cultural biases,
- Lack of corporate administration skills in the sector
- Lack of collateral security to access funding and Lack of support from design state to promoting their businesses
- Lack of market information and occurrence of disasters in thelocalities.
- Inadequate knowledge and skills
- Lack of community involvement
- government schemes could not be known

Research gap:

Women entrepreneurs still represent a minority for establishing MSME's. Obviously, this economic resource has not been successfully explored yet. Especially in surviving states in India like Andhra Pradesh. The Researcher had an opportunity to find out the issues and challenges faced by woman entrepreneurs before and after Covid pandemic times with respect to the Ministry of MSME's policies as well as Government of Andhra Pradesh industrial policies. The Researcher will go through the policies of MSME's Ministry as well as AP Govt Industrial Policies whether the woman entrepreneurs have an awareness regarding to those or not. Why because of most of the economic source for the Govt GDP was came from MSME sector side only. If the researcher would reach these policies to the woman entrepreneurs especially who are un aware regarding those policies this study wasa path for the woman entrepreneurs to know their rights and company surviving or succession through them., i.e. MSME's Policies and Government of Andhra Pradesh Industrial Policies on SME's.

MSME's Policies:

Policy 1: The MSMEs of India wasthe cradle for the "Make in India" vision. This wasthe nursery where small existing businesses have the potential to become world beaters tomorrow. The larger players amongst the MSME space also are in a unique position to become global players attracting partners with technology and funds. The Policy framework must encourage this. It will also help creating employment on a massive scale.

Policy 2: Any MSME Policy for India should take into account the various Ministries such as Ministry of Commerce and Industry, Ministry of Textiles, Department of Electronics and Information Technology, Ministry of Food Processing Industries, Ministry of Heavy Industries and Public Enterprises, Department of Pharmaceuticals etc., and the Regulatory Ministries such as Ministry of Corporate Affairs and Ministry of Finance.

All the Policies should be aligned with each other because the focus wasthe entrepreneur, whether he is starting up, he is growing, he is wanting to become a large domestic player or a global competitor; the Policy framework must enable and encourage all this. It should also be aligned with MSME Policies of the State Governments of India.

Policy 3: Policy Framework should at once be:

1. An enabling framework

2. A supporting framework, and

3. for very small businesses

a) A Subsidy Framework.

Policy 4: Some trends are noticeable immediately. Services, as career options, areattractive because it has a low entry barrier in terms of entry costs and can be scaledup more rapidly than manufacturing. Scaling-up, depending upon the type of productis also easier.However, a second trend noticeable is that we have not produced global levelplayers in providing services except in Information Technology (IT) and InformationTechnology enabled Services (ITeS)

And Three more policies were there which were mentioned under the citation link below**Source:**http://www.dcmsme.gov.in/MSME_Policy_Consultation.pdf

Research Methodology:

In this case, the data is was collected from woman entrepreneurs of SME's in Andhra Pradesh at the same time by taking a section of woman CEO's of characteristics and demo graphs were studied. This study means that the researcher described the impact of Innovative practices on the demographics of the woman entrepreneurs who are as respondents. Also, the psychological part of the respondents meant that the researcher study across all the demographic sections of the respondents that affected with COVID-19 on their companies with response to government guidelines and policies on MSME's.

Data Source: The secondary data wascollected from research reports and journals from various institutions, books, and through the websites, visiting the MSME offices and different central and state universities and Institutions. The primary data is to be collected relating to respondents of SME's woman entrepreneurs who are affected with COVID-19 lockdown situation and how they are survived their companies in their region with innovative technologies is to be collected with the help of a questionnaire. The questionnaire will be formulated and finalized based on questionnaire for the pilot study.

Target Population: The target population of this study will be district wise MSME data of past five years i.e., from 2017 to 2022 especially on woman entrepreneurs under SME's.

The Sample: The sample is the total population of this study is based on Block wise or District wise or Zonal wise in Andhra Pradesh. For Example, as per MSME data 2018, there are 2224 small enterprises with the turnover of 5 crores. Among those Woman Entrepreneurs who runs companies or services woman CEOs in Andhra Pradesh, i.e., 110 in medium and 1620 or above in micro which is defined data based on MSME and DIC of Andhra Pradesh.Likewise, all SME's in 26 districts of Andhra Pradesh

Sample Size: For Example, if we choose small enterprises 2224 in AP, the total sample size is 86 which is based the Rao's online software sample size calculator the total districts of the 26 of AP respondents at 95% confidence interval with confidence interval 5 the sample is 86 or more are acceptable. This sample size is collecting from 26 districts of AP woman entrepreneurs and by chooses with Neyman's proportion of allocation Statistical tool. Likewise in 2022 there are nearly 25 lakhs of enterprises are there in Andhra Pradesh which plays 5% GDP growth in India. So the study goes between 2017 -2022 annually.

To study and analyses this researcher would use the primary data through SPSS21 software, Big Data or R software by using different statistical tools like percentage analysis, ANOVA, t-test, Correlation, and regression analysis for quantitative analysis.

Hypothesis:

Based on the objectives of the study the hypotheses were framed depending upon the Perception of the MSME's woman entrepreneurs, psychological thinking of the woman entrepreneurs and knowledge of the woman entrepreneurs on Government policies after covid times and economic growth of the Government through their companies after Covid times. The Researchers were framed hypotheses continued by a structured qualitative questionnaire which later it converts in to quantitative through fuzzy matrix model. The hypotheses are:

For the first objective

H1: There is a Significance difference among the woman entrepreneurs on economic situation after pandemic covid 19 times.

And the substitutes of

H1.a: There is a significance difference among the woman entrepreneurs perception on economic situation at medium scale level industries

H1.b: There is a significance difference among the woman entrepreneurs perception on economic situation at small scale level industries

H1.c: There is a significance difference among the woman entrepreneurs perception on economic situation at micro scale level industries

H1.d: There is a significance difference among the woman entrepreneurs perception on economic situation at SHG's level industries

For the second objective:

H2 : There is a significance impact of woman entrepreneurs role on economic situation at their respective state with the support of their companies or industries

Substitutes of

H2.a: There is a significance impact of medium enterprises of woman entrepreneurs role on economic situation of Andhra Pradesh GDP growth of their companies or industries

H2.b: There is a significance impact of small scale enterprises of woman entrepreneurs role on economic situation of Andhra Pradesh GDP growth of their companies or industries

H2.c: There is a significance impact of micro scale enterprises of woman entrepreneurs role on economic situation of Andhra Pradesh GDP growth of their companies or industries

H2.d: There is a significance impact of SHG's scale enterprises of woman entrepreneurs role on economic situation of Andhra Pradesh GDP growth of their companies or industries

For the third objective:

H3: There is a significance difference satisfaction level of woman entrepreneurs on Govt of

Andhra Pradesh policies on MSME's

Substitutes of

H3.a : There is a significance difference satisfaction level of medium scale enterprises

woman entrepreneurs on Govt of Andhra Pradesh policies on MSME's

H3.b : There is a significance difference satisfaction level of small scale enterprises

woman entrepreneurs on Govt of Andhra Pradesh policies on MSME's

H3.c : There is a significance difference satisfaction level of micro scale enterprises

woman entrepreneurs on Govt of Andhra Pradesh policies on MSME's

H3.d : There is a significance difference satisfaction level of SHG's scale enterprises

woman entrepreneurs on Govt of Andhra Pradesh policies on MSME's

For the fourth objective:

H4: There is a significance impact of the opinion of the woman entrepreneurs on issues and

challenges faced by their companies

(Opinion with respect to Technology Adopted, Marketing, Profit and Survive in competition)

Substitute of:

H4.a: There is a significance impact among the medium enterprises woman entrepreneurs

on their opinion with respect to issues and challenges

H4.b: There is a significance impact among the small scale enterprises woman

entrepreneurs on their opinion with respect to issues and challenges

H4.c: There is a significance impact among the micro enterprises woman entrepreneurs

on their opinion with respect to issues and challenges

H4.d: There is a significance impact among the SHG's enterprises woman entrepreneurs

on their opinion with respect to issues and challenges

For the Fifth Objective:

H5: There is a significance difference among the knowledge on technology adoption of the MSME's from other states companies compared with their state companies to develop or adopt for the economic growth of their company

Substitutes of:

H5.a: There is a significance difference among the knowledge of medium enterprises on technology adoption

H5.b: There is a significance difference among the knowledge of small enterprises on technology adoption

H5.c: There is a significance difference among the knowledge of micro enterprises on technology adoption

H5.d: There is a significance difference among the knowledge of SHG's enterprises on technology adoption

For the sixth objective:

H6: There is a significance impact of MSME's on economic development at Andhra Pradesh

Substitutes of:

H6.a: There is a significance impact of medium scale enterprises on economic Development at Andhra Pradesh

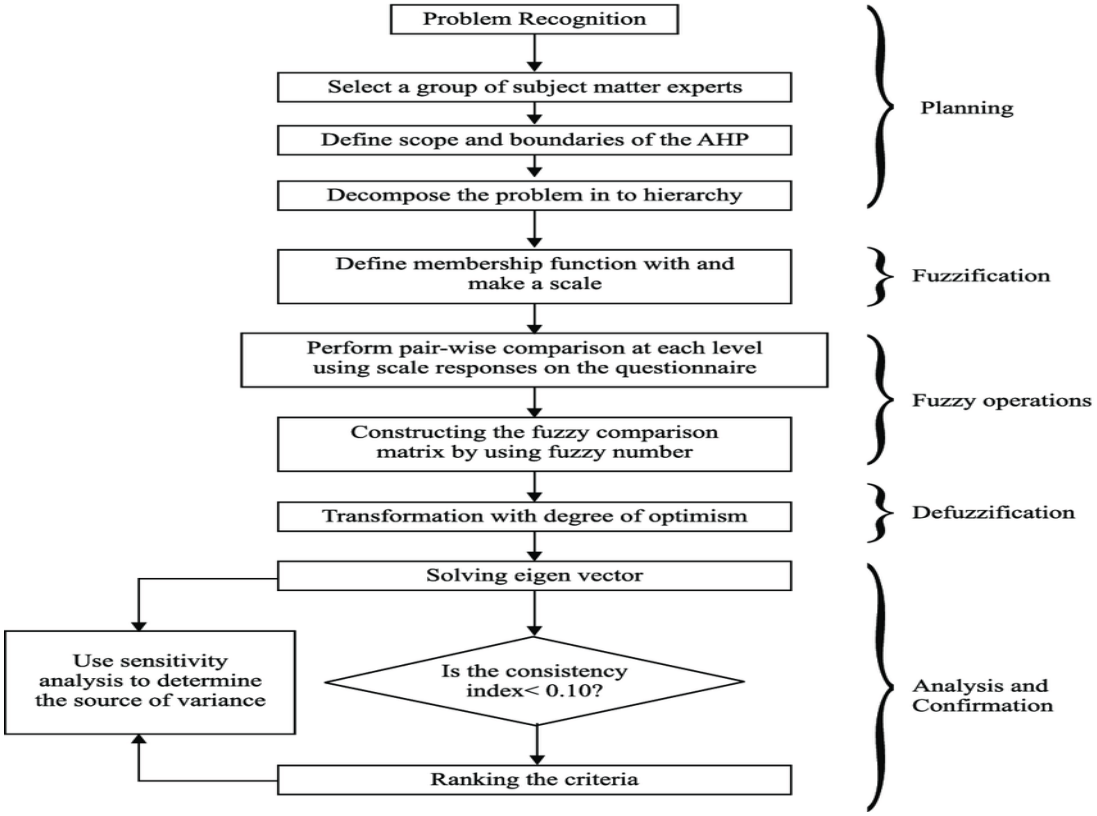
H6.b: There is a significance impact of small scale enterprises on economic development at Andhra Pradesh

H6.c: There is a significance impact of micro scale enterprises on economic development at Andhra Pradesh

H6.d: There is a significance impact of SHG's on economic development at Andhra Pradesh

All the above hypotheses are to be analysed based on the qualitative as well as quantitative data by using different mathematical tool like fuzzy matrix model for qualitative data and statistical tools for quantitative data with the help of Chi square test ,Percentage analysis, ANOVA and Regression Analysis.

For qualitative analysis A fuzzy associative matrix expresses fuzzy logic rules in tabular form. These rules usually take two variables as input, mapping cleanly to a two-dimensional matrix (Column and row), although theoretically a matrix of any number of dimensions is possible. From the perspective of neuro-fuzzy systems, the mathematical matrix is called a "Fuzzy associative memory" because it stores the weights of the perception.



Application of Fuzzy Matrix model for qualitative analysis in this research:

The first part of this section describes a questionnaire that was used to characterize woman entrepreneurs interface and to obtain user feedback in a field study where data were obtained.

The second part deals with the theoretical rationale for woman entrepreneur's role in economic development through SME's that was used to create the fuzzy logic model and the methods applied to interpret and test that model.

The questionnaire that was used stemmed from a previous investigation carried out at the Micro Small Medium Enterprises, (MSME),Government of India among active members of woman entrepreneurs with the aim of determining and quantifying the most relevant problems at the workplace, particularly regarding accessibility, furniture design, and task performance. The questionnaire was filled in by trained staff while the woman entrepreneurs were working at their company or industry. Due to practical reasons, the measuring process was conducted at the company with the woman entrepreneurs. That implied serious limitations and made the determination of some dimensions (e .g., Technology Adopted in their Company) only indirectly possible.

The procedure consisted of the following parts:

• A questionnaire of subjective entrepreneur's preferences

• Measurement of company employee's perception

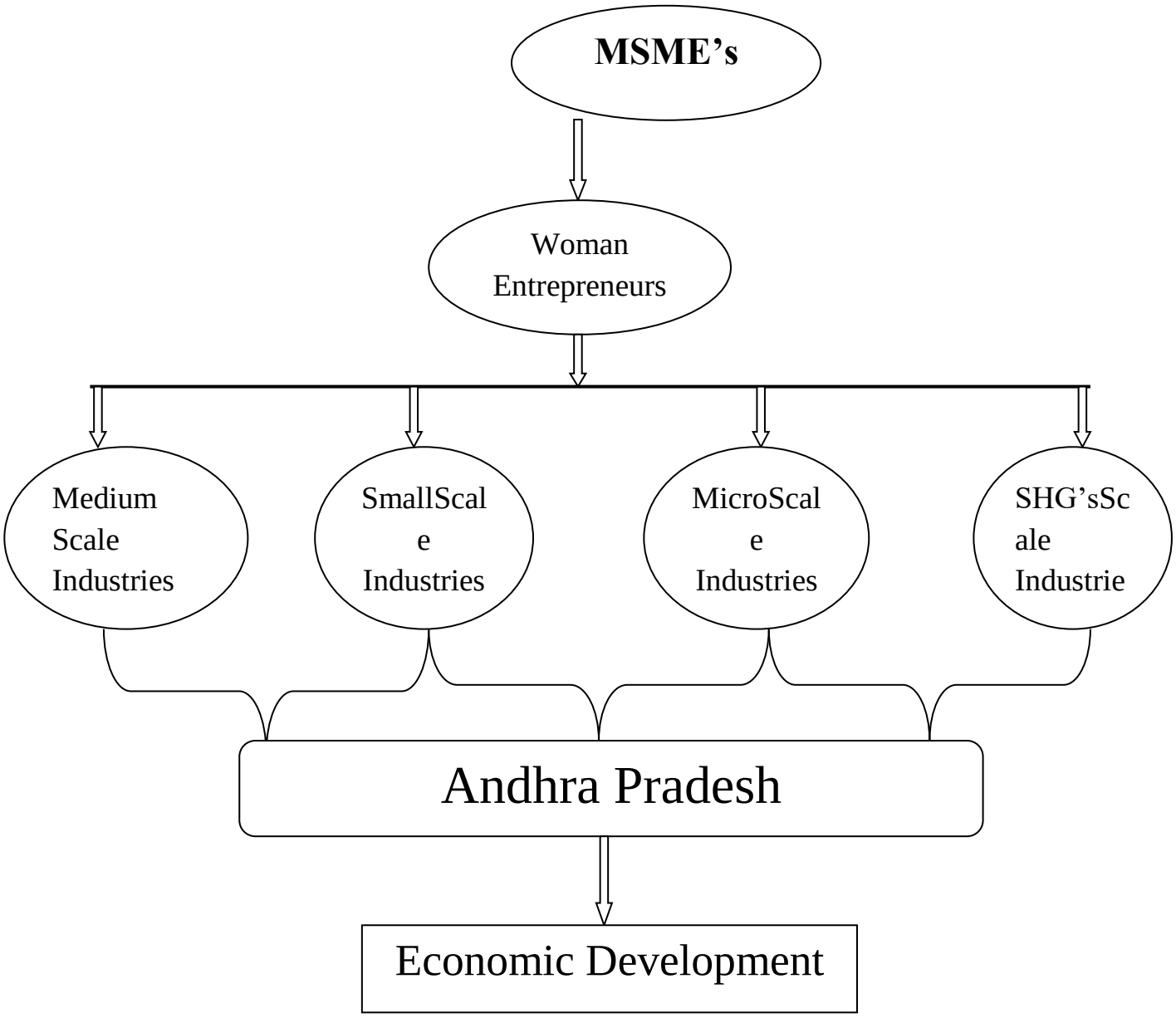
• Measurement of behavioural attitudes of the employees as well as entrepreneurs

• Measurement of other features of the company environment.

Since the questionnaire was intended for assessing the occupational conditions of entrepreneurs, some measurements included in the original forms related to govt policies and regulations. Based on the participants' responses to the independent variables, the proposed technique uses fuzzy logic inference to measure the subjectivity (qualitative aspect) of the participants' response to the dependent variable. Beyond quantitative analysis, augmentation with such a fuzzy module can provide clearer picture to analysts when analyzing the survey results.

A fuzzy matrix may be a matrix that has its parts from [0,1]. We as in case of matrix have rectangular fuzzy matrix, fuzzy square matrix, fuzzy row matrix, diagonal matrix & fuzzy column matrix. We just illustrate them by the following examples.

Conceptual Framework of the Study:



The above flow chat had given an idea regarding the research plan of the study. Based on the DIC data of all Districts of Andhra Pradesh MSME's to be collected and among the data it should be separated as Medium, Small, Micro and SHG's. Besides to this the data should be concise with top ten woman entrepreneurs companies of that particular district based on net worth, turnover or profits of the company. Approximately 1040 companies will be chosen for analysis which plays an important role in the economic development of Andhra Pradesh

Implementation of Framework in to Fuzzy Matrix Model:

It is not the categories of MSME's with its manifestation in the activities but the assessment process between them that directly influence the performances and economic status of the industry. Therefore, a research framework employs the principle of conventional input-output conversion process, derived from the model for asserting criteria relationships as shown in figure

ASSESSING CRITERIA

CRITERIA	SUB CRITERIA
Medium Scale Industries Woman Entrepreneurs(R1)	• Demographic Factors(R 9) • Psychological Factors(R 15) • Industrial Policy Factors (R 22) • Technology Adoption Factors(R 27) • Economic Impact Factors (R 32)
Small Scale Industries Woman Entrepreneurs(R2)	• Demographic Factors (R37) • Psychological Factors (R 42) • Industrial Policy Factors (R 47) • Technology Adoption Factors (R 52) • Economic Impact Factors (R 57)
Micro Scale Industries Woman Entrepreneurs(R3)	• Demographic Factors (R 62) • Psychological Factors (R 67) • Industrial Policy Factors (R 72) • Technology Adoption Factors (R 77) • Economic Impact Factors (R 82)
SHG's (R4)	• Demographic Factors (R 87) • Psychological Factors (R 92) • Industrial Policy Factors (R 97) • Technology Adoption Factors (R 102) • Economic Impact Factors (R107)

The above table shows four criteria regarding the MSME woman entrepreneurs which means Medium Scale Entrepreneurs was considered to be R1 which is primary criteria in Analytical Hierarchy Process (AHP) in fuzzy matrix model and from R5,R6,R7,R8,R9 were considered as interventions of sub criteria of Demographic Factors. Likewise Psychological Factors up to R15, Industrial Policy Factors up to R22, Technology Adoption Factors up to R27and Economic Impact Factors up to R32.

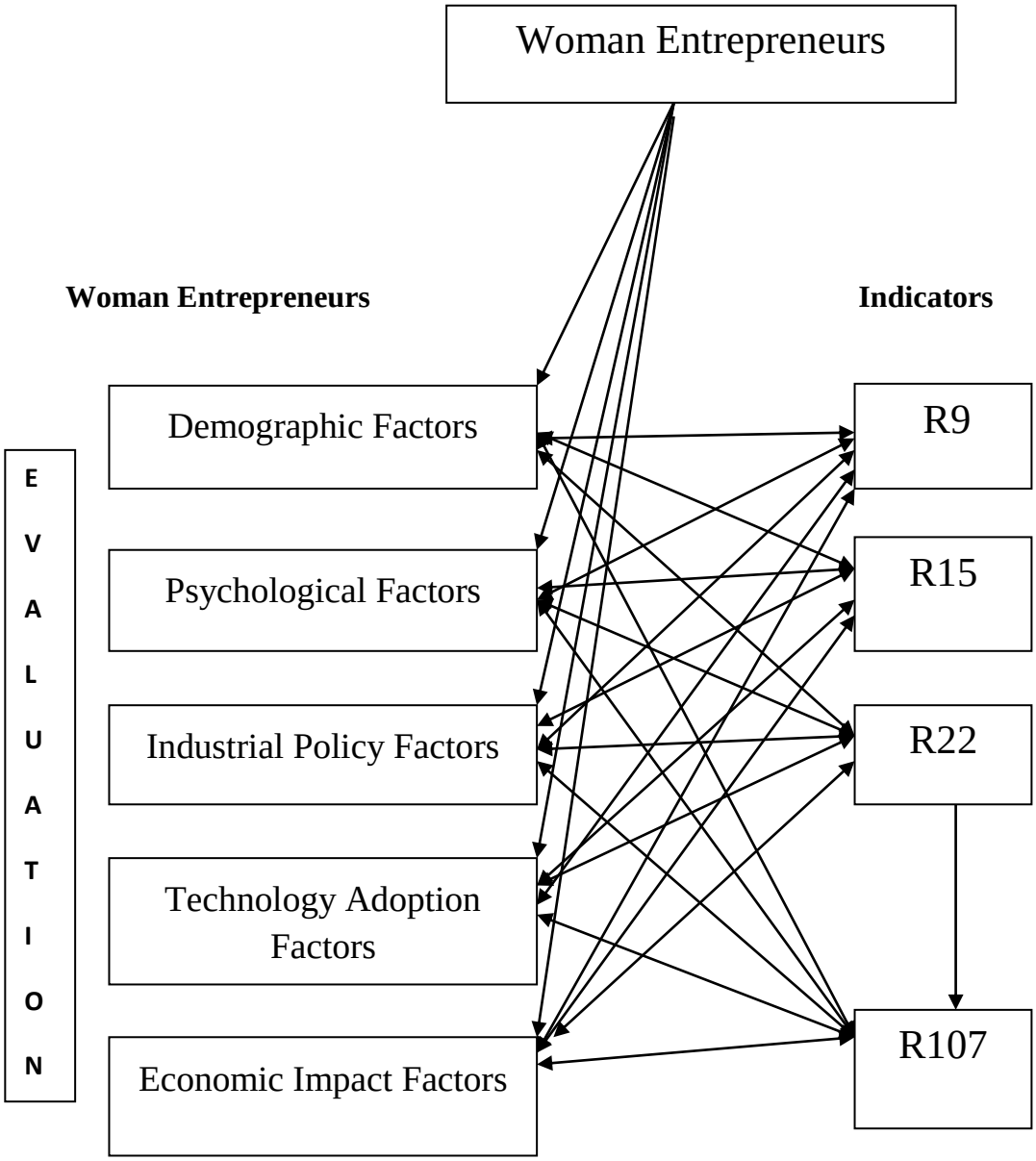
In continuation with AHP small, micro and SHG's were to be taken under Primary criteria with Sub criteria. There were 4 primary criteria and 103 sub criteria's were there in AHP fuzzy matrix model.

The formula is in each hierarchical level, pair-wise comparisons of n elements are made by using a nominal scale and the value m_{ij} is assigned to represent the judgment concerning the relative importance of decision element $€_i$ over $€_j$. These comparisons compose a pair-wise comparison matrix M =(m_{ij}) In order to find the weight of each element, or the score of each alternative, the priority vector w = $(w_1,w_2,w_3\ldots\ldots w_n)^t$ of this comparison matrix is calculated based on solving the equation:

$$M_W = \lambda_{MAX}\ W_i \quad \text{Here } \lambda_{MAX} \geq \dot{\eta}$$

It indicates that the priority vector corresponding to the highest priority (λ_{MAX}) of the pair-wise comparisons matrix reflects the relative importance of the decision elements

The Hierarchical Structure for Prioritizing the Woman Entrepreneurs Indicators:



Fuzzy AHP method:

The above figure shows Fuzzy AHP Model, Zadeh first introduced the fuzzy set theory to deal with the uncertainty due to imprecision or vagueness. A fuzzy set Ã = {(x,)} is a set of ordered pairs. Let the universe of discourse function which assigns to each object x a grade of membership ranging between 0 and 1. Triangular fuzzy number is the most widely used membership function in many application fields because of its intuitive appeal and computational efficiency. A triangular fuzzy number, defined to be a normal and convex fuzzy subset of X and denoted as Ã=(a,b,c) has the following membership function.

Triangular Fuzzy Number Ã= (a,b,c): After using Fuzzy AHP method it should be calculated through Triangula Fuzzy number which is used to represent subjective pair-wise comparisons of the data from the questionnaire supplied to various experts among the options such as Very poor, Poor, Not bad, Satisfactory, Good, Very good, Commendable, Excellent and Outstanding.The triangular fuzzy conversion scale used to convert such linguistic values into fuzzy scales in the evaluation model.

Triangular Fuzzy Conversion Model: After using triangular fuzzy number it should be converting in to Triangular Fuzzy Conversion Model.Compared to conventional AHP, the fuzzy AHP approach allows a more accurate description of the decision making process. Further Least Square approach is added to this fuzzy AHP to identify the best performing woman entrepreneurs companies

Definition and examples of fuzzy matrix model:

Definition: Consider a matrix A=[a i j] mxn

Where a i j Є[0,1],1≤ i≤ m and 1 ≤ j ≤ n.

Then A is a fuzzy matrix.

Fuzzy row matrix:

Let A=[a1,a2,a3…an],aijЄ[0,1];j=1,2,…n. Then A is called a 1xn fuzzy row matrix or fuzzy row vector.

Fuzzy column matrix:

Let B = $\begin{pmatrix} b1 \\ b2 \\ \vdots \\ bm \end{pmatrix}$

Where a i Є[0,1];i=1,2,…m. Then A is called a mx1 fuzzy column matrix.

Based on the data collection the fuzzy matrix model can be divided in to two matrix

The structure was framed by hierarchical of entrepreneurs from mega to micro enterprises

For Example: In a Row matrix each row consists Mega, Medium,micro, SHG's and Woman Entrepreneurs.

Let Assume A as Medium Enterprises and a1 as company 1, a2 as company 2, a3 as company 3……an as up to number an of companies

Which means **Medium Enterprises= (company1, company2, company3……company n)**

Company ***i (Nominal variables), j(Number of respondents)**

In a Column matrix each columns consists each district of Andhra Pradesh .There are 23 districts are there in Andhra Pradesh, In each District of Andhra Pradesh b1 refers to number of MSMEs in that particular district up to b23

So **B (Andhra Pradesh) = (District1, District2……. District23)**

Where a= Number of MSME's and **i means each company variables**

Using of fussy matrix model in this study:

Researcher divides the methodology into five criteria which are given below.

Assessing Criteria: The assessing criteria distinguishes into five categorical domains including Medium, Small, Micro,SHG's and Woman Entrepreneurs such as good relationships with people or suppliers.

Analytical Hierarchical Process:

In 1971, the analytical hierarchy process (AHP) was first introduced by Saaty. Since its introduction, the AHP has become one of the most widely used in multiple-criteria decision making (MCDM) problems of woman entrepreneurs. The method decomposes a complex system into a hierarchical system from macro to woman entrepreneurs as of elements. In each hierarchical level, pair-wise comparisons are made by means of a nominal scale to establish a comparison matrix. The eigenvector of the matrix corresponding to the largest eigen value signifies the comparative weights of the elements in this level. Then, the consistency ratio is calculated using the eigen value to assess the strength of the inner consistence of the comparative matrix and determine whether to accept the information generated from the model. If the consistency ratio is accepted, the last procedure is to aggregate the relative weights of decision elements to obtain an overall rating for the alternatives. The traditional AHP has been widely used across the industry in many applications, such as strategic planning, setting priorities, allocating resources, choosing the best policy alternatives, evaluating performance and observed that AHP cannot have uncertainty factors of people toward objects. This conventional AHP approach is ineffective when applied to ambiguous problems. Caution: sometimes the AHP criteria, so it is not easy for the decision makers to make correct judgments between the woman entrepreneurs A fuzzy version of these techniques should be developed, to overcome this shortcoming of AHP and solve the vagueness of the AHP criteria of woman entrepreneurs

Fuzzy AHP Method:

Trying to deal with the uncertainty due to imprecision or vagueness in 1965, Zadeh introduced fuzzy theory. Laarhoven and Pedrycz proposed a hybrid method, called fuzzyAHP (FAHP) that combined the benefits of both the fuzzy set theory and AHP methods. The FAHP inputs the triangular fuzzy numbers into a pair-wise comparison matrix to support decision makers' assessments on alternatives with respect to woman entrepreneurs attributes. With this step, FAHP reinterprets decision makers' assessments from "extract values" to "interval values," which can better represent the decision alternatives, as compared to the conventional AHP method. Finally the comparative importance of decision alternative can be identified by aggregating the fuzzy utilities of each alternative and comparing their ranks.

Fuzzy Number: A fuzzy number is a special fuzzy set F = {(x, μF(x)), x€R},

where x takes its value on the real line R1: -∞< x [0, 1] is equal

l l

---- x -------,

m-l m-l

Where μM (x) = l u ---- x - -------, x ∈ [m, u] m-u, m-u =0

Based on the above formulae the data was analyzed and interpreted depending upon the results from high value to low value in fuzzy matrix model.

Outcome of the Project:

The study was an opportunity for the researchers to do on woman entrepreneurs who are particularly under MSME's. The study was also given an idea about the Government opportunities provided to woman entrepreneurs particularly on MSME's. The Study also gives an idea about what innovative practices adopted by the woman entrepreneurs when the unconditional situations or natural calamities were arises to survive their companies in a successful way. The study wasalso a scope for the Government to change or develop more policies or strategies to MSME's for increasing the economic growth for the companies as well as for the Government too. The study is a good source for the researchers who are focusing on MSME's and woman entrepreneurs companies and the way of success methods when unconditional situations were arises. The Study gives a good knowledge to the woman entrepreneurs about the Govt policies and supports to them to survive or succeed in unconditional situations were arises. The Study wasa good source for the MSME's woman entrepreneurs about what technology to be needed to improve their companies production or services or marketing or machinery to be changed for cost of capital to get low and for profits to be arises. The study particularly focused on qualitative data which means the psychological factors were included about different woman entrepreneurs and it is a good source for the researchers to do more work on in a different way like mathematical and statistical way of analysis.

ANNEXURE: I

Micro Scale Woman Entrepreneurs vs Medium Scale Woman Entrepreneurs :

Table: 1.1

Medium Scale Woman Entrepreneurs Demographic Factors	Micro Scale Woman Entrepreneurs Demographic Factors						
		Age	**Education**	**marital**	**Income**	**Location**	**Age**
	Age	1	4	1	3	1	1
	Education	1/4	1	1/5	1/3	1/4	1/4
	marital	1	5	1	3	3	1
	Income	1/3	3	1/3	1	1/3	1/3
	Location	1	4	1/3	3	1/3	1
Total		3.58	17.03	2.87	10.33	4.91	3.58

Table: 1.2

Critical Ratio Analysis of Micro Vs Medium Scale Woman Entrepreneurs Demographic Factors

Medium Scale Woman Entrepreneurs Demographic Factors	Micro Scale Woman Entrepreneurs Demographic Factors											
		Age	**Edu**	**Marital**	**Income**	**Loc**	**Weights**	**AW**	**Lambda**	**CI**	**RI**	**CR**
	Age	0.28	0.23	0.35	0.29	0.20	0.27	1.38940	5.12042	0.8286	1.12	**0.739902**
	Educati	0.07	0.06	0.07	0.03	0.05	0.06	0.28276	5.02999			
	Marital	0.28	0.29	0.35	0.29	0.61	0.36	1.84074	5.05004			
	Income	0.09	0.18	0.12	0.10	0.07	0.11	0.55853	5.06020			
	Location	0.28	0.23	0.12	0.29	0.07	0.20	1.01403	5.13278			
								Lambda Max	**5.0786896**			

Table 1.3

Micro Scale Woman Entrepreneurs vs Small Scale Woman Entrepreneurs :

Small Scale Woman Entrepreneurs Demographic Factors	Micro Scale Woman Entrepreneurs Demographic Factors					
		Age	Edu	Marital	Income	Loc
	Age	1	3	1/9	1/5	5
	Education	1/3	1	1/9	1/7	1
	marital	9	9	1	3	7
	Income	5	7	1/3	1	9
	Location	1/5	1	1/7	1/9	1
Total		15.53	21.00	1.70	4.45	23.00

Table: 1.4

Critical Ratio Analysis of Micro Vs Small Scale Woman Entrepreneurs Demographic Factors

Small Scale Woman Entrepreneurs of demographic Factors	Micro Scale Woman Entrepreneurs of demographic Factors											
		Age	Edu	marital	Income	Location	Weights	AW	Lambda	CI	RI	CR
	Age	0.06	0.14	0.07	0.04	0.22	0.20	1.763724	8.818618	0.568618	1.12	0.507695
	Edu	0.02	0.05	0.07	0.03	0.04	0.21	0.503744	2.394966			
	marital	0.58	0.43	0.59	0.67	0.30	0.23	5.713359	24.69308			
	Income	0.32	0.33	0.20	0.22	0.39	0.19	4.304242	22.55103			
	Location	0.01	0.05	0.08	0.02	0.04	0.17	0.478363	2.752888			

Table: 1.5

Micro Scale Woman Entrepreneurs vs SHG Woman Entrepreneurs :

Small Scale Woman Entrepreneurs of demographic Factors	Micro Scale Woman Entrepreneurs of demographic Factors					
		Age	Edu	Marital	Income	Loc
	Age	1	1/8	1/7	1/6	1/3
	Education	8	1	5	4	3
	marital	7	1/5	1	1/6	1/3
	Income	6	1/4	1/6	1	1/4
	Location	3	1/3	3	4	1
Total		25.00	1.91	9.31	9.33	4.92

Table 1.6

Critical Ratio Analysis of Micro Vs SHG Woman Entrepreneurs Demographic Factors

Self Help Group Woman Entrepreneurs of demographic Factors	Micro Scale Woman Entrepreneurs of demographic Factors										
		Age	Edu	marital	Income	Location	Weights	AW	Lambda	CI	RI	CR
	Age	0.04	0.07	0.02	0.02	0.07	0.04	0.219796	5.321903	0.003675	1.12	0.003281
	Edu	0.32	0.52	0.54	0.43	0.61	0.48	2.579093	5.329051			
	marital	0.28	0.10	0.11	0.02	0.07	0.12	0.602959	5.217045			
	Income	0.24	0.13	0.02	0.11	0.05	0.11	0.55988	5.11869			
	Location	0.12	0.17	0.32	0.43	0.20	0.25	1.319243	5.281686			
								Lambda Max	5.253675			

ANNEXURE: II

Table 2.1

Medium Scale Woman Entrepreneurs vs Micro Scale Woman Entrepreneurs :

Micro Scale Woman Entrepreneurs of demographic Factors	Medium Scale Woman Entrepreneurs Demographic Factors					
		Age	Edu	marital	Income	Location
	Age	1	1/8	¼	1/6	1/3
	Education	8	1	5	5	5
	marital	4	1/5	1	1/6	1/6
	Income	6	1/5	6	1	1/5
	Location	3	1/5	6	5	1
Total		19.00	1.84	14.50	8.37	6.08

Table 2.2

Critical Ratio Analysis of Medium Scale Woman Entrepreneurs vs Samll Scale Woman Entrepreneurs :

Micro Scale Woman Entrepreneurs of demographic Factors	Medium Scale Woman Entrepreneurs Demographic Factors										
		Age	Edu	marital	Income	Location	weighted	AW	Lambda	CI	RI	CR
	Age	0.05	0.07	0.01	0.01	0.05	0.04	0.224892	5.734865	0.954443	1.12	0.852181
	Education	0.36	0.58	0.27	0.44	0.75	0.48	3.193833	6.640637			
	marital	0.18	0.12	0.05	0.01	0.02	0.08	0.398378	5.079586			
	Income	0.27	0.12	0.33	0.09	0.03	0.17	1.016008	6.080073			
	Location	0.14	0.12	0.33	0.44	0.15	0.23	1.754222	7.487055			
								Lambda Max	6.204443			

Table 2.3

Medium Scale Woman Entrepreneurs vs Small Scale Woman Entrepreneurs :

Small Scale Woman Entrepreneurs of demographic Factors	Medium Scale Woman Entrepreneurs Demographic Factors					
		Age	Edu	marital	Income	Location
	Age	1	1/8	¼	1/6	1/3
	Education	8	1	5	5	5
	marital	4	1/5	1	1/6	1/6
	Income	6	1/5	6	1	1/5
	Location	3	1/5	6	5	1
Total		22.00	1.73	18.25	11.33	6.70

Table 2.4

Critical Ratio Analysis of Medium Scale Woman Entrepreneurs vs Samll Scale Woman Entrepreneurs:

Small Scale Woman Entrepreneurs of demographic Factors	Medium Scale Woman Entrepreneurs Demographic Factors										
		Age	Edu	marital	Income	Location	weighted	AW	Lambda	CI	RI	CR
	Age	0.36	0.58	0.27	0.44	0.75	0.48	3.193833	6.640637	0.954443	1.12	0.852181
	Education	0.18	0.12	0.05	0.01	0.02	0.08	0.398378	5.079586			
	marital	0.27	0.12	0.33	0.09	0.03	0.17	1.016008	6.080073			
	Income	0.14	0.12	0.33	0.44	0.15	0.23	1.754222	7.487055			
	Location	0.36	0.58	0.27	0.44	0.75	0.48	3.193833	6.640637			
								Lambda Max	6.20444324			

Table 2.5

Medium Scale Woman Entrepreneurs vs Small Scale Woman Entrepreneurs :

SHG Woman Entrepreneurs of demographic Factors	Medium Scale Woman Entrepreneurs Demographic Factors					
		Age	Edu	marital	Income	Location
	Age	1	2	3	4	5
	Education	½	1	2	4	5
	marital	1/3	½	1	3	2
	Income	¼	¼	1/3	1	3
	Location	1/5	1/5	½	1/3	1
Total		2.28	3.95	6.83	12.33	16.00

Table 2.6

Critical Ratio Analysis of Medium Scale Woman Entrepreneurs vs SHG Woman Entrepreneurs:

SHG Woman Entrepreneurs of demographic Factors	Medium Scale Woman Entrepreneurs Demographic Factors										
		Age	Edu	marital	Income	Location	weighted	AW	Lambda	CI	RI	CR
	Age	0.05	1.09	0.21	0.48	0.82	0.53	2.944155	5.565921	0.0596	1.12	0.053214
	Education	0.03	0.54	0.14	0.48	0.82	0.40	2.069265	5.155407			
	marital	0.02	0.27	0.07	0.36	0.33	0.21	1.199832	5.739944			
	Income	0.01	0.14	0.02	0.12	0.49	0.16	0.673814	4.294664			
	Location	0.01	0.11	0.03	0.04	0.16	0.07	0.414434	5.792065			
								Lambda Max	5.309600226			

ANNEXURE:III

Table 3.1

Small Scale Woman Entrepreneurs vs Medium Scale Woman Entrepreneurs :

Medium Scale Woman Entrepreneurs of demographic Factors	Small Scale Woman Entrepreneurs Demographic Factors					
		Age	Edu	marital	Income	Location
	Age	1	7	7	8	8
	Education	1/7	1	7	8	8
	marital	1/7	1/7	1	8	5
	Income	1/8	1/8	1/8	1	9
	Location	1/8	1/8	1/5	1/9	1
Total		1.54	8.39	15.33	25.11	31.00

Table 3.2

Critical Ratio Analysis of Small Scale Woman Entrepreneurs vs Medium Scale Woman Entrepreneurs:

Medium Scale Woman Entrepreneurs of demographic Factors	Small Scale Woman Entrepreneurs Demographic Factors										
		Age	Edu	marital	Income	Location	weighted	AW	Lambda	CI	RI	CR
	Age	0.65	0.83	0.46	0.32	0.26	0.50	4.093774	8.127005	0.912872	1.12	0.815064
	Education	0.09	0.12	0.46	0.32	0.26	0.25	2.167301	8.699892			
	marital	0.09	0.02	0.07	0.32	0.16	0.13	1.079952	8.241744			
	Income	0.08	0.01	0.01	0.04	0.29	0.09	0.460243	5.295128			
	Location	0.08	0.01	0.01	0.00	0.03	0.03	0.159174	5.450339			
								Lambda Max	7.162821			

Table No:3.3

Small Scale Woman Entrepreneurs vs Micro Scale Woman Entrepreneurs :

Micro Scale Woman Entrepreneurs of demographic Factors	Small Scale Woman Entrepreneurs Demographic Factors					
		Age	Edu	marital	Income	Location
	Age	1	1/3	1/2	1/5	1/4
	Education	3	1	8	7	6
	marital	2	1/8	1	2	3
	Income	5	1/7	1/2	1	6
	Location	4	1/6	1/3	1/6	1
Total		15.00	1.77	10.33	10.37	16.25

Table No: 3.4

Critical Ratio Analysis of Small Scale Woman Entrepreneurs vs Micro Scale Woman Entrepreneurs:

Micro Scale Woman Entrepreneurs of demographic Factors	Small Scale Woman Entrepreneurs Demographic Factors										
		Age	Edu	marital	Income	Location	weighted	AW	Lambda	CI	RI	CR
	Age	0.07	0.19	0.05	0.02	0.02	0.07	0.36845	0.183625	1.09178	1.12	1.09178
	Education	0.20	0.57	0.77	0.68	0.37	0.52	3.669695	0.140847			
	marital	0.13	0.07	0.10	0.19	0.18	0.14	0.989371	0.137129			
	Income	0.33	0.08	0.05	0.10	0.37	0.19	1.230581	0.150859			
	Location	0.27	0.09	0.03	0.02	0.06	0.09	0.527098	0.178645			
								Lambda Max	0.158220			

Table No: 3.5

Small Scale Woman Entrepreneurs vs SHG Woman Entrepreneurs:

SHG Woman Entrepreneurs of demographic Factors	Small Scale Woman Entrepreneurs Demographic Factors					
		Age	Edu	marital	Income	Location
	Age	1	1/5	6	1/5	1/4
	Education	5	1	3	3	4
	marital	1/6	1/3	1	2	4
	Income	5	1/3	1/2	1	1/5
	Location	4	1/4	1/4	5	1
Total		15.17	2.12	10.75	11.20	9.45

Table No: 3.6

Critical Ratio Analysis of Small Scale Woman Entrepreneurs vs SHG Woman Entrepreneurs:

SHG Woman Entrepreneurs of demographic Factors		Small Scale Woman Entrepreneurs Demographic Factors										
		Age	Edu	marital	Income	Location	weighted	AW	Lambda	CI	RI	CR
	Age	0.07	0.09	0.56	0.02	0.03	0.15	1.333113	0.11445	1.12892	1.12	1.007964
	Education	0.33	0.47	0.28	0.27	0.42	0.35	2.787692	0.127153			
	marital	0.01	0.16	0.09	0.18	0.42	0.17	1.339778	0.128879			
	Income	0.33	0.16	0.05	0.09	0.02	0.13	1.134479	0.113552			
	Location	0.26	0.12	0.02	0.45	0.11	0.19	1.577665	0.121363			
								Lambda Max	0.121079			

ANNEXURE : IV

Table No: 4.1

Self Help Group Woman Entrepreneurs vs Medium Woman Entrepreneurs:

Medium Scale Woman Entrepreneurs of demographic Factors	Self Help Group Woman Entrepreneurs demographic Factors					
		Age	Education	Marital	Income	Location
	Age	1	2	3	4	5
	Education	1/2	1	2	4	5
	marital	1/3	1/2	1	3	2
	Income	1/4	1/4	1/3	1	3
	Location	1/5	1/5	1/2	1/3	1
Total		2.28	3.95	6.83	12.33	16.00

Table No: 4.2

Critical Ratio Analysis of SHG Woman Entrepreneurs vs Medium Scale Woman Entrepreneurs:

Medium Scale Woman Entrepreneurs of demographic Factors	Self Help Group Woman Entrepreneurs demographic Factors										
		Age	Edu	marital	Income	Location	weighted	AW	Lambda	CI	RI	CR
	Age	0.44	0.51	0.44	0.32	0.31	0.40	2.130014	0.189683	1.05919	1.12	0.945705
	Education	0.22	0.25	0.29	0.32	0.31	0.28	1.49024	0.188111			
	marital	0.15	0.13	0.15	0.24	0.13	0.16	0.846725	0.185929			
	Income	0.11	0.06	0.05	0.08	0.19	0.10	0.502148	0.195218			
	Location	0.09	0.05	0.07	0.03	0.06	0.06	0.308447	0.195121			
								Lambda Max	0.190812			

Table No: 4.3

Self Help Group Woman Entrepreneurs vs Micro Woman Entrepreneurs:

Micro Scale Woman Entrepreneurs of demographic Factors	Self Help Group Woman Entrepreneurs demographic Factors					
		Age	Education	Marital	Income	Location
	Age	1	9	5	2	1
	Education	1/9	1	1/3	1/9	1/9
	marital	1/5	3	1	1/3	1/4
	Income	1/2	9	3	1	1/2
	Location	1	9	4	2	1
Total		2.81	31.00	13.33	5.44	2.86

Table No: 4.4

Critical Ratio Analysis of SHG Woman Entrepreneurs vs Micro Scale Woman Entrepreneurs:

Micro Scale Woman Entrepreneurs of demographic Factors	Self Help Group Woman Entrepreneurs demographic Factors										
		Age	Edu	marital	Income	Location	weighted	AW	Lambda	CI	RI	CR
	Age	0.36	0.29	0.38	0.37	0.35	0.35	1.773186	0.196022	1.05247	1.12	0.939705
	Education	0.04	0.03	0.03	0.02	0.04	0.03	0.15625	0.199714			
	marital	0.07	0.10	0.08	0.06	0.09	0.08	0.394691	0.198395			
	Income	0.18	0.29	0.23	0.18	0.17	0.21	1.066169	0.197271			
	Location	0.36	0.29	0.30	0.37	0.35	0.33	1.694881	0.196228			
								Lambda Max	0.197525			

Table No: 4.5

Self Help Group Woman Entrepreneurs vs Micro Woman Entrepreneurs:

Small Scale Woman Entrepreneurs of demographic Factors	Self Help Group Woman Entrepreneurs demographic Factors					
		Age	Education	Marital	Income	Location
	Age	1	1/2	1/2	2	1
	Education	2	1	1/3	2	4
	marital	2	3	1	5	4
	Income	1/2	1/2	1/5	1	1/2
	Location	1	1/4	1/4	2	1
Total		6.50	5.25	2.28	12.00	10.50

Table No: 4.6

Critical Ratio Analysis of SHG Woman Entrepreneurs vs Micro Scale Woman Entrepreneurs:

Small Scale Woman Entrepreneurs of demographic Factors	Self Help Group Woman Entrepreneurs demographic Factors										
	Age	Edu	marital	Income	Location	weighted	AW	Lambda	CI	RI	CR
Age	0.15	0.10	0.22	0.17	0.10	0.15	0.747494	0.19531	1.05947	1.12	0.945955
Education	0.31	0.19	0.15	0.17	0.38	0.24	1.28589	0.185362			
marital	0.31	0.57	0.44	0.42	0.38	0.42	2.278982	0.185583			
Income	0.08	0.10	0.09	0.08	0.05	0.08	0.412189	0.189576			
Location	0.15	0.05	0.11	0.17	0.10	0.11	0.582171	0.196801			
							Lambda Max	0.190526			

ANNEXURE : V

Table No: 5.1

Aggregate Analysis of Micro vs Medium Scale Woman Entrepreneurs with Demographic Factors

Medium Scale Woman Entrepreneurs Demographic Factors Geometric Means	Micro Scale Woman Entrepreneurs Demographic Factors Geometric Means				
	Age	Edu	marital	Income	Location
Age	1.00	1.63	1.51	2.00	1.91
Education	0.61	1.00	1.93	2.70	2.66
marital	0.66	0.52	1.00	1.86	1.50
Income	0.50	0.37	0.54	1.00	1.16
Location	0.52	0.38	0.67	0.86	1.00
Total	3.30	3.89	5.65	8.42	8.22

Table No: 5.2

Aggregate Standard Weighted Values Calculated over Micro vs Medium Scale Woman Entrepreneurs with Geo means

Medium Scale Woman Entrepreneurs Demographic Factors Geometric Means	Micro Scale Woman Entrepreneurs Demographic Factors Geometric Means										
		Age	Edu	marital	Income	Location	Weights	AW	Lambda	CI	RI	CR
	Age	0.18	0.19	0.27	0.24	0.23	0.22	1.223794107	5.524291	0.82869	1.12	0.739902
	Education	0.11	0.12	0.34	0.32	0.32	0.24	1.189753003	4.903763			
	marital	0.12	0.06	0.18	0.22	0.18	0.15	0.748144783	4.935124			
	Income	0.09	0.04	0.10	0.12	0.14	0.10	0.490755403	5.037244			
	Location	0.09	0.04	0.12	0.10	0.12	0.10	0.488585101	5.093391			
								Lambda Max	5.09876			

Table No: 5.3

Aggregate Analysis of Medium vs Small Scale Woman Entrepreneurs with Demographic Factors

Small Scale Woman Entrepreneurs Demographic Factors Geometric Means	Medium Scale Woman Entrepreneurs Demographic Factors Geometric Means					
		Age	Edu	marital	Income	Location
	Age	1.00	1.57	0.65	0.41	1.19
	Education	0.64	1.00	0.53	0.43	0.76
	marital	1.53	1.89	1.00	0.58	0.76
	Income	2.47	2.33	1.71	1.00	1.31
	Location	0.84	1.31	1.32	0.76	1.00
Total		6.48	8.10	5.21	3.18	5.02

Table No: 5.4

Aggregate Standard Weighted Values Calculated over Micro vs Medium Scale Woman Entrepreneurs with Geo means

Small Scale Woman Entrepreneurs Demographic Factors Geometric Means	Medium Scale Woman Entrepreneurs Demographic Factors Geometric Means											
		Age	Edu	marital	Income	Location	Weights	AW	Lambda	CI	RI	CR
	Age	0.19	0.19	0.13	0.13	0.24	0.17	0.887423795	5.073253	0.568618	1.12	0.507695
	Edu	0.12	0.12	0.10	0.14	0.15	0.13	0.648150766	5.106753			
	marital	0.29	0.23	0.19	0.18	0.15	0.21	1.067772485	5.062183			
	Income	0.47	0.29	0.33	0.31	0.26	0.33	1.686499608	5.066211			
	Location	0.16	0.16	0.25	0.24	0.20	0.20	1.048882616	5.163394			
								Lambda Max	5.09435			

Table No: 5.5

Aggregate Analysis of Small vs SHG Woman Entrepreneurs with Demographic Factors

SHG Woman Entrepreneurs Demographic Factors Geometric Means	Small Scale Woman Entrepreneurs Demographic Factors Geometric Means					
		Age	Edu	marital	Income	Location
	Age	1.00	0.37	1.37	0.51	0.75
	Education	2.71	1.00	3.11	3.63	3.91
	marital	0.73	0.32	1.00	1.00	1.39
	Income	1.96	0.28	0.30	1.00	0.53
	Location	1.34	0.26	0.72	1.88	1.00
Total		7.74	2.22	6.50	8.03	7.58

Table No: 5.6

Aggregate Standard Weighted Values Calculated over Small vs SHG Scale Woman Entrepreneurs with Geo means

SHG Woman Entrepreneurs Demographic Factors Geometric Means	Small Scale Woman Entrepreneurs Demographic Factors Geometric Means										
		Age	Edu	marital	Income	Location	Weights	AW	Lambda	CI	RI	CR
	Age	0.15	0.05	0.18	0.06	0.10	0.11	0.870774469	7.586178	0.003675	1.12	0.003281
	Education	0.42	0.12	0.41	0.45	0.52	0.31	3.392303287	11.01635			
	marital	0.11	0.04	0.13	0.12	0.18	0.24	1.032028494	4.38341			
	Income	0.30	0.03	0.04	0.12	0.07	0.38	0.85060443	2.235169			
	Location	0.21	0.03	0.10	0.23	0.13	0.17	1.286480469	7.651743			
								Lambda Max	6.574569			

Table No: 5.7

Aggregate Analysis of SHG vs SHG Woman Entrepreneurs with Demographic Factors

Micro scale Woman Entrepreneurs Demographic Factors Geometric Means	SHG Woman Entrepreneurs Demographic Factors Geometric Means					
		Age	Edu	marital	Income	Location
	Age	1.00	0.37	1.37	0.51	0.75
	Education	2.71	1.00	3.11	3.63	3.91
	marital	0.73	0.32	1.00	1.00	1.39
	Income	1.96	0.28	0.30	1.00	0.53
	Location	1.34	0.26	0.72	1.88	1.00
Total		7.74	2.22	6.50	8.03	7.58

Table No: 5.8

Aggregate Standard Weighted Values Calculated over SHG vs Micro Scale Woman Entrepreneurs with Geo means

Micro scale Woman Entrepreneurs Demographic Factors Geometric Means	SHG Woman Entrepreneurs Demographic Factors Geometric Means										
		Age	Edu	marital	Income	Location	Weights	AW	Lambda	CI	RI	CR
	Age	0.13	0.17	0.21	0.06	0.10	0.13	0.668662	0.199798	1.05355	1.12	**0.94067**
	Education	0.35	0.45	0.48	0.45	0.52	0.45	2.296047	0.195826			
	marital	0.09	0.14	0.15	0.12	0.18	0.14	0.718187	0.19509			
	Income	0.25	0.12	0.05	0.12	0.07	0.12	0.632592	0.195398			
	Location	0.17	0.12	0.11	0.23	0.13	0.15	0.780454	0.196116			
								Lambda Max	0.196445			

ANNEXURE: IV

Calculation of Alternative Weights (Ranks):

Table No: 6.1

Priority Matrix					
	Age	**Education**	**Marital**	**Income**	**Location**
Medium Enterprises	0.11	0.35	0.32	0.43	0.13
Micro Enterprises	0.20	0.24	0.62	0.36	0.06
Small Enterprises	0.11	0.31	0.24	0.38	0.17
SHG Enterprises	0.14	0.30	0.39	0.39	0.12

Table No: 6.2

Criteria Weights	
Medium	0.15
Micro	0.28
Small	0.41
SHG	0.38

Table No: 6.3

Alternative Weights(Ranks)	
Medium	0.17
Micro	0.36
Small	0.47
SHG	0.48

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Model Questionnaire

Psychological Questions to be asked for women entrepreneurs:

I. Individual from family or personal point of view:

1. Willing attitude
2. Thinking attitude
3. Hoping attitude
4. Forecasting attitude
5. Unwilling attitude

1. How did you decide to become an entrepreneur?

1 2 3 4 5

a. Describe the factors that influenced your decision to become an entrepreneur under MSME's

1 2 3 4 5

b. Describe the experiences you had as you started out as an entrepreneur under MSME's

1 2 3 4 5

2. How did your friends and family react when you informed them about your decision?

1 2 3 4 5

a. Tell me about some specific positive/encouraging reactions.

1 2 3 4 5

b. Tell me about some negative/discouraging reactions.

1 2 3 4 5

c. Did those reactions positive and negative influence your decisions?

1 2 3 4 5

d. Do you feel your gender identity affected the reactions of your friends and family?

1 2 3 4 5

3. Were your friends and family supportive in your decision to become an entrepreneur work under MSME's sector?

1 2 3 4 5

a. How did they support you in your decision?

1 2 3 4 5

b. Why do you think they were not supportive?

1 2 3 4 5

c. Do you think your gender identity had anything to do with lack of support?

1 2 3 4 5

4. Did you face any obstacles in your decision process under MSME's?

1 2 3 4 5

a. Narrate some of those obstacles.

1 2 3 4 5

b. How did you handle those?

1 2 3 4 5

c. Do you think, your gender identity helped you in better handing those obstacles?

1 2 3 4 5

d. Or, do you think your gender identity aggravated the obstacles?

1 2 3 4 5

5. Do you think there are societal perceptions and expectations related to women entrepreneurs under MSME's?

1 2 3 4 5

a. How did that affect your decision to become entrepreneur work under MSME's sector?

1 2 3 4 5

6. Is it difficult breaking in to the networks you have to break into to be successful under MSME's?

1 2 3 4 5

a. Are there are networks you have to be a part of? For example, family, friends, banks, other organizations, colleagues in the industry?

1 2 3 4 5

b. Where do you get your network information from and how valuable do you think that information is?

1 2 3 4 5

7. As you were going through school, were there people mentoring/ advising/recommending things?

1 2 3 4 5

a. Did you think their advice was premised on your gender?

1 2 3 4 5

8. What were the key motivating factor(s) that led you to become an entrepreneur under MSME's?

1 2 3 4 5

9. Describe the process of acquiring capital for your business under MSME's

1 2 3 4 5

a. What challenges did you face in acquiring capital?

1 2 3 4 5

b. Did you believe gender had a role in your acquiring capital?

1 2 3 4 5

10. Did you ever consider becoming an entrepreneur under MSME's?

1 2 3 4 5

A) Why

1 2 3 4 5

B) Why not?

1 2 3 4 5

11. What risks did you associate with your career sector course?

1 2 3 4 5

a. Were these risks associated with your gender?

1 2 3 4 5

12. How could it have been easier or smoother if you had to do it all over again? How would you do it differently or what would have made it easier by the help of MSME's?

1 2 3 4 5