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MARKET PROSPECTS OF THE PUMP INDUSTRY FROM MSMES IN COIMBATORE DISTRICT: AN EMPIRICAL STUDY

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Abstract

Pumps play a dominant role in the sectors such as agriculture, production of oil and natural gas, petroleum refining, petrochemicals, power generation, domestic and household utilities, and so on contribute a significant part in nation's economy. The Indian pump manufacturers have traditionally catered to the needs of the domestic market. In India, pumps are mainly used for pumping water from wells in households. With the effect of LPG (Liberalization, Privatisation and Globalisation) the Indian pump manufacturers have started exporting to foreign countries, where pumps are used for various purposes in different industrial sectors such as oil refineries, steel mills, mines etc. This has led to an increasing trend in the manufacture and export of pumps. In India, there are over 800 pump manufacturers, of which a few are large players including Indian and MNCs with revenues above Rs100 crore and large number of MSME players. The market prospects of the pump industries in selected micro, small and medium scale pump industries in Coimbatore district are hence analysed in this study.

Introduction

Market Prospects is the efficiency of a market in utilising scarce resources to meet consumers' demands for goods and services. A market has contributed to the optimisation of economic welfare. It shows the marketer performance regarding

a. Productive efficiency – the cost-effectiveness of firms in producing their outputs. Ideally, outputs should be produced in plants of optimal scale, that is, plant sizes which fully exploit available economies of scale so that minimum cost levels are attained
b. Distributive efficiency – the utilisation of cost-effective channels of distribution and marketing techniques to minimise distribution costs
c. the setting of 'fair' prices to consumers, that is, prices which are consistent with the real economic costs of supplying the product, including a reasonable (i.e. non-monopolistic) profit return to suppliers
d. product performance – the satisfaction of consumer demands for product variety and sophistication, that is, the maximisation of consumer choice and value-for-money attributes
e. Technological progressiveness the introduction of process and product innovations which enable supply costs and prices to be reduced in real terms and which provide consumers with technically superior products.

In the theory of markets, market performance is determined by the interaction of market structure and market conduct, For instance, in markets, where economies of scale are significant, a high level of market concentration may be required to minimise supply costs. In conduct terms, price competition between firms is likely to benefit consumers whereas collusion is likely to hurt consumer welfare. These and other elements of market structure and conduct are a significant concern of a government's competition policy and industrial policy.

Overview of Pump Industry in India

The main pump manufacturing hubs in India are Ahmedabad and Rajkot in the state of Gujarat and Coimbatore in the state of Tamil Nadu. Apart from these two pump manufacturing hubs, pump sets are also produced by large-scale manufacturers such as Kirloskar, Crompton, KSB, Grundfos, Matter & Platt, Jyoti, Shakti, Worthington, and so on.

Relevance of Pump industry in the Growth of Indian Economy

In India, the production of pumps is now almost a hundred years old. The Indian pumping industry has its growth, has made a considerable contribution to the country's economic growth. The GDP of the country and India in particular consists of contributions from agriculture, industrial infrastructure, utilities, and services. In the context of the agricultural sector, it should be mentioned that most loans related to food self-sufficiency in India are also related to the Indian pump industry. In the context of the infrastructure, utilities, and services sector, it can be noted that Indian pumps have responded to the needs of urban water supply for decades, completely independent. The Indian pumping industry fully implements Even large-scale irrigation and water supply project. In the context of the industrial sector, opportunities and contributions can be explained merely by the fact that almost all pumps in essential services, such as nuclear power, are developed and produced in the Indian pumping industry **(Laamrani et al., 2011).**

Profile of Pump Industry in Coimbatore

The first electric motor and water-lifting pump in India were produced in Coimbatore seven decades back. India's first pump was produced at Dandayudhapani foundry, Coimbatore in the year 1928. Today 60% of India's requirements of domestic and agricultural pump sets are made in Coimbatore. Besides Coimbatore, Ahmedabad, Baroda, Calcutta, and Dewas are the other places where agricultural pump industries are situated. Today, the pump and motor manufacturing sector are among the largest engineering activities in the city. The pump manufacturing industry in Coimbatore holds a major portion of the total Indian market share. The motor and pump industry supplies over 40% of India's requirements. The Major Pump manufacturers Aquasub engineering, Mahendra Pumps, Suguna pumps, Sharp Industries, Deccan Pumps, CRI Pumps, Texmo Industries, PVG Industries, Flowserve, Kirloskar Brothers & KSB Pumps have a manufacturing base in the city **(Joshi and Ravi, 2010).**

NEED FOR THE STUDY

Coimbatore is one of the few big industrial towns of the state. There are nearly 1000 registered and MSME industries are functioning in Coimbatore district, employing more than fifty thousand workers. They account for 25 per cent of the total number of units in Tamil Nadu. The state government associated with more associations that are industrial are actively involving and supporting to uplift the particular industry. On the above backdrop and conducive business environment motivated to pursue this study. This study would focus the market performance of the MSME pump manufacturers in Coimbatore district, and the study findings shall provide a platform to the industrialist, government and all other stakeholders to make a strategic decision at operation and market level.

STATEMENT OF THE PROBLEM

The Indian motor and pumps industry is exporting mainly to developing countries such as Africa, Sri Lanka, Bangladesh, Dubai & South Eastern Asia, and decidedly less to the developed countries such as the USA and Europe.

For the past few years, the Motors and Pumps industry has been passing through a severe recession. The major problems faced by the industry are; Threat of entry of foreign competitors who will be selling products at cheaper rates; the excise duty, sales tax and high-interest charges that have placed the domestic industry in a critical position.

Based on the above scenario the following research questions are probed in the present study attempts to answer with suitable objectives, research methodology, and recommendations.

1. What are the social status and economic status of the MSME pump industries in Coimbatore district?

2. What are the growing signs envisage in the Coimbatore pump cluster?
3. What are the problems faced by the MSME pump manufacturers at Coimbatore cluster?
4. What are other issues and challenges faced by pump manufacturers at Coimbatore district

To answer the above questions, the following objectives are framed to study the research problem.

OBJECTIVES OF THE STUDY

1. To assess the market prospects of the pump industry from MSMEs.
2. To identify the growing signs of pump industry from MSMEs
3. To measure the factors influencing the market prospects of the pump industry from MSMEs

SCOPE OF THE STUDY

This study focuses on the market performance of micro, small and medium scale pump industries. The scope of this study extends to pump industries at Coimbatore, which belongs to the MSME sector. Pumps play a significant role in agriculture and industry. In India, pumps are mainly used for pumping water from wells in households. The Indian pump manufacturers have traditionally catered to the needs of the domestic market. With the results of Liberalisation and Globalization, the Indian pump manufacturers have started exporting to foreign countries.

India has a strong pump manufacturing base with both Indian and International players involved in the market. The Indian pumps market is relatively mature, with domestic sales expected to increase at a rate of sixteen to eighteen per cent per year and export sales projected to grow at around ten to twelve per cent over the next few years.

By keeping this in mind, this study aims to reveal the current Market performance that focuses prospects and problems, overall issues and challenges, production drivers of MSMEs pump manufacturing units who engaged in both domestic marketing and export activities in Coimbatore district. This research would help the manufacturers to decide the future course of action for the development of the pump industry, and it would also provide the industrialists with an avenue to better performance in the market.

REVIEW OF LITERATURE

Rajasekaran and Krupa (2011) focused the global marketing of pump units in Coimbatore district.Many companies have exported pumps to Gulf countries, Amerika, Russia, Italy and so on. Domestic demand also met them through a dealer, whole seller, retailers and showroom sales. It is revealed that pump industry in Coimbatore cluster has practised a systematic way of export strategy to be excel in the global market. They also studied the general issues faced by the pump manufacturers such as infrastructure, common marketing channel, material price, seasonal business, cost of machinery and interruption of unorganised players and so on.

Devakumar (2013) focused the buyer satisfaction on domestic pumps in Coimbatore district. Pumps are used in household purpose and agricultural irrigation purpose. He collected the data from buyer purchase points such as dealers, retail shops, showroom and so on. Thus the study found that service call to customers, after sales service and replace the deficient product by extending the guarantee terms and customer handling attitude of sales personnel and so on.

Michel (2009) analysed of micro, small and medium scale industries which produce pump products in Coimbatore district and their active participation in economic development. Coimbatore pump industries are producing both borewells pumps for agriculture and household purpose and industrial pumps. Coimbatore district is renowned for agriculture which depends on the usage pumps due to monsoon failure. More pump industries are located in the district which contributes a lot to the economic development in terms of export sales , employment opportunity, agricultural development in India.

Saaw (2005) examined in his article ‘The growth of small and medium industries in India was discussed in the above article’, the expected growth was not attained due to of many causes of sickness and underdevelopment in the SME sector. This article discussed the fixed growth rate of SMEs, financial problems faced by the SME.

Murugan et al. (2004) examined the significant reasons behind the sickness of Small-scale units in India. The study found that the factors influencing the well-beingness of SSI are; commercial availability, competition at the market, Quality of product produced, interest for the loan,

availing collateral free loan and so on.

Singh (2003) in his article 'Small Industries, Big scope' stated that credit is the central area which most of the entrepreneurs find a big challenge. He also pointed out that government of India has constituted a national award for banks to motivate them to uplift the particular sector.

Edvin (2003) in his article 'marketing performance of SSIs under global environment', he examined marketing performance of SSIs under global environment by taking a sample of 250 SSIs. The study reveals that the government has to announce some policy aimed at enhancing the competitiveness of SSIs both globally and domestically by providing more accessible credit facility.

Madill et al. (2002) studied on 'determinants of SME owners satisfaction with their banking relationships', concluded that the SME overall satisfaction is affected by the accounts manager's management of bank with SME relationship, the branch staff's management of the bank with SME relationship and procedures regarding bank with SME relationship. All the three drivers were significantly analyzed by the researcher related to SME owner satisfaction with the bank.

Antony (2002) in the article 'The prospects and growth of small scale industries in India- An overview', stated that the SSI units were born in problems, because of a shortage of capital, lack of know-how, insufficient marketing potentially and so on. Most of the problems are due to inherited weaknesses. Despite several problems, they are promoted and developed given the socio-economic benefits. It was further observed that promotion of SSI sector required institutional assistance from various institutions to develop further.

Sridhar (2001) in his article entitled 'Impact of small-scale industries', stated that one of the leading functions of the DIC is to give temporary and permanent registration to industrial units not only as a legal requirements, however, for keeping infrastructural development which enables the entrepreneurs to avail themselves of the various financial motivations, and other benefits from agencies related to the development of SSI.

Ramachandra (2001) studied the stimulating the sick SMEs in various aspects, such as technology updating, skill training, labour, export promotion and funding finance. The cause of all the above problems is the financial problem. The financial institution provides sufficient amount at a secure disbursal system to promote the SMEs.

Ramathilagam (1979) examined the Small-scale engineering units located at Coimbatore district. Coimbatore is the place of the business hub where there is more number of engineering units such as motor pump industry, Textile units, steel utensils manufacturing units and casting producing units and so on. She made an exclusive study which focuses the economic characteristics of the units such as material and machinery purchase, financial aspects, labour aspects, marketing performance of small-scale engineering units in Coimbatore district.

LIMITATIONS OF THE STUDY

1. This study focuses on only the pump industry that in MSME sector.
2. The results of this study are based on the MSME pump manufacturers at Coimbatore district only; therefore, this study may not be generalised to other pump clusters.

This study could not focus on the technical efficacy of the pump production

METHODOLOGY

The research study is descriptive, it is mainly based on primary data. A structured questionnaire is (Tamil and English) used to collect the data. The data has been collected from selected micro, small and medium scale pump manufactures. Since the population is definite as 525 industries, simple random sampling method is applied, and three hundred questionnaires were distributed however able to get a response from 250 respondents. Therefore, the sample size is 250. Coimbatore district is selected as the universe for the study. Since it is an industrial hub with more clusters, all the MSME pump manufacturers in Coimbatore district constitute the universe of the study.

MARKET PROSPECTS OF THE PUMP INDUSTRY

Factor analysis is a multivariate statistical technique used to condense and simplify the set of a considerable number of variables to a smaller number of variables called factors. This technique is helpful to identify the underlying factors that determine the association between the

observed variables and provides an empirical classification scheme of clustering of statements into groups called factors.

Test of KMO and Bartlett's Test of Sphericity

The use of KMO and Bartlett's test of sphericity is primarily essential to measure sample adequacy for using Factor Analysis. The small value of KMO statistics indicates that the correlations between a pair of variables cannot be explained by other variables and the Factor analysis may not be appropriate.

Table 1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin	**A measure of sample adequacy**	**0.705**
Bartlett's test of Sphericity	Approx. Chi-square	7994.952
	DF	820
	Sig	0.000

Table 2: Reliability statistics

Cronbach's Alpha	**No of items**	**No of variables**
0.9239	250	15

Cronbach's coefficient alpha calculated the reliability of scales used in this study,andit ranges between 0 and 1. All constructs obtained an acceptable level of a coefficient alpha above 0.7, indicating the scales used in this study were reliable.

Using fifteen agreeability statements on benefits derived from MSMEs namely S_1, S_2, S3……., S_9, Factor analysis is performed to group the agreeability statements on a priority basis based on the strength of inter-correlation between them and cluster these statements into the Factors extracted, and the results are presented in Table 3 and 4.

Table 3: Rotated factor loadings

Market Prospect factors	**Factors**					**Communality**
	I	**II**	**III**	**IV**	**V**	
Market friendly business atmosphere in Coimbatore.	0.100	0.816	0.080	-0.265	0.026	0.753
Coimbatore is a major hub for pump industry in India	-0.078	-0.086	0.069	0.889	0.118	0.822
Raw material availability	-0.205	0.293	0.781	0.031	-0.195	0.777

Machinery and its Spare parts availability.	-0.216	0.168	-0.854	-0.038	-0.153	0.829
Improved Infrastructure facility	0.661	0.145	0.087	-0.152	0.068	0.493
Uninterrupted Power supply	0.645	-0.293	-0.152	0.186	-0.481	0.791
Product has high durability for domestic &global Customer.	-0.716	-0.033	0.006	-0.004	-0.146	0.535

Able to get assistance from various institutions.	-0.028	-0.725	0.046	-0.518	0.184	0.831
Easily can avail Financial assistance and loan from bank	0.157	-0.102	-0.037	0.118	0.887	0.836
Large availability of workforce	0.100	0.816	0.080	-0.265	0.026	0.753
Assistance from associating bodies	-0.078	-0.086	0.069	0.889	0.118	0.822

Opportunity to Participate in trade fairs and exhibitions	-0.205	0.293	0.781	0.031	-0.195	0.777
MSME pump units are located in SIDCO and industrial estates	-0.216	0.168	-0.854	-0.038	-0.153	0.829
Opportunity to grasp the export	0.667	0.145	0.087	-0.152	0.068	0.493

Government assistant and subsidy is high	0.645	-0.293	-0.152	0.186	-0.481	0.791
Eigen value	1.496	1.431	1.384	1.203	1.153	6.679
% of variance	16.627	15.901	15.378	13.368	12.816	74.090
Cum % of variance	16.627	32.528	47.906	61.274	74.090	

Table 3 gives the rotated factor loadings, communalities, Eigenvalues and the percentage of variance explained by the factors. Out of the nine problems faced in marketing by MSMEs, five factors have been extracted,and these five factors put together to explain the total variance of these problems to the extent of 74.09 %.

To reduce the number of factors and enhance the interpretability, the factors are rotated. The rotation increases the quality of interpretation of the factors. There are several methods of the initial factor matrix to attain a simple structure of the data.

The varimax rotation is one such method to obtain a better result for interpretation, and the results are given in table 4.

Clustering of Prospects into Factors

Factor	Market Prospect factors	Rotated Factor Loadings
I (16.627 %)	Improved infrastructure facility (S5)	0.661
	Government assistance (S6)	0.645
	Product durability (S7)	-0.716
II (15.901	Market-friendly atmosphere at Coimbatore	0.816

%)	(S1)	
	Raw material availability (S3)	0.781
	Machinery availability (S4)	-0.854
	Coimbatore is a major hub for the pump industry (S2)	0.889
	Easy can avail financial assistance (S9)	0.887
III (15.378 %)	Opportunity to grasp the export (S14)	0.667
	Uninterrupted Power supply (S10)	0.645
	Large availability of workforce (S8)	0.080
	The product has high durability for domestic &global Customer (S12)	0.006
IV (13.368%)	Able to get assistance from various institutions (S13)	0.184
	MSME pump units are located in SIDCO and industrial estates (S11)	0.168
V (12.816%)	Opportunity to Participate in trade fairs and exhibitions (S_{15})	-0.152

Two factors were identified as being the maximum percentage variance accounted. The three problems S5 (Improved infrastructure facility), S6 (Government assistance) and S7 (Product durability) were grouped as a factor I and accounted for 16.627 % of the total variance. The one problem S1 (Market friendly atmosphere at Coimbatore), S2 (Raw material availability), S4 (Machinery availability) constituted the factor II and accounted for 15.901 % of the total variance. The two problems S14 (Opportunity to grasp the export), S10 (Uninterrupted Power supply), S8 (Large availability of workforce) constituted the factor III and accounted for 15.378 % of the total variance. The two problem S11 (MSME pump units are located in SIDCO and industrial estates), S13 (Able to get assistance from various institutions) constituted the factor IV and accounted for 13.368 % of the total variance. The one problem S15 (Opportunity to Participate in trade fairs and exhibitions) constituted the factor V and accounted for 12.816 % of the total variance. In conclusion, the factor analysis condensed and simplified the nine statements and grouped into five factors explaining 74.090 % of the variability of all the nine statements.

Discussion: Kakde and Chaudhari (2018) stated that the problems faced by the industry regarding the growth of the business. It is evident from the information that 40.0% of industries faced finance related problems, which was followed by industries facing labour related problems (20.6%). Furthermore, the percentage of industries facing marketing and technical problems was 13.7% and 32.6% respectively.

CONCLUSION

The increased demand for employment and supply of goods and services to the large population is the highest challenge in India. Our nation is looking for MSMEs as a vital stepladder for inclusive growth. Particular sector plays a crucial role in the development of the economy with their energetic and innovative entrepreneurial spirit. The MSME sector contributes significantly to the country's manufacturing output, employment. They have unique advantages due to their size, high labour-capital ratio and so on.

Coimbatore is the region of the motor pump industry, which used to produce a large share of pumps in the country. Coimbatore produces 75% of the pumps in the country. The industry does a business of 16 crores per day. However, now the city gives only 50% of the total production. Motor & Pumps industry from Coimbatore cluster produces a wide range of products such as single phase & three phase motors, monoblock pumps, jet pumps, submersible pumps, industrial pumps and so on. The high-value products mostly cater to the export markets, is losing it is held, with production touching an all-time low in the last ten years. Manufacturers say thehigh cost of raw material, intense competition from the states such as Gujarat and cheap import from China are some of the factors that have influenced to the 30 per cent reduction in production out of their production capacity.

It is the real-time challenge to the MSME pump industry to recover the existing situation by enriching them with updated technology, quality consciousness at par with international standard, tapping the untapped market, increase the exports, create brand image through brand building strategies, concentrating product line integration, full utilisation of capacity, financial soundness for expansion and to attain higher growth and profitability.

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