

RESEARCH PERSPECTIVE FOR SMALL SCALE INDUSTRIES IN INDIA

¹Yogender, ²Ranbir Singh

¹Yogi Industries, Rohtak, India

²DCRUST Murthal, Sonapat, India

Abstract- India's vision of emerging as an economic power in the 21st century can be realized through the promotion and development of the small and medium enterprises. Small scale industrial environment in India suffers from a number of difficulties and constrains, which increases working risks, and resulting in uncertain business circumstance. These conditions lead the researcher to put his efforts to study such manufacturing systems in order to help investors within research environment to plan and design their businesses in a proper ways, to decrease risks, accommodate uncertain conditions, and increase success opportunities. Frameworks and approaches have been developed that guide people in making decisions about manufacturing system. This paper reviews all such study of small scale industries.

Keywords - small scale industries

I. INTRODUCTION

Transportation Study to achieve a set of strategic objectives involves making a series of complex decisions over time. Making these decisions in a way that supports a firm's high-level objectives requires an understanding of how detailed design issues affect the interactions among various components of a manufacturing system; those components may vary from industrial environment to another. This thesis presents a framework for quantitative study and analysis of various parameters and problems faced by small scale industries in national capital region, India. This framework can be used as an approach to aid inventors, engineers and managers in the design, implementation, and operation of manufacturing systems. In practice, designing the details of manufacturing systems (equipment design and specification, layout, manual and automatic work content, material and information flow, etc.) in a way that is supportive of a firm's business strategy has proven to be a difficult challenge. Because manufacturing systems are complex entities involving many interacting elements, it can be difficult to understand the impact of detailed, low-level deficiencies and change the performance of a manufacturing system as a whole. Shingo (1998) discusses the problem of optimizing individual operations as opposed to the overall process [38]. Hopp and Spearman (1996) describe the same problem, calling it a reductionist approach where the focus is on breaking a complex system into its more simple components and then analyzing each component separately [49]. They go on to point out that "too much emphasis on individual components can lead to a loss of perspective for the overall system," and that a more holistic approach can lead to better overall system performance.

II. LITERATURE REVIEW

An enterprise can be defined as a profitable entity whatever it is public or private, the primary purpose for any enterprise is to create profits and values; Any enterprise

consists of both tangible components; such as information system, machines, equipments, and intangible ones like, intellectual capabilities/property, etc. Mykityshyn & Rouse, in 2007 stated that these components are exploited and interact to perform tasks, activities, and functions through business processes which designed to provide products and /or services for the customers, ensure cost effectiveness and efficiency of operations. Those institutions need a system to control its activities on both strategic and operational levels; system has been defined as "a collection of mutually dependent entities whose initiatives, activities, and actions form a dynamic process toward the accomplishment of some purpose". Therefore, according to W. Rouse, (2005) the enterprise is a comprehensive system which organizes and controls its activities, processes, and resources in order to achieve its strategic and operational goals. Wu. Jageh in 1970, in his study entitled, "Capital Intensity and Economic Growth under developed countries" pointed out that both the capital out put ratio and wage capital ratio show an inverse relationship with capital intensity. He recommends the setting up of SSI in countries having large unemployment.[51] Hayes and Wheelwright in 1979 developed the well-known product-process matrix relating the structure of a manufacturing system to the volume and variety of the products it is to produce [32]. W. Bennis & B. Nanus in 1986 says to choose a direction; an executive must have developed a mental image of the possible and desirable future state of the organization [47]. Zahar & Pearce in 1990 stated that the choice of structure and process will influence and constrain future strategic decisions [37]. Miltenburg in 1995 expanded upon this approach by comparing how layout, material flow, product volume and variety affected cost, quality, and flexibility in different high-level system designs (job shop, equipment paced line, etc.). [22] Malga Weker in 1997, in his study entitled, "Problems of small Industry in Andhra Pradesh" has found the lack of infrastructure as a

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general problem. The industrial estate alone cannot overcome the vocational disadvantages. The infrastructure facilities are either very weak or non-existent in rural areas. In urban areas with necessary industrial climate and infrastructure facilities, the growth of industries is relatively faster. The scarcity of indigenous raw materials has been a serious bottleneck. Scarce raw materials supplied through quotas are not sufficient to meet the demands of the units. There is a delay in the disbursement of the loans due to the existence of procedural delays and instances of tangible securities.[29] Bhagavathi in 1997 committee in its "Report of Unemployment" opposes fast introduction of mechanization designed to replace human labour but at the same time recommends introduction of sophisticated technology in certain selected areas. The committee recommends reduction to the maximum extent possible in the installed capacity in various industries in order to generate employment in the industrial field. The committee virtually favours creation of employment at any cost without going into economics of the scheme.[11] Srinivasan. R. in 1997 quotes in State Bank of India Report which identified that financial management, lack of planned and organized approach are the major cause of failure. However in his study of 20 units, he finds management failure as the single largest contributing factor. He also found problems with governmental procedures and consequent delays contributing to the malaise. However these and other studies also refer to the problem and importance of marketing function on the need for planning and organizing for marketing.[34] Bepin Behari in 1997, in his study entitled, "Rural industrialization in India" examined the problems, possibilities and perspectives of rural industrialization and discussed the crises in Indian villages and the need for the new strategy of rural industrialization and the provision of fuller employment in rural and small scale industries and technologies. He traced out agricultural development encouragement to village and small scale industries and general awareness for incorporating appropriate technologies as principal sources of impetus to the programme of technological transformation in rural India. Further he reviewed various measures undertaken by the Government towards rural industrialization, local industrial growth, and agro-based industries, and mini-rural cement plants, utilization of annual waste and harnessing of natural power.[3] Mathur Gautam in 1997, in his study entitled, "True employment and non employment" opined that the appropriate techniques in the consumption. Goods sector will be of a low degree of mechanization creating incidentally a lot of employment per unit of investment of scarce capital.[21] A.C. Minochabin in 1997, in his study entitled, "Industrial development in Madhya Pradesh Regional Structure and Strategy for employment Oriented Industrialization" has suggested that the strategy of employment oriented industrialization should aim at the development of SSI in rural areas.[5] K.M. Rostagi in 1997, in his study entitled, "Employment Generation through Small Scale Village and Cottage Industries – A case study in Madhya Pradesh" has also reported that unique case of growing unemployment and poverty amidst plenty. He is in favour of only small and village industries which make optimum use of indigenous resources and techniques. According to him, there are hundreds of items which can be produced in rural and in small scale industrial units more

economically than in a large sector.[15] Siddharthan.G, in 1997, in his study entitled, "Entrepreneurship of small scale Industries – A study in Kanyakumari District" revealed that community and economic back ground alone will determine the growth of entrepreneurship in Kanyakumari District.[41] Sarma, R.K. in 1998, in his study entitled, "Industrial development of Andhra Pradesh – A Regional Study" has observed that the backward districts of the state improved their relative positions in terms of units of employment and capital. Majority of the small units are confronted with the problems of raw materials and finance.[35] Banujam K.V. in 1998, in his study entitled, "Poverty Alleviation through Rural Industrialization" suggested that appropriate technology should be developed to promote the rural small industries.[32] Rethnam N.V., in his study entitled, "Rural Industrialization and IRDP" opined that infrastructure development for industrialization in the rural areas and investment in basic services designed to realize the full potential of human resources in the rural areas should receive a high priority.[16] Gholam Ali in 1999, in his study entitled, "Help makes small scale industries viable" revealed that big and small industries have their share in the development of a nation and the prosperity of its masses. A balance must be struck in the development of these industries. The thrust on the development of SSI through successive Five year plans and Government Policies had helped this sector.[34] Mecrory, in his study entitled, "Latent Industrial Potential", suggested policies for improving the utilization of resources in the small industrial sector.[9] Singh Nagendra in 2000, in his article entitled, "Type of Entrepreneurship" has focused the growth of indigenous entrepreneurship after independence in the country as a whole. The contribution of both public and private sectors, including large scale and small scale enterprises for economic development, is discussed and evaluated.[37] Himachalam D., in his study entitled, "Entrepreneurship Development in Small Scale Sector" revealed that entrepreneurship development and small scale industrial development are the obverse and reverse of the same coin. The government and financial institutions have done a lot in this area through Entrepreneurship Development Programmes (EDP). But they have still failed to attract the class of people for whom these programmes are meant. Therefore he puts forth a few suggestions: (i) the entrepreneurs should be provided with more and more information on various aspects of EDP. (ii) there should be suitable organizational arrangements for disseminating information about appropriate technology to the proposed entrepreneurs (iii) Entrepreneurs should be provided with full assistance not only in preparing project reports but also in meeting financial requirements (iv) preparation of directory of industrial technical and management experts and (v) intensive efforts should be made to impart more technical training to the entrepreneur trainees.[25] P. M. Swamidass, & S. kotha in 2000 categorize the manufacturing strategies into three main groups, based on their functions and information processing capabilities, (1) technologies for the design of new or improved products, such as CAD, meant to enable organizational innovation, (2) technologies linked to the manufacturing process such as Flexible Manufacturing System (FMS), meant to provide manufacturing flexibility, and (3) application related to logistics and planning such as Enterprise resource Planning (ERP), meant to increase

business and system integration, fourth category have been included by Kotha and Swamidass which is information exchange technologies such as electronic data interchange (EDI) and Internet-based networks (extranet) with customers and suppliers, meant to increase inter organizational or external integration.[28] A. Vaughn, P. Fernandes & J. T. Shields in 2000 showed that any manufacturing system design consists of two main levels, the infrastructure design and structure design. They stated that stakeholders whatever they are internal such as investors, management, and employee, or external e.g. customers, suppliers, and society or environment have to be involved in the infrastructure design stage because each group of them have their own needs and requirements, that could produce some conflicts between one group and another, the corporation strategy have to balance these conflicts through establishing business unit strategies in order to ful-fill all of the stakeholders needs.[45] Berna in 2001, in his study entitled, "Entrepreneurship in Madras State" highlighted the main characteristics found in the entrepreneurs such as capital, experience of business, technical knowledge and family background. These factors alone promote the growth of entrepreneurship.[40] Ramakrishna K.T., in his study entitled, "Finance for Small Scale Industries in India" has described the nature of problems of finance with regard to small scale industries in India and the role played by the government, State Financial Corporations and Banks in financing the small scale units. His study highlighted the methods of financing followed by several countries in North and South America, Asia and Europe. [4] Retnakar Gedans in 2001, in his study entitled, "Economic reforms and industrial production" has described the problems faced by the industrial sector during economic reforms such as industrial unrest, political disturbances, elections in different states, downward revision of demand estimates and curtailment of plan outlays.[8] Resia Beegam S. and Sarnagadharam K. in 2001, in their study entitled, "Female Entrepreneurship in Kerala" revealed that though the entry of women in the entrepreneurship field is a recent phenomenon, they have been attracting the attention of policy makers and Government departments by their excellent performance.[44] Selwyn Thampiraj K., in his study entitled, "A study of Sickness among Industrial Cooperatives in Kanyakumari District" revealed that all industrial cooperatives in Kanyakumari District are considered to be sick according to the views of Reserve Bank of India, but some of the industrial cooperatives are making profit.[2] Mahesh Prasad in 2002, in his study entitled, "Industrial Development", has established that as a result of sound policies pursued over the years, tremendous development has taken place in Indian Industry, which stands today on a sound footing. However, there are certain infrastructure weaknesses which need to be tackled to ensure further growth.[20] Varinder Kumar in 2002, in his study entitled, as "Marketing practices in Small Scale Industries – A Study of Engineering Industry of Punjab", has studied the importance of product, pricing, promotion and distribution aspects of marketing. He emphasizes the effect of marketing environment on small scale industries with difficulty in performing their marketing functions even with the government Assistance.[44] Saxena H.M. in 2002, in his study entitled, "Behavioral Pattern of Market place participants-A regional analysis of Rajasthan", underlines that the growth of marketing systems is a result of

historic economic factor and it is very much related with the growth of civilization, more specifically with the growth economic development, growth of population and urbanization. He also emphasized that the behaviour of market participants in each system of marketing has its own importance and suggested a strategy for the development of a more efficient marketing system.[49] Suresh Chandra Jain, in his work analyzed the details to problems of institutional finance for small scale industries on the state of Uttarpradesh. The enquiry is limited to a case study of Meerut.[12] M.L. Sarma in 2003, in his study examines industrial financing by national level financial institutions. The study also discussed the role of state financial institutions in financing industries of Bihar. Among other things, researcher suggested that financial institutions should also act as a guide, philosopher and promoter of industries and recommends the setting up of a Small Industries Bank.[51] H.S. Parekh, in his thesis, review the role of financial institutions and state agencies in extending credit to small scale units and pin points their attitude of indifference in catering to the needs of the tiny units. He was of the view that financial distributions have to attain their lending policies in consonance with the need of the small sector in general and the smaller among the small scale units in particular.[19] Nikhil Bhusan Dey in 2003, deals with the role of Government and various institutions in developing and financing small scale industries in Cachber district in particular and the state of Assam in general.[27] R. Natarajan in 2004, examines the trends in institutional financing to SSI units in Andhra Pradesh for a period of one decade commencing from 1970.[54] In a study based on small scale industries in Vishakapatnam district, K.C. Reddy conducted that bank finance in particular and institutional finance in general have contributed significantly in the promotion of small scale industries.[33] J. A. Tompkins, 2004 says that the degree of uncertainty in demand affects the balance between planning and control. The greater the uncertainty, the more difficult it is to plan and greater emphasis must be placed on control. This idea of uncertainty is linked with the concepts of dependent and independent demand. Dependent demand is relatively predictable because it is dependent on some known factor. Independent demand is less predictable because it depends on the chances of the market or customer behaviour. The product layout efficiency is often enhanced through the use of line balancing. Line balancing is the assignment of tasks to workstations in such a way that workstations have approximately equal time requirements. This minimizes the amount of time that some workstations are idle, due to waiting on parts from an upstream process or to avoid building up an inventory queue in front of a downstream process. The product layouts are found in flow shops (repetitive assembly and process or continuous flow industries). Flow shops produce high-volume, highly standardized products that require highly standardized, repetitive processes. In a product layout, resources are arranged sequentially, based on the routing of the products. In theory, this sequential layout allows the entire process to be laid out in a straight line, which at times may be totally dedicated to the production of only one product or product version. The flow of the line can then be subdivided so that labor and equipment are utilized smoothly throughout the operation. The workers in cellular layouts are cross-trained so that they can operate all the equipment

within the cell and take responsibility for its output. Sometimes the cells feed into an assembly line that produces the final product. In some cases a cell is formed by dedicating certain equipment to the production of a family of parts without actually moving the equipment into a physical cell (these are called virtual or nominal cells). In this way, the firm avoids the burden of rearranging its current layout. However, physical cells are more common. He stated important influences on these decisions include the concepts of economy and diseconomy of scale, supply flexibility if demand is different from that forecast, and the profitability and cash flow implications of capacity timing changes.[13] In 2005, The following studies have sought to highlight the role of banks and state financial corporations to financing the small scale sector. A report of the proceedings of the seminar on financing of small scale industry organized by the Reserve Bank of India identifies some of the factors responsible for borrowers shying away from commercial banks instead approaching the money lenders. The main findings of the seminar is that besides providing finance, banks should also helps small scale industry in procuring raw materials and marketing their output.[36] F. R. David in 2005 stated that corporate vision is a short, and inspiring statement of what the organization intends to become and to achieve at some point in the future, often stated in competitive terms. Vision refers to the category of intentions that are broad, all-inclusive and forward-thinking. It is the image that a business must have of its goals before it sets out to reach them. It describes aspirations for the future, without specifying the means that will be used to achieve those desired ends, so the vision statement should answer the question "What does the enterprise want to become?" He stated that a clear mission statement is essential for effectively establishing objectives and formulating strategies.[31] W. J. Stevensom in 2005 says that the layout design is concerned with the physical location of its transforming resources. This means deciding where to put all the facilities, machines, equipment and staff in the operation. And how it's positioned relative to each other and how its various tasks are allocated to these transforming resources. It also determines the way in which transformed resources – the materials, information and customers – flow through the operation. He says that in fixed position layout, the main product being produced is fixed at a particular location. Resources, such as equipment, labor and material are brought to that fixed location. This type of layout is useful when the product being processed is very big, heavy or difficult to move. Some examples of fixed position layout are shipbuilding, aircraft assembly, farming, road building and home building, etc. The functional layout is also called as process layout. Similar machines or similar operations are located at one place as per the functions. For example, all milling operations are carried out at one place while all lathes are kept at a separate location. Grinding or finishing operation is kept at a separate location. [50] J. Kim, & S. B. Gershwin, 2005 stated many deferent definition for quality have been introduce; the manufacturing-based approach which views quality as being 'free of errors; the user-based approach which views quality as fit for purpose; the product based approach which views quality as a measurable set of characteristics; and the value-based approach which views quality as a balance between cost and price. [14] N. Slack, S. Chambers, & R. Johnston in 2007 says that on an un-paced

line, workers build up queues between workstations to allow a variable work pace. However, this type of line does not work well with large, bulky products because too much storage space may be required. Also, it is difficult to balance an extreme variety of output rates without significant idle time. A technique known as assembly-line balancing can be used to group the individual tasks performed into workstations so that there will be a reasonable balance of work among the workstations. The expensive items such as meat are often placed so that the customer will see them frequently (e.g., pass them at the end of each aisle). Retail chains are able to take advantage of standardized layouts, which give the customer more familiarity with the store when shopping in a new location. They discussed the ratio of technological to human effort it employs is sometimes called the capital intensity of the process technology. Generally processes that have high variety and low volume will employ process technology with lower degrees of automation than those with higher volume and lower variety, moving towards more automated technology is often justified on the labor costs saved, but that does not always mean that the net effect is an overall cost saving. [24] W. B. Rouse & M. G. Mykityshyn, 2007 says that six steps can lead any operation to conform the specification of any output, define quality characteristics, and decide how to measure each of the quality characteristics, set quality standards for each characteristic, control quality against these standards, find and correct the causes of poor quality, continue to make improvements. [46] C. Evans in 2007 stated the overall purpose of the process design is to meet the needs of the customers through achieving appropriate levels of quality, speed, dependability, flexibility and cost. The design activity must also take account of environmental issues. These include examination of the source and suitability of materials, the sources and quantities of energy consumed the amount and type of waste material, the life of the product itself and the end-of-life state of the product. Evans, 2007 says that control charts can be used for either attributes or variables. An attribute is a quality characteristic which has two states (for example, right or wrong). A variable is one which can be measured on a continuously variable scale. Process control charts allow operations managers to distinguish between the 'normal' variation inherent in any process and the variations which could be caused by the process going out of control. Evans further stated that in addition to the abovementioned layouts, there are others that are more appropriate for use in service organizations. These include warehouse/storage layouts, retail layouts, and office layouts. With warehouse/storage layouts, order frequency is a key factor. Items that are ordered frequently should be placed close together near the entrance of the facility, while those ordered less frequently remain in the rear of the facility. Pareto analysis is an excellent method for determining which items to place near the entrance. Since 20 percent of the items typically represent 80 percent of the items ordered, it is not difficult to determine which 20 percent to place in the most convenient location. In this way, order picking is made more efficient. [6] Agouridas in 2007 stated that products and services are the first things that the customers see of a company, and it is the things that those customers willing to pay his money in order to get it, because of that a good product or services design makes good business sense because it translates customer needs into the

shape and form of the product or service and so enhances profitability. [43] Basu S.K in 2007 discusses the role and problems of small scale industries. Emphasizing their importance in the economic programme of the nations, he deals at length with their financial problems and the functions of the state financial corporation helping them.[39] Mohammed Sayeed in 2007, in a study focusing on the financial problems of small scale and cottage industries in Uttar Pradesh recommends the introduction of participation loan scheme by the state Government and setting up of small business investment companies.[64] A study by Shetty M.C, covering a selected sample of household manufacturing units in small towns and villages of Maharashtra reveals that lack of capital resources, mainly working capital, poses the biggest constraint on their efficiency.[23] B. Narayanan in 2008, in this study, discusses the financial problems faced by industries in general and recommends the setting up of an industrial developments and the state level for mitigating problems.[66] A study undertaken by Ghanshyam Panda covers the problem of raising working capital. The utilization of bank credit by small industries and their industries in backward areas and priority sectors, forms a special part of the study.[26] In 2008, a study undertaken by Ghanshyam Panda covers the problem of raising working capital. The utilization of bank credit by small industries and their industries in backward areas and priority sectors, forms a special part of the study.[7] In 2008, a study done by Kalchetty Eresi throws light on the various source of long term and short term finance and the problems faced by the units is raising such funds. He also enquires into policies procedures and practices of small units in managing their finance.[17] A. M. Croteau, L. Raymond & F. Bergeron in 2009 stated that in an environment characterized by globalization and based on definitely accessible knowledge the enterprises are subjected to increase the pressure with respect to competitiveness, innovations, flexibility, quality and information processing capability. Croteau et. al. further stated that over time various classification approaches for business level strategies have been developed including narrative, typological, and comparative approaches. Miles and snow typology is the most popular and widespread classification scheme for the last 25 years. They stated that there are three aspects that have to be taken into account in developing the manufacturing strategy. The first one is to make balancing between manufacturing capabilities and the competitive priorities such as manufacturing cost, product quality, customer service, and flexibility of the productive apparatus, given market need. Second, strategic choices must be made with regard to manufacturing structure and infrastructure, in matters of plant and equipment, of production planning and control, of human resource development, and of product, organization, and management development, while ensuring internal and external coherence. Third, the way of implementation through using best practices which include the advance manufacturing systems such as Just In Time JIT, Total Quality Management TQM, and concurrent engineering.[18] W. C. Kim & R. Mauborgne in 2009 identified three strategy propositions: the first one is a value proposition that attracts customers and shapes enterprise competitive advantages and the business unit strategy will treat it. The second proposition is a profit proposition that enable the company to make money out of

the value proposition and these two propositions set out the content of the strategy. And the last one is a people proposition that motivates those working for or with the company (stakeholders) to execute the strategy. Based on these facts we can define strategy as the development and alignment of the three propositions to either exploit or reconstruct the industrial and economic environment in which an organization operates.[48] T. A. Roemer & R. Ahmadi in 2010 stated that before constructing the processes in all functions within any MS, we have to design that processes in order to achieve its objectives, in the same time we can't separate the process design and the product or services design; because each one design activity clearly affecting the design of the other, so the process design can be defined as the activity that shapes the physical form and purpose of both product or services design and processes that produce them. [42] A. D. Sarode, V. K. Sunnapwar, & P. M. Khodke, in 2010 stated that all operations within any enterprise have its own supply network which involved in bringing the inputs, processing it, and delivering the outputs to other operations or to the customers. In another words a supply network perspective means setting an operation in the context of all the other operations with which it interacts, some of which are its suppliers and its customers. Materials, parts, other information, ideas and sometimes people all flow through the network of customer-supplier relationships formed by all these operations. [40]

III.SUMMERY

The structural and infrastructural aspects of any enterprise can be strongly integrate by taking into account the relation between strategic planning activities which have to be effectively prepared based on the environment, resources, and capabilities available, and the physical issues which should be use in order to full-fill the goals and objectives for all of the operations and functions within the organization whatever it's a large, medium, or small in its size, simple or complex in its structure, local or international in its market.

Mission statements can and do vary in length, content, format, and specificity. Most practitioners and academicians of strategic management feel that an effective statement exhibits nine characteristics or components. Because a mission statement is often the most visible and public part of the strategic-management process, it is important that it includes all of these essential components.

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