

ANALYSIS OF CHALLENGES FACED BY SMALL AND MEDIUM ENTERPRISES IN KERALA – A COMPARISON STUDY ON MAKE TO STOCK AND MAKE TO ORDER INDUSTRIES

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Abstract - The purpose of this study to identify the various challenges faced by Small and Medium sized enterprises (MSMEs) in Kerala. The MSMEs in India, also in Kerala face a tough situation due to extreme competition from large industries due to withdrawal of subsidy, lack of infrastructure system, anti-dumping policy, challenges on total quality management etc. On the other hand, in the production of large and complex products, the Original Equipment Manufacturers (OEMs) associate with many small industries to meet their demand for components. In order to mitigate this threat of competition and exploit the opportunity of back end support to OEMs, the SMEs must be resorted to systematic business processes and use of improved technologies. The literature survey conducted revealed that SMEs are inherently heterogeneous systems and classifications of SMEs are done based on the capital investment, application new technology. In general, SMEs follow different strategies even for the same product due to the differences in agreement and contract in delivering products. This leads to dissimilar practices in SME contributing heterogeneity in systems. Hence this work deals with classification of SMEs based on the manufacturing strategies namely, make to order and make to stock and common factors indicating their performance are identified separately and analyzed. By the intensive literature survey, we found that SMEs treated as a single entity. However the SMEs by its nature it is a heterogeneous, the heterogeneity has various reasons, we choose only two major classifications that are Type A –Make Stock and Type B –Make Order. For this study we select five independent factors and one depended factors. Independent factors are Design, Manufacturing, Technology, Raw Material Procurement and Market, dependent factor is Challenges. For this study we use the questionnaire survey. After the data collection reliability analysis, factor analysis has conducted. Independent sample T test is used for the analysing of the data.

Key Words: Msme, design, manufacturing, technology, raw material, marketing

1.INTRODUCTION

The small and medium enterprises (MSMEs) have been accepted as the engine of economic growth and for promoting equitable development. Small and medium enterprises (SMEs) constitute a large proportion of economic activity and are among the major growth drivers for any economy in the world. For a sustainable growth and development of country, people should migrate from agriculture to industry and further to service sector, and in this migration development of Micro Small and Medium Enterprises (MSMEs) can play a significant role. The SMEs sector consisting of 36 million units provides employment to over 80 million persons. The sector through more than 6000 products contributes about 8% to GDP besides 45% to the total manufacturing output and 40% to the exports from the country. Businesses that are declared as MSMEs and within specific sectors and criteria can then apply for "priority sector" lending to help with business expenses; banks have annual targets set by the Prime Minister's Task Force on MSMEs for year-on-year increases of lending to various categories of MSMEs. MSME is considered key contributor in India's growth and contribute 48% in India's total export. This study mainly analyzing the caparison between make to order and make to stock organizations on the factors which are designing, manufacturing, technology, raw material collection, technology.

2. LITERATURE REVIEW

SeemantYadav& Prof. VikasTripathi(2018)[1],Challenges and obstacles faced by micro, Small and medium sized enterprises (MSMEs) in India. The main objective of this study is to summaries the challenges faced by MSMEs. In this study a generic list of significant determinants was extracted from literature. Dr.NeeruGarg (2014)[2],Micro, small and medium-sized enterprises in India: current scenario and challenges. The purpose of the study is only to analyze the growth, available opportunities and problems / challenges faced by SMEs in India. In this study, they conducted a systematic review of the literature

based on a transparent four-step process. Dr.Varsha Agarwal, Ujjawal Agrawal, Ajit Mk &Sohail Khan (2019),[3] A study on challenges faced by SMEs in India. This research concentrates To study the concept, nature, and role of entrepreneurship and concept of SMEs in India. and study the challenges faced by Small Enterprises in India, compare the economic performance like investment, sources of borrowings, credit policy, profitability, share in export etc. of Small Enterprises. Also identify the effect of challenges on these Enterprises. The research methodologies used in the research are Quantitative research and Descriptive research. SeemaUnnikrishnan, Rauf Iqbal, Anju Singh, &Indrayani M. Nimkar (2014)[4], Safety management practices in small and medium enterprises in India. The objectives of this paper are: To study the safety management practices in SMEs of India, To evaluate the safety practices and benchmark with the best practices in that particular sector, To understand the drivers and barriers for change and the status of environment, safety and health in the SMEs in different states of India. The study was carried out in 30 SMEs located mainly in Mumbai, Maharashtra, and a few other states in India. The SMEs were randomly chosen to evaluate safety practices. Also, the study looked into the barriers and drivers for technological innovation and recommended best practices on safety issues. Vijay Kumar Garudik& Dr. Prabhakar Pandey (2018)[5],A study on micro, small and medium enterprises -role in propelling economic development of Bilaspur-Chhattisgarh & a Discussion on current HR issues in MSMEs' in India. This study used to Identifying the current status of HR operations in MSME. Find out the contribution of MSMEs in economic development of the country. Challenges confronting by MSME. And Finding out ways to overcome the challenges in MSME and issues related to HRM. Khaled Mohammed Alqahtani (2016)[6], Challenges of Innovation for Chinese Small and Medium-sized Enterprises: Case Study in Beijing. This study aims to identify the main challenges hindering successful innovation of Chinese SMEs. Based on the previous academic studies, there are five research variables are developed and evaluated: lack of financial support, inadequate research and development (R&D) activities, the shortage of technical and skilled employees, weak entrepreneur orientation, improper governmental and legal environment. Furthermore, the primary data are collected by structured-questionnaires from 120 SMEs in Beijing. According to the research results analyzed by SPSS, it reveals that lack of financial support and inadequate R&D activities are major challenges for Chinese SMEs to achieve innovation. Vinod K Raju, & Dr. S.M. Chockalingam (2020)[7],An evaluation of the performance of Kerala financial corporation in promoting micro, small and medium enterprises in the state of Kerala, India . This research analyzes the performance indicators of KFC in the promotion of MSMEs in the State of Kerala. Also recommend appropriate actions for upgrading the functions of Kerala Financial Corporation. To achieve the

aforsaid objectives data were gathered from both primary and secondary sources. The primary data on the policies and procedures were procured, with the help of officials of KFC. This article largely depends on secondary data which include published annual report, journals, manuals, pamphlets and other printed literature of KFC. Purnima Rao, Satish Kumar, &VinodhMadhavan(2018)[8],A study on factors driving the capital structure decisions of small and medium enterprises (SMEs) in India. The objective of the study is to empirically examine the factors affecting the capital structure decisions of small and medium enterprises (SMEs) in India. The study uses balanced panel data to determine the factors driving the decisions of SMEs in India. In this study, SMEs represent the cross-sectional part of the panel and the time period is eight years. Sonia Mukherjee (2018)[9],Challenges to Indian micro small scale and medium enterprises in the era of globalization The purpose of this study to identifies the challenges in Micro Small Medium enterprises in the era of globalization, especially in coir industries in India. In this study, they conducted a systematic literature review that is based on a transparent four step process. Around 50 papers are found out in the area of MSMEs in India. And 20 journals are finalized for the research. The data for the present study have been collected from various Secondary sources especially from the annual report published by Ministry of Micro, Small And Medium Enterprises for various years. Absence of appropriate technology will reduce the potential of MSMEs and they will lag behind the other rivals in the global market. The other disadvantages will be lower demand for the product, substitution to other superior quality products produced byrival firms and lower profit margin (sometimes losses leading to shutdown). Ms.Gaziasayed, & Ms. Najmussaharsayed (2018)[10], Challenges Faced By Micro, Small and Medium Enterprises of Mumbai - An Empirical Study. The Objectives to Carry out This Research Are as Under: To Study MSME Sector And The Scope Of MSME Sector In India, To Analyze The Challenges And Problems Faced By MSMEs,To Find The Relationship Between The Challenges Faced By MSMEs and Their Demography, To Group The Challenges faced By MSMEs Into Factors From the results we can found that the Vital Role Played By MSMEs In Economic Development, Employment Creation, Innovation, And In Building A Competitive Private Sector, MSMEs Are Facing Lots Of Challenges. MSMEs Are Facing Challenges Not Only In India But In Other Developing Countries Also. The Problem Faced By The MSMEs Differs From Country To Country, From Region To Region Within The Country, Between Rural And Urban Areas, Between Sectors, Or Between Individual Enterprises Within A Sector. Martin Pech and Jarslove Vrchota (2020) Classification of Small- and Medium - Sized Enterprises Based on the Level of Industry 4.0 Implementation .this study explains that small and medium enterprises are classifies into different groups according to the level of implementation industry 4.0.There are 14 technological

enterprises, 14 start enterprises, noobs enterprises, and 14 advanced enterprises. It also compares the small and medium enterprises according to their size and production capacity.

3. RESEARCH METHODOLOGY

The research phase starts with literature review and objective formulation. The Objectives of this study are compare the make to order industries and make to stock industries on factors – design, manufacturing method, technology, raw material collection and marketing. The factors identified by literature reviews and expert discussion. In this study questionnaire survey is used for data collection. A five-point Likert scale is used for questionnaire and the choices range from Strongly Agree to Strongly Disagree so the survey maker can get a holistic view of people's responses. The questionnaire is prepared in the following methods: Questions prepared in each section are close ended (5 point Likert scale). All questions are Phrased Positively. Questions are short and précis. No repetitive questions are formulated. Simple questions and easy to understand model questions were formulated.

For the study, total 70 respondents were collected from both make to stock organizations and make to stock organizations. The response mainly focused from management levels like managers, engineers and supervisors. From the total 70 responses, 54% (38) responses collected from make to stock organizations and 46% (32) data were collected from make to order organizations.

IBM-SPSS software was used to tabulate and analyze the collected data. The reliability test is performed on the collected data to verify how closely related the number of items as a group is and examines the internal consistency of the questionnaire. To classify a given set of constructs into factor loadings and to authenticate the results, a factor analysis is performed. Independent sample T test is used for the analyzing of the data. the independent sample t test is helped to selects the correct hypothesis.

3.1 HYPOTHESIS FORMULATION

A hypothesis is a concept or idea that is tested through research and experiments. In other words, it is a prediction that can be verified through research. The hypotheses are formulated in groups of two, namely the null hypothesis and the alternative hypothesis or research hypothesis. The null hypothesis maintains the assumption that there is no relationship between the factors to be tested. The alternative hypothesis or the researcher's hypothesis assumes that there is a significant relationship between the factors they address. The alternative hypotheses can be many depending on the research that is taking place. This research mainly consists of four sets of hypotheses. They are follows:

3.1.1. HYPOTHESIS 1

H0: There is no significant difference in the field of design between the “make to stock” and “make to order” industries.

H1: There is significant difference in the field of design between the “make to stock” and “make to order” industries.

3.1.2. HYPOTHESIS 2

H0: There is no significant difference in the field of manufacturing process between the “make to stock” and “make to order” industries.

H1: There is significant difference in the field of manufacturing process between the “make to stock” and “make to order” industries.

3.1.3. HYPOTHESIS 3

H0: There is no significant difference in the field of technology between the “make to stock” and “make to order” industries.

H1: There is significant difference in the field of technology between the “make to stock” and “make to order” industries

3.1.4. HYPOTHESIS 4

H0: There is no significant difference in the field of raw material collection between the “make to stock” and “make to order” industries.

H1: There is significant difference in the field of raw material collection between the “make to stock” and “make to order” industries.

3.1.5. HYPOTHESIS 5

H0: There is no significant difference in the field of marketing between the “make to stock” and “make to order” industries.

H1: There is significant difference in the field of marketing between the “make to stock” and “make to order” industries.

4. ABOUT THE ORGANIZATIONS

4.1 MAKE TO ORDER ORGANIZATIONS

The make to order organizations are such organization they will manufacture or produce products according to another organizations design, specifications, and quality aspects. In these type organisations they have no direct marker access or they not allowed selling the products into outsides. They only gave their products into the ordering company or organization.

4.2 MAKE TO STOCK ORGANIZATIONS

The make to stock organizations are such organization they will manufacture or produce products according to their own designs and specifications. And they sell their product to the direct market. In this case they had an option to know the market trends and needs and change their products according to it.

5. ANALYSIS AND FINDINGS

5.1 Reliability test

Reliability means the consistency of a measure. It is defined as "the extent to which a variable or set of variables is consistent with what it is intended to measure". If multiple measurements are performed, all reliability measurements will be consistent in their values. The reliability of the scale developed for the study was found by Chronbach's Alpha method. Reliability and validity are the two most important properties that test scores can have. Reliability tells us how consistently the test scores measure something. Validity tells whether the test scores are measuring the right things for a particular use of the test. Reliability of each factor is shown in Table.1 below

Table -1 Cronbach's alpha value of factors

FACTORS	CRONBACH'S ALPHA	NO OF ITEMS
DESIGN	0.858	9
MANUFACTURING	0.542	4
TECHNOLOGY	0.653	8
RAW MATERIAL COLLECTION	0.635	6
MARKETING	0.839	10
CHALLENGES	0.794	9

The closer the reliability co-efficient Cronbach's alpha (α) is to 1.00, the greater internal consistency of items in the instrument being assessed. In reliability analysis values above 0.5 are acceptable, 0.7 are usually adequate and good. In this case almost factors, the reliability obtained is above 0.6 which means that the data is adequate and acceptable.

5.2 Factor Analysis

Factor analysis (FA) is generally used to rank a given number of constructs into factors based on their factor loads. It is used to check if a group of preformed factor constructions is consistent with its load factor loadings. In this investigation, a factor analysis was performed to check whether the six preformed factors show the

consistency of the factor loading. Constructions with factorial loads greater than or equal to 0.5 were accepted. The Kaiser-Meyer-Olkin (KMO) test was used to check the adequacy of the sample. It indicates the proportion variance in the sample taken. High values (greater than 0.6) indicate that the factor analysis it might be useful with data. Also, Bartlett's Sphericity test was used to investigate whether the variables are correlated or not. Small values (less than 0.05) indicate that the analysis can be helpful.

Table -2: Factor Analysis Summary

FACTORS	KMO value	Sig.
DESIGN	0.806	0.000
MANUFACTURING	0.589	0.001
TECHNOLOGY	0.665	0.000
RAW MATERIAL COLLECTION	0.705	0.000
MARKETING	0.784	0.000
CHALLENGES	0.772	0.000

5.3 Independent Sample T Test

The Independent Samples T Test is used to compare the means of two unrelated samples, unrelated in the sense that the samples are derived from two different populations. In this case, the independent sample T-test is used to compare the mean of 38 "MAKE TO ORDER" and 32 "MAKE TO ORDER" organizations that are assumed to be two unrelated samples or groups. This test is generally used to determine the difference between the series of samples taken. There are several assumptions that need to be considered before proceeding with an independent sample T-test. According to the guidelines provided by the IBM SPSS data analysis tool, they are shown below.

- Independent Observations: This is true in the given sample since each sample represents a different person's opinion.
- Normality: The test variable should be normally distributed within the two populations.

Since the samples satisfy the above conditions, we can conduct the independent sample T test. Independent T-test is based on the calculations of mean and standard deviations. Usually large sample size is needed for the test but if the data are normally distributed, we can employ Independent Sample T test for the data collected hence we can carry out the test in the following hypothesis.

Table -3: T test Analysis Summary

FACTORS	Levene's Test		T-test for Equality of Means	
	F	Sig.	t	Sig. (2-tailed)
DESIGN	0.559	0.457	-13.498	0.000
MANUFACTURING	0.020	0.887	3.059	0.003
TECHNOLOGY	1.308	0.257	3.535	0.001
RAW MATERIAL COLLECTION	0.565	0.455	7.761	0.000
MARKETING	0.062	0.804	10.315	0.000

In design factor Levene's test explains the equality of variance in the given sample as shown in table-3. Because the significance value here is 0.457 >0.05, this suggests that variances are equal. Since the variances are equal, the t value is checked under "Equal Variances assumed" subdivision. The t-test gave a value of -13.498 with a significance of 0.000<0.05. So, this is recommend the alternate hypothesis (H1) and hence proved that there is a significant difference between the factor Design of "MAKE TO OREDR" and "MAKE TO STOCK" organization.

In manufacturing field Levene's test explains the equality of variance in the given sample as shown in table-3. Because the significance value here is 0.887 >0.05, this suggests that variances are equal. Since the variances are equal, the t value is checked under "Equal Variances assumed" subdivision. The t-test gave a value of 3.059 with a significance of 0.003<0.05. So, this is recommend the alternate hypothesis (H1)

In technology Levene's test explains the equality of variance in the given sample as shown in table -3. Because the significance value here is 0.257>0.05, this suggests that variances are equal. Since the variances are equal, the t value is checked under "Equal Variances assumed" subdivision. The t-test gave a value of 3.535 with a significance of 0.001<0.05. So, this is recommend the alternate hypothesis (H1)

In raw material collection Levene's test explains the equality of variance in the given sample as shown in table -3. Because the significance value here is 0.455 >0.05, this suggests that variances are equal. Since the variances are equal, the t value is checked under "Equal Variances assumed" subdivision. The t-test gave a value of 7.761 with a significance of 0.000<0.05. So, this is recommend the alternate hypothesis (H1) and hence proved that there is a significant difference between the factor Raw material collection.

In marketing Levene's test explains the equality of variance in the given sample as shown in table -3. Because the significance value here is 0.804 >0.05, this suggests that variances are equal. Since the variances are equal, the t value is checked under "Equal Variances assumed" subdivision. The t-test gave a value of 10.315 with a significance of 0.000<0.05. So, this is recommend the alternate hypothesis (H1) and hence proved that there is a significant difference between the factor marketing of "MAKE TO OREDR" and "MAKE TO STOCK" organization. Null hypothesis is rejected.

6. CONCLUSIONS

This research identifies five factors that influences Challenges in "make to order organizations "and "make to stock organizations" through extensive and methodical literature review as and discussion with experts. The five factors taken are Designing, Manufacturing, Technology, Raw Material Collection and Marketing. A questionnaire survey method was conducted among 70 employees from the organizations. 38 of them from make to stock and 32 of them from make to order organizations. The study conducted in Kerala, especially concentrated In Thrissur ,Ernakulam, Kottayam, Kannur districts.

Based on the objectives of the research and the collected data, a series of analysis techniques were employed to reach a conclusion on the effect of these identified factors on the two types of industries. Comparison test was made among these two industries with 5 factors to check where these factors significantly differ from each other or not. The results obtained from Hypothesis 1 explain that there is a significant difference between the factor Designing adopted by Make To Order (MTO) and Make To Stock (MTS) industries. Because in "make to order industries" they have only limited freedom in design of a product. They also followed the designs of ordering company. But in other case, have unlimited freedom in designing.

Hypothesis 2 come to an end that there is a significant difference between the factors manufacturing adopted by Make to Order (MTO) and Make To Stock (MTS) industries. Because in "make to order industries" they need high quality and precision manufacturing method suppose they would not meet the ordering firms' criteria the product will be rejected. But in case of "make to stock" company they made products according to their own manufacturing process.

Hypothesis 3 concludes that there is a significant difference between the factor technology adopted by Make To Order (MTO) and Make To Stock (MTS) industries. This is because MTO needs more advanced technology for production than MTS.

Results obtained from Hypothesis 4 conclude that there is a significant difference between the factor raw material

collection adapted by Make to Order (MTO) and Make To Stock (MTS) industries. This is because MTO maintain optimum quantity of raw material and good communication takes place. In case of make to stock (MTS) organization they concentrate in local supply of raw materials.

Hypothesis 5 concludes that there is a significant difference between the factor marketing adopted by Make To Order (MTO) and Make To Stock (MTS) industries. Make to stock they have more challenges in marketing than the other, they need to find a market and sell their products there. But in the case of make to order they have comparatively less challenges than the other. If they meet the criteria of ordering company, the products will take by them.

REFERENCES

- [1] Seemant Yadav & Prof. Vikas Tripathi (2018), Challenges and obstacles faced by micro, Small and medium sized enterprises (MSMEs) in India, *International Journal of Business and Management Invention*, 7(4), 48-54
- [2] Dr. Neeru Garg (2014), Micro, small and medium enterprises in India: current scenario and challenges, *Indian Journal of Research* 3(9), 11-13
- [3] Dr. Varsha Agarwal, Ujjawal Agrawal, Ajit Mk & Sohail Khan (2019), A study on challenges faced by SMEs in India, *International Journal of Engineering Research And Management (IJERM)* 6(9) 33-37
- [4] Seema Unnikrishnan, Rauf Iqbal, Anju Singh, & Indrayani M. Nimkar (2014), Safety management practices in small and medium enterprises in India, *Elsevier* 6 (2015), 46-55
- [5] Vijay Kumar Garudik & Dr. Prabhakar Pandey (2018), A study on micro, small and medium enterprises - role in propelling economic development of Bilaspur-Chhattisgarh & a Discussion on current HR issues in MSMEs' in India, *International Journal of Multidisciplinary* 3(9), 97-101
- [6] Khaled Mohammed Alqahtani (2016), Challenges of Innovation for Chinese Small and Medium-sized Enterprises: Case Study in Beijing, *International Business Research*; 9,(12), 165-171
- [7] Vinod K Raju, & Dr. S.M. Chockalingam (2020), An evaluation of the performance of Kerala financial corporation in promoting micro, small and medium enterprises in the state of Kerala, India, 7(1) 12-19
- [8] Purnima Rao, Satish Kumar, & Vinodh Madhavan (2018), A study on factors driving the capital structure decisions of small and medium enterprises (SMEs) in India, *Science Direct* 31, 37-50
- [9] Sonia Mukherjee (2018), Challenges to Indian micro small scale and medium enterprises in the era of globalization (case study coir industry). *Journal of Global Entrepreneurship Research*
- [10] Ms. Gaziasayed, & Ms. Najmussaharsayed (2018), Challenges Faced By Micro, Small and Medium Enterprises of Mumbai – An Empirical Study, *IOSR Journal of Business and Management*, 63-75
- [11] Dr. Kai Richter, Dr. Marek Jersak, Prof. Rolf Emst (2019), How OEMs And Suppliers can Face The Network Integration challenges
- [12] Sachin Borgave & Chaudhari J.S (2010), *Indian Auto Component Industry: Challenges Ahead.*
- [13] Ashley Morrisa, Marc Halpern, Rossi Setchia and Paul Pricketta (2016), Assessing the challenges of managing product design change through-life.
- [14] Martin Pech and Jarslove Vrchota (2020) Classification of Small- and Medium - Sized Enterprises Based on the Level of Industry 4.0 Implementation. *Applied Science*, 2020, 10, 5150.