CHAPTER 2  LITERATURE REVIEW

2.1 GENERAL
This chapter presents the detailed review of literature to identify the major problems faced by small scale industrial units in the course of continuous technological change. The literature has also been reviewed to find out technological innovation initiatives of small units as sources of competitive advantage in MSMEs. This chapter focuses on the reasons for low performance of small firms. Various technological innovation initiatives and their effect on manufacturing performance of MSMEs have also been discussed.

Micro, Small, and Medium Enterprises (MSMEs) have been accepted as the engine of economic growth in less developed, developing as well as developed countries (Nganga, 2011; Adukia, 2012). In the developed and developing economies, MSMEs act as the backbone because they trigger poverty alleviation, employment, output, export, economic development and economic empowerment etc. As unemployment and poverty are burning problems in developing countries, hence these firms are considered important for affecting their performance (Ponmani, 2011; Laforet, 2013).

MSMEs are considered to make substantial contributions in terms of productivity enhancement, competitiveness, and economic growth in any nation all over the world. In addition, training opportunities and important basic services are also provided by MSMEs for needy people. These firms enjoy the reputation of sources of income and especially effective job creators in most of the countries (Rakesh et al., 2004; Hussain et al., 2011; Sobanke et al., 2014).

MSMEs including manufacturing and service enterprises account for a major share of industrial exports and production, and are recognized with generating the highest rates of employment. With their flexible, effective, efficient, and innovative entrepreneurial spirit, they also play a key role in the growth of developing economies (Rakesh et al., 2004).

This section presents an extensive review of literature in the subject field. It initially presents literature on the factors that affect the performance of small units. In the latter part, the various models presented by different authors highlighting technological innovations initiatives of small units have been presented.
2.2 PROBLEMS FACED BY MSMEs

MSMEs are considered as the life blood for modern economies (Collinson and Houlden, 2005) and are considered as the engine of economic growth and employment generation (Ghobadian and Gallear, 1996; Radas and Bozic, 2009). Due to changing environmental factors such as closer business partnership, demands for faster delivery times, and the emergence of worldwide markets and standards for better product quality, these firms constantly face numerous challenges (Gupta and Cawthon, 1996).

Typically, small firms are evolutionary, generally do not plan formally, face continuous uncertainty, can have a “bad attitude towards detailed day-to-day procedures” (Stokes and Fitchew, 1997), and most considerably have a highly personalized management style (Bennett, 1993). As compared with larger organizations, Motwani et al., (1998) highlight the different operational priorities of small firms, and summarize small firm characteristics as follows: “On one hand, small firms are believed to have an edge over larger firms in innovation, flexibility, and overhead costs, while on the other, they are limited by the amount of capital, market power, and managerial resources”.

Many small firm owners/managers report problems with bureaucracy and government regulations, marketing, taxation, management of the organization and capital raising in general (Wilson, 1995). These firms can be categorized depending on the owners’ managerial style and/or growth goals, industry within which they operate and their growth stage. There is an impact of inherent characteristics upon the way in which these firms operate and to a large extent also affects the way in which such firms are managed (Ahmadi and Helms, 1997; Kaplinsky and Manning, 1998; Gorzen–Mitka, 2013).

There are a large number of challenges faced by MSME sector, but in this research study the main focus is given to the major problems in Indian MSMEs.

2.3 HUMAN RESOURCE MANAGEMENT (HRM)

Human resource management (HRM) has been defined as a set of different but interrelated functions, processes, and activities that are used for attracting, developing, and maintaining human resources in a firm (Lado and Wilson, 1994). Human resources are considered as the most vital asset of any organization as all other resources (which are inert) are controlled by it, to function according to some definite plan (Ominde, 1964). Macgregor (2011) also points
out the core staff of an organization as its backbone or foundation. MSMEs are required to be prepared for challenges ahead through growth of flexible processes. Human resources must affect their future and the consequences of their own planning (Archarya, 2008).

For several reasons, the study of HRM is relevant from a SME–perspective. First, HRM problems are always given top priority in MSMEs (McEvoy, 1984; Huang and Brown, 1999). Secondly, HRM play a critical role in developing and sustaining competitive advantage for MSMEs (Hornsby and Kuratko, 1990; Duberley and Walley, 1995; Flanagan and Deshpande, 1996; Huiban and Bouhsina, 1998). This is even more relevant in small firms because of their specific work organizations and also because these firms are moderately labor intensive (Flanagan and Deshpande, 1996). Moreover, each individual employee in a small firm represents a substantial part of MSME’s workforce because of small number (Bacon et al., 1996), therefore increasing the significance of every HR decision.

Over the years, various HRM practices that have the possibility to progress and sustain organizational performance have been suggested by many researchers. These practices include necessary technical skills required by the job, emphasis on behavior, attitude, emphasis on employee selection based on fit with the company’s culture, and employee empowerment to foster team work (Pfeffer, 1998).

HRM practices are assumed to help firms in enhanced staff performance by improving organizational behaviour in areas such as flexibility, competency, and staff commitment (Beer et al., 1984; Arthur, 1994). Certainly, the claims indicating the effect of HRM practices on firm performance are very common in theoretical discussions (Koch and McGrath, 1996; Guest, 1997). In addition, empirical studies conducted to test the relationship between HRM practices and organizational performance specifies that high involvement and/or high commitment of HRM practices have a positive impact on organizational performance (Devanna et al., 1984; Huselid, 1995; Kaman et al., 2001; Bartel, 2004; Wright et al., 2005).

2.3.1 RECRUITMENT AND SELECTION PRACTICE
In small firms, lack of recruitment and selection policies is one of the elements which have been mentioned very frequently. Generally, these firms do not make the use of job try–outs, which are inexpensive as well as very well suited to assess the actual fit of a person with respect to the demands of the job (Arthur, 1994). Small firms generally use informal procedures which are reflected in their personal environment such as job posting and bidding
Fundamental recruitment challenge for small firms is to effectively attract and select candidates in the absence of experienced HR personnel and/or significant managerial expertise (Deshpande and Golhar, 1994).

Proper HRM practices can take hold of the future of MSMEs, and in particular, by using efficient recruitment and selection procedures which are crucial for their improved performance. Recruitment is defined as the procedure of attracting, screening, and selecting competent people for a particular job. It includes sourcing applicants by advertising etc., screening potential applicants by using various methods such as interviews, selecting them based on the results, and on–boarding to ensure that the candidates are able to fulfill the roles efficiently (Deshpande and Golhar, 1994).

Interviews, educational qualification for the job, training experience, reference and background checks are the important factors upon which selection is based. It is done in consultation with hiring supervisors as well as already available work unit employees of the required job (Heneman and Berkley, 1999).

Williamson et al. (2002) suggest that MSMEs are required to get authenticity in their decisions by adopting recruiting and selection procedures which reflect industry norms for e.g imitating standard job advertisements and providing recruitment brochures can enhance the probability that potential candidates will understand the advertisements and convey legitimacy towards the firm. Using common practices like advertisements, newspapers, and recruiting offices etc. can also assist in successful recruiting efforts (Baker and Aldrich, 1994). It may help small firms to fill their vacancies sooner and retain employees for longer periods of time (Heneman and Berkley, 1999). Attending job fairs is another way to provide small firms with access to a larger pool of applicants and stay abreast of current industry trends, and further facilitate them to establish and execute legitimate and successful recruitment and selection method (Buss, 1996; Williamson, 2000; Zheng et al., 2006).

Regardless of its importance, recruitment and selection is often problematic for small firms because of limited availability of material and financial resources, lack of legitimacy as an employer–of–choice and large number of jobs where employees normally perform multiple roles with unclear job responsibilities and boundaries (Gupta and Tannenbaum, 1989; May, 1997; Williamson, 2000).
2.3.2 AVAILABILITY OF SUITABLE MANPOWER

Small firms face difficulty in finding suitable manpower in the labour market. Opportunities in small firms are limited such as the likelihood of changing jobs within the firm and career advancement for internal labor markets (Scott et al., 1986). In addition, workers may not be satisfied with their current earnings and sometimes interested in enhancing their earning profile. Reduced turnover, steady promotion, known training to standards, entrepreneur experience and employee involvement which helps in steeper earning profiles and career development may offer a strong labor market (Siebert and Addison, 1991).

However, MSMEs may have less efficient internal labor markets as they have fewer workers, though informal networks may compensate this (Atkinson and Meager, 1994). Scott et al. (1986) has identified that there is a positive relationship between MSMEs regarding inter–firm labor linkages. Large firms are more able to offer retention/promotion for their employees as graduates are always interested in career development, but small firms lack in this ability.

2.3.3 SPECIFIC TRAINING TO UPDATE KNOWLEDGE OF EMPLOYEES

Training is linked to a job satisfaction and help in increasing capacity earnings as it may be a desirable aspect of employees at work. But there is major issue of lack of job specific training to update knowledge as well as interest of staff to attend training programs in small firms. Small firms are recognized with the higher labor turnover in the economies of training, as there are fewer career development opportunities in these firms (Arthur and Hendry, 1990; Storey, 1999). This results in less trained workers and a minimal training budget for MSMEs as better trained employees usually choose for opportunities elsewhere. Firm specific (on–the–job) training can be an effective solution to this kind of problems, because it will have little value to other firms (Guzzo et al., 1985).

Management training is defined as “the process by which managers acquire the skill and knowledge related to their work requirements by structured, formal or guided means” (Deloitte et al., 1989). Training may develop the ‘ability to learn’, act as a supplement to provide fundamental vocational skills for employees, to enhance academic knowledge and direct knowledge transfer. Oosterbeek (1998) indicated that the educated workforce is keener to take part in training activities. Bosworth (1989) noted that MSMEs are less productive as compared to larger firms due to the smaller amount of training activities performed in them.
Studies related to large firms propose the positive and constant impact of training on individual worker productivity in terms of formal training (Banks et al., 1987).

Because resources are expected to be limited in small firms, recruiting and retaining of employees becomes difficult. These firms are more reluctant to engage in restrictive or costly practices as there is very small number of HRM professionals or a HRM department. Young firms face greater difficulty in recruiting trained personnel due to lack of legitimacy. Experience is likely to be lacking in these kinds of firms and there may be informal employee management system and reduced reliance on formalized training (Cardon, 2003).

Small firms face a number of HRM challenges (Barber et al., 1999), including difficulty in attracting and retaining required talent and skills (Greening et al., 1996), lack of legitimacy (Williamson et al., 2002), maintaining flexibility in employment, and developing sustainable human resource practices that bear market and organizational fluctuations (Cardon, 2003).

Therefore, manufacturing organizations need to carefully evaluate and modify their existing HRM practices, so that employees can effectively contribute towards organizational performance improvement.

2.4 STRATEGIC FINANCIAL MANAGEMENT

Capital is an important aspect for the growth and development of MSMEs. However, for MSMEs especially those in developing countries, access to credit is still a challenge and it also act as a key issue within the public and private sectors (Nkuah et al., 2013). Despite having one of the widest banking infrastructures in the world, India fails to provide finance to grass root level businesses.

Also, growth in Indian MSMEs has been limited because most of the units run on the promoter’s investment and they have limited access to finance. Non–availability of finance from banks and financial institutions at affordable terms is one of the main reasons hindering innovation in these firms. In India, the situation is more complicated as the self preferred mode of finance is most common in MSMEs. Recent research shows that MSMEs are beginning to find other options for financial services as they are faced with enhanced competition, on account of globalization (Baral, 2013).
Shortage of credit and finance is the main obstruction in the development of small scale units. During their early and growth stages, MSMEs generally require timely and sufficient capital infusion through working capital loans and term loans. Financial management is a critical field within the endogenous atmosphere of MSMEs that presents many potential obstacles. Availability of financial information in small firms is often determined by their management competency. Business success depends upon financial issues such as management of working capital, financial planning, capital requirements, book-keeping, financial control, and income generation (Cant and Brink, 2003).

2.4.1 AVAILABILITY OF LOANS
For decades, access to adequate and timely loan finance has remained the most prevailing constraint for the small enterprise sector. This is regardless of the clear instructions in the country from Ministry of Finance and also from Reserve Bank of India (RBI) to encourage flow of funds from the commercial banks to small firms. Observation from a national study indicate that, “there are strong structural underpinnings to the inadequate flow of finance: the organizational structure of banks, and processes within them, have taken them far from task orientation, and have created a specific partiality against small loan portfolios” (Thornhill, 2006). Other constrains faced by small firms regarding constricted flow of loan finance are the performance–based incentive system for proactive bankers and the altered directions for supervision of banks by the RBI (Das, 2008).

Banks usually provide attention to low–risk borrowers like large enterprises with sound collateral and profitable investments, in normal as well as crisis period. MSMEs are not usually preferred customers for banks, except when the government wants them to provide loans to this group (Guest, 1997). Why are MSMEs, normally, unable to obtain financing? For banks, MSMEs are always considered as higher risks because of their opacity and lack of audited and collateral financial statements, especially in developing economies. Sometimes, they do not have profitable projects, no clear titles to real estate, no clear succession plans, no available credit history, no managerial targets and so on. Cultural barrier also act as a restriction for MSMEs as they hesitate to approach banks and at the same time banks also hesitate to provide loan to these units. Strict monitoring by banks is another reason for MSMEs to avoid loans and in addition they may not have sufficient information regarding what banks can offer (Pasadilla, 2010).
Non–performing assets (NPAs) is the problem raised in the past due to a fairly significant proportion of loans given to small firms. Therefore, banks now hesitate to take risk, unless there is availability of fairly thorough information on small firms. They might prefer relatively large enterprises (including, the now medium) in order to abide by the RBI regulations (Das, 2008).

### 2.4.2 SYSTEMATIC BUDGET SYSTEM

Systematic budget system or simply earmarking means recognizing the specific areas of investments that directly strengthen competitiveness and allocate the finance or funds to human resource management department, research and innovation, improve the energy efficiency, business service, infrastructure etc. It is known as the strategic planning of the finance in advance (Polverari et al., 2006). Open and ongoing organizational process which includes a number of components, such as the generation and evaluation of strategies and the establishment of goals is known as strategic planning. It has been observed that there is a positive relationship between strategic planning and financial performance of MSMEs (Aldehayyat et al., 2011).

Literature has consistently shown that most MSMEs do not engage in strategic planning and literature indicates that enterprises “must actively plan for the future” to effectively compete and survive (Mazzarol, 2004). Accordingly, owner–managers in MSMEs have been accused of lacking the long–term vision and being intentionally narrow–minded (Ennis, 1998). The concern is that MSMEs survival could be placed at risk because by neglecting strategic planning, firms are not able to achieve their full development and growth potentials. Therefore, barriers hampering strategic planning have been expended on discovering considerable research effort in order to encourage strategic planning in MSMEs by overcoming or else lessening these upto certain extent (Berry, 1998).

Setting of long–term organizational goals and objectives, development and implementation of various policies to achieve these goals and allocation or diversion of finance resources essential for realizing the potential of these goals, are the parts of strategic budget planning. The main purpose of strategic budget system is to facilitate a business to gain a sustainable edge as compared to its competitors as efficiently as possible. Furthermore, the MSMEs that engage in budget planning are those that utilize new process and manage the technologies, that are more innovative, and that achieve international growth (Wang et al., 2007).
2.4.3 SUFFICIENT CREDIT FOR ROUTINE OPERATIONS

Theoretically, there are some good reasons as to why cost and availability of credit may be more adverse for small enterprises. First, the fixed costs associated with supervision, loan appraisal, and collection are not small. This entails that it is preferable to give (larger amounts of) credit to a large enterprise than (small amounts of) credit to small enterprises from the perspective of the lender. Second, small enterprises are not able to provide security against the borrowed loans (Radas and Bozic, 2009; Wilson, 1995).

According to the lender’s perspective, the cost implications that are associated with the possible liquidation of the borrower go up accordingly, further withdrawing incentives to lend to small firms. This further leads to the financial crisis within the small firms. Financial crisis put an adverse effect on the routine activities like purchasing of raw materials, training programmes, marketing of existing product or totally new product, import and export of goods etc. Marketing of products is also associated with the availability of finance. Due to lack of finance, marketing and production of any product is totally impossible and without financial aid it is difficult to launch a new product in the market. Therefore, it becomes very difficult for MSMEs to perform their daily activities and stand in this competitive world (Asian Development Bank, 2009).

Most of the MSMEs are found to have borrowed funds for procurement of raw materials or for their initial set–up. Also, it has been found that the average waiting period for getting funds for these activities is 3–4 months which remains as a major obstacle for MSMEs. Various authors have supported the observation that government should participate in these activities by setting up special funds that can help MSMEs to set up initial business. Most of the MSME entrepreneurs agree on the view that government should provide advance and guarantee free loan up to a certain limit (Chowdhury et al., 2013; Masurel et al., 2010).

2.4.4 FINANCIAL STRATEGIES FOR PROPER UTILIZATION OF FUNDS

MSMEs often fail to utilize funds and face capacity related hindrances. The required utilization of financial resources is also affected by the style of management such as telephone management, remote control or even weekend management. It is characterized by inefficient planning and control, lack of financial management, no budgets, set–up of poor objectives leading to non–utilization of available resources (Biryabarema, 1998).
MSMEs lack business knowledge regarding the profitability and feasibility and risk of enterprises (Pfeffer, 1998). They do not separate their salaries from cash sales and their working capital keeps on diminishing because they keep on spending from cash sales. There also exists a funny style referred to as “ostentatious orientation” when some entrepreneurs behave like chiefs. They start showing off all the time which consequently leads to excessive expenditure. Entrepreneurs of these firms often would not like to learn new methods of doing things, new techniques, and ideas. All these activities in turn deny MSMEs the opportunity for utilizing the resources effectively (Biryabarema, 1998).

Different financial strategies are used for efficient utilization of available funds. A strategy is conceptualized as functioning at both the competitive and corporate level. Corporate strategy is the portfolio of various activities in a firm that is influenced by defined plans and actions. Functionally, this can be viewed as the management of diversified set of assets, level of diversity achieved, and the methods employed to achieve that desired level of diversity (Ramanujam and Varadarajan, 1989).

Competitive strategy is about the extent of investment in firm–specific assets and situation of a company in its market place. It identifies required investments in assets such as know–how, R&D capability etc. Firm–specific assets may unfavorably affect the ability of a firm to borrow competitive advantage as well as its uniqueness (Jordan et al., 1998).

2.5 TECHNOLOGY DYNAMISM

Technology plays a vital role in development and growth of MSMEs as it helps in maximizing business opportunities for these enterprises. Technology in MSMEs should aim at fuelling business agility and innovation (Arthur, 1994; Huang and Brown, 1999). Today, most of the MSMEs in rural areas are undertaking production using traditional methods and outdated technology. Unlike in the past, when buyer was just looked forward to purchase desired products at the lowest price, the competition today is fierce (Baporikar and Deshpande, 2015). There are additional challenges to be met in today's competitive world. China is considered as the word’s manufacturing backyard, due to its low labour and manufacturing cost when compared to those in India (Kalra, 2009).

Success of an industry depends on its production processes, technology deployed, and its marketing abilities and costing. Enterprises that are successful at one period of time may not
and/or will not remain the same in a different period (Beer et al., 1984). Entrepreneurs will have to continuously adapt to the changes in the environment as time and environment change. To get the updates and to be in steady touch with the changes, the entrepreneurs will have to invest in efforts, time, and money. If they fail to keep in touch with the rapid changes happening around, they get left out which results in industrial failures and sickness. Traditional wisdom preaches investment in the future and at least a small share of the returns should be invested in the future— in the form of continued education, research and development or tie–up with research laboratories and educational institutions (Krishnaswamy, 2009; Tu et al., 2014).

The low levels of technology in the competitive environment and global market act as handicap for MSME sector in India. As a result, the sustainability of most of these firms will be in risk in the increasing competition offered from imports (Nath and Singh, 2010).

Outdated technology always causes failure to an enterprise. MSMEs can succeed in their course of actions through simple technological innovations and adaptations (Krishnaswamy, 2009). Following are the main restrictions faced by MSMEs in adoption of new technology:

- MSMEs are generally not aware of the advantages that advance technology would bring for them.
- MSMEs in general lack financial strength and technological expertise.
- These firms do not get complete support from government promoted MSME institutions, research institutes, large firms, technical or engineering institutions etc.

MSMEs do not have adequate information and potential to understand the totally new technology (Subrahmanya, 2012). Small firms which have achieved better technology are also able to achieve better economic performance in the form of increased growth of sales turnover with the passage of time. Overall, literature reports that technological dynamism plays a crucial role in building up the competitiveness of MSMEs both in the domestic market and in the international market (Bartel, 2004; Subrahmanya, 2012).

### 2.5.1 AVAILABILITY OF RAW MATERIALS AT REASONABLE PRICES

Raw material is one of the most important resources for an enterprise. It is the first step in manufacturing of products (Parr, 2002). Raw materials are very important for economic development of any nation and act as necessary inputs for industrial production that involves its transformation to finished goods. In the advanced nations of the world, very large
proportion of the national income is contributed by the manufacturing/industrial sector and that is because these nations are referred to as industrialized nations (Keeble, 1997; Lange, 2011).

For industrial production, the major sources of raw materials are considered as petrochemicals, chemicals, mining and agriculture including fishery and forestry. It has been observed that a large number of manufacturing firms engaged in industrial production, have lack of experience especially in less developed countries because they generally source their raw materials from abroad. As a result, the developing nations import huge amount of the raw materials (Oluleye and Oyetayo, 2010).

MSMEs generally face the problem of shortage of raw materials and further these industries cannot use the services of middlemen to get raw materials in sufficient quantity due to their weak financial position. In some areas there is an absolute shortage of raw materials or if it is available, it has a poor quality and high cost. Consequently, small units fail to utilize their full production capability which in turn increases their production cost and it adversely affects their competitiveness in the market (Mambula, 2002; Nath and Singh, 2010).

Efficient management of raw material strongly contributes towards the market share of any organization (Kache et al., 2011). MSMEs regard the scarcity of raw material supplies as an important constraint on production capacity of these firms, despite the availability in large quantity of such materials in India. Small firms are not able to take advantage of economies in purchasing materials and usually suffer from the disadvantage of their small size (Brautigam, 1994; Parr, 2002). These firms purchase only small amounts of raw materials as they buy individually. Small firms do not purchase in bulk and cost per unit is higher which results in minimum turnover. Wholesalers purchase in bulk thereby reducing handling costs for the suppliers. Foreign buyers are preferred who provide much needed foreign exchange as compared with small firms (Fossen et al., 2006; Thapa et al., 2008; James et al., 2014).

2.5.2 FINANCE FOR R&D AND NEW PRODUCT DEVELOPMENT PROJECTS

Technological change is considered as the key determinant of economic progress in the long run. Technological development represents the key engine for economic growth, through innovative actions and knowledge creation, is not a new idea in industry (Ughetto, 2008). Research is an activity which is useful in creating a new product, process or service or improving an existing product, process or service by discovering new knowledge and idea. It
involves information in inventing new products and/or processes with the use of resources for innovation of new methods of doing things (Elbanna, 2007; Kor and Mesko, 2013). It is defined as a company’s activity to improve current products and discover new products and also to provide new services as well as marketing techniques. It involves planned activities to create, improve, and commercialize new technologies.

Research and development is a creative work undertaken in order to enhance the stock of knowledge, of manpower, society and culture and the utilization of this knowledge to develop new applications (Oluleye and Oyetayo, 2010). Financial constraints, perhaps more severely apply to R&D, than to fixed capital investment as argued by a number of authors. Pertinent informational difference between borrowers and lenders arise due to capital market imperfections (Burgelman et al., 2004). Furthermore, the greater degree of risk characterized by R&D investment and complexity of assessing the future prospects of innovative activities, lead to a poor replacement for equity finance because of limited availability of deposits to secure firm’s borrowing. Small firms face credit constraints more likely as compared to larger businesses and such an effect becomes more severe in these kinds of firms (Ughetto, 2008).

Government finance can act as an important source of innovation policy for industrial R&D in small firms. In developed countries, government finance of private R&D leads to innovation and growth of manufacturing organizations. R&D subsidies have potential impact on performance of MSMEs and economic growth of a nation and these subsidies are another source of innovation policy (Hyytinen and Toivanen, 2005).

2.5.3 STATUS OF PROCESS TECHNOLOGY IN USE

Characterization of MSMEs has been made by the nature of technologies they are using i.e traditional or indigenous technologies. The production techniques and processes employed by these firms are making them uncompetitive in the present global environment (Radas and Bozic, 2009). Consequently, these firms need to exploit appropriate technology to improve their international and national competitiveness. The old methods of technology transfer and diffusion should be evolved in new and more efficient ways along with technology–based innovation for developing opportunities in the global place markets. It has been said that MSMEs are not able to take advantage of the imported technology or expertise for achieving the desired results (Jones and Jain, 2002).
MSMEs face a variety of constraints in acquiring new and appropriate technology in the era of globalization and trade market. Innovative MSMEs seek international collaborations in conducting prolonged innovative activities. Governments also support their universities and national R&D institutes to help small firms in achieving better performance through innovation initiatives (Rogers, 1995; Acharya, 2008).

MSMEs need to create a niche for themselves by strengthening their technological base to make themselves competitive (Motwani et al., 1998). There are huge opportunities for small firms if they can improve their capabilities to adapt up to date techniques of marketing, management, and production. They occupy a significant place, especially in developing economies and act as immediate and final producers as they contribute considerably in terms of employment and wealth (Wright et al., 2005).

They also often face problems in their transition from traditional processes to high technology after the introduction of more precise and faster technologies like numerically controlled machines, CAD/CAM etc. MSMEs therefore require enhanced support both domestically and internationally (Cheng, 2002; Tunzelmann and Acha, 2005).

2.5.4 INCREASE IN PRODUCT RANGE DUE TO TECHNOLOGY INNOVATION

New product development is considered as a major contributing factor in the growth of small firms (Temin, 1979). New products and processes raise the control of the firm over market and their competitors (Mansfield, 1968, 1971) and lead to greater sales volume and enhanced profitability (Kotler, 1999). Enhanced manufacturing performance and high levels of competitiveness are positively linked with the levels of innovativeness toward new product development (Nonaka and Takeuchi, 1995).

It has been characterized as a key element of successful business (Dosi, 1988). Development of new products results in higher percentage of sales and leads to high growth of companies (O’Gorman, 1997). Non–innovating firms have higher probability of declining employment as compared to innovating firms (Frenz et al., 2003) and at the same time non–innovative businesses grow less than innovative ones (European Commission, 2004).

Technological up–gradation is at the heart of innovating new products and it is true that firms involved in technological innovation get the feedback from the market on what kinds of products need to be developed, how to produce them is, on most instances, a technological
issue. A company’s capability to respond to the question ‘how technology at our organization is slightly moulded to create different variety of products to provide an opportunity regarding unfulfilled needs’ is determined by the status of its technology policy (Sobanke et al., 2014).

It reflects commitment of an organization to innovation and its innovative attitude. It includes such things as recruitment of technical personnel, commitment of funds to technology development and at the same time building and maintaining a habit of being at the forefront in an industry with respect to a technological area (Wilson et al., 1999). Soderquist et al. (1997) studied the relationship of well–developed technology policy to a firm’s innovative performance and state that firm’s technology orientation is reflected by the presence of a precise policy to deal with the problems of development of new products, ideas, and processes. An organization’s strategic position has been often analyzed to have an impact on technology innovation incorporated by a defined technology policy (Ettlie and Bridges, 1982).

Market research has proved that customer’s requirements are varying from time to time. In order to fulfill their varying requirements, it becomes necessary to develop different kind of products on a continuous basis. New technology is a must for manufacturing of these new and advanced products. Therefore, technology up–gradation is essential for any firm to survive in this competing world (Cooper, 1994).

2.5.5 IMPROVEMENT IN PRODUCT FEATURES DUE TO TECHNOLOGY INNOVATION

To satisfy customers as per their requirements, to stay in competition and to enhance the performance of firm, it is required to improve the features in the existing product along with reduction in the manufacturing cost of product. Lack of technology development and often distracted product improvement techniques are obstructing the productivity of MSMEs (Stauffer and Kirby, 2003). Four key factors that can ensure and improve competitiveness of these firms namely: low cost, short lead times, adapting products to different customer specifications, and improved product performance. Cederfeldt and Elgh (2005) argue that one way to get competitive advantage is to implement approach where products are manufactured by using a prepared design. Their study reveals that there is presently a varying state of design automation in MSMEs. Stokes and Wilson (2006) also emphasized that more efficient and effective design processes are required to improve the product features.
Product propagation in MSMEs is another major problem as small manufacturer are less profitable than large manufacturer. There is a general practice of introducing instant and new products, which is done with a little regard for their compatibility with other products in production. This results in the large portfolio of products whereas in small firms, simple and easy product development processes are needed. The complex design processes which are normally successful in large manufacturing firms cannot be effectively utilized in small firms. One reason for this is that their technical team desires to see instant reduction in production cost and time required, which may be long term goal with available design processes (Keete, 2004).

The following factors are responsible for limiting the effective product improvement in MSMEs:

- The product development processes are often not clearly defined in MSMEs.
- MSMEs, in common practice, lack resources in terms of management time, cash flow, available expertise and adequately trained workforce.
- Other major obstacles in product improvement include lack of design knowledge, lack of formalised databases, poor documentation, absence of corporate product structure, and shortened improvement time (Maupin and Stauffer, 2000).

2.6 SYSTEMATIC PLANNING

A strategic plan acts as the key variable to the management success as it is a written document for a company to plan future development and growth in order to get more customers. For small firms, strategic planning is especially more important because these firms are very vulnerable even to the smallest change in market. Most significantly, strategic planning is a “blueprint” which helps developing and maintaining a superior competitive advantage in the market place (Wheelen and Hunger, 2008).

Top management in a firm makes decisions regarding allocation of resources, scrutinizes and analyzes internal and external factors and organizes the firm’s relationship with other stakeholders as well as ensures an efficient production system by using strategic management (Ojala et al., 2006). It becomes more crucial in circumstances when firms are facing uncertainty, either due to natural disasters or global recession (Carey et al., 2011).
Strategic planning helps in achievement of specific vision and goals by providing policies and guidelines. It is a key instrument for the overall strategic management as it identifies the scope and basic conditions for future business activities (Berry, 1998).

2.6.1 ANALYSIS OF OWN POTENTIAL
A Company’s whole operations require critical evaluation before starting a new project. It involves almost each and every employee as it often means to alter all the business processes. All the processes, people and culture related to firm’s environment, create potential problems which must be taken into account in the project (Wilson et al., 1999).

The amount of strategic level risks is quite large in the selection phase. Before going ahead, the basic queries are to be answered. Why new system is needed? What do we want to get out of it? In our company, how these goals and objectives can be achieved? There is no logic of starting anew project prior to these queries answered properly. There are some greatest risks in the selection phase which include: choosing poor project manager or project team, buying an incorrect system, poor integration of new system to remaining systems, having little knowledge regarding project, and choosing an unfit system that will not adapt to the future business requirements (Wheelen and Hunger, 2008).

In the implementation phase, there is the greatest amount of risk. Here, a large amount of risk has been noted in workers that try to adapt to new systems and change management. Also, project management issues such as budget, schedule, and project manager functionality and team are seen as great risks. Concern regarding appropriate education and fears about the impact of these projects on operational activities is also considered in this phase (Li and Wu, 2010).

The final phase in the successful implementation of a new project is maintenance and resources. In this case the amount of risks is rather small and is linked to well–organized usage of new system and controlling it from slipping into old procedures. A major concern in this phase is the risks related to the life–cycle of the product (Greening et al., 1996).

Complexity, ambiguity, and uncertainty associated with the product as well as project requirements, collectively influence the complexity of managing various projects. There are different activities that depict the complexity of project and must be carried out to complete
the project. Project management in the past consists of handling the complexity of a project through hierarchical decomposition (Simon, 1996).

An improved approach towards a complex project management is to decompose it into simpler and more manageable activities that are processed independently and later on can be integrated into a finished product. The hierarchical decomposition of complex and uncertain projects works quite well, and the literature also provides several analytical methods to support project success (Bailleti et al., 1994; Pich et al., 2002).

2.6.2 USE OF STRATEGIC PLANNING TOOLS AND TECHNIQUES

Strategic planning is the process which has been examined by a number of economists during the last thirty years in detail. Strategic planning tools are considered as an important part of a strategic planning process, as advocated by strategy scholars. Despite their significance in effective strategic planning, there has been limited research regarding usage of strategic planning tools to date. Mainly, the empirical studies about tool usage have included these as a part of a wider study like strategic management and planning processes (Glaister and Falshaw, 1999; Stonehouse and Pemberton, 2002; Koufopoulos et al., 2005; Elbanna, 2007).

To identify and deal with strategic management decisions and to assist managers, a variety of tools and techniques have been developed in the recent past (Fleisher and Bensoussan, 2003). These tools and techniques are used by managers for making decisions and taking actions by changing valuable data into appropriate forms (Ramanujam et al., 1986). It also helps in reducing the risk associated with making certain decisions, to establish priorities in large complex companies, and to evaluate the relative importance of different business portfolios. Furthermore, these tools act as an essential communication device and may support the appearance of complex issues in addition to their already accessible analytical role (Frost, 2003). The importance of these tools and techniques has been highlighted by various researchers in manufacturing organizations. Some of the most commonly and regularly used tools are benchmarking, what if analysis, and analysis of critical success factors. On the other hand, SWOT analysis, stakeholder analysis, and product life cycle are used only moderately in manufacturing organizations. Various operations management tools such as demand forecasting, material requirement planning, master production scheduling, inventory control etc. are also used for improved production planning and control (Al Ghamdi, 2005).
Lack of using strategy tools and techniques, as indicated in the literature is due to the gap between their use and awareness in managers regarding them. Also, managers who are aware of most of these strategic planning tools and techniques may not always use them for planning activities. Therefore, for enhancing the strategic performance within small firms, entrepreneurs and managers are required to improve their knowledge and skill regarding use of these techniques by attending specialized and appropriate training programs and courses (Scott et al., 1986; Shim, 2010).

2.6.3 KNOWLEDGE OF ENTREPRENEURS

The definition of entrepreneur depends mainly on the focus of the research that is under consideration. An entrepreneur can accomplish different functions in an organization (Storey, 1999). Hebert et al. (2012) defined an entrepreneur as: “someone who dedicated in taking responsibility for and making judgmental decisions that affect the location, form, and use of resources, goods or institutions”. Wennekers and Thurik (1999) also provided another definition of an entrepreneur in which they focused on the introduction of new ideas in the competitive market insight of new economic opportunities. Entrepreneurs with their knowledge and experience, identify challenges and opportunities, assemble necessary resources and implement a practical action plan to harvest the reward in a timely and flexible way”.

In India, entrepreneurship development has been made as a part of the overall development action plan especially within MSMEs (Asian Productivity Organization, 2007). Entrepreneurship is regarded as a motivating force behind small firms regardless of their differences in definition. It can considerably contribute in achieving firm’s key policy objectives as suggested by available literature regarding entrepreneurship. Entrepreneurship is influenced both directly through establishment legislation or support policies as well as indirectly through policies which are not directly meant to influence the level of entrepreneurship (Hebert and Link, 1989; Fiet, 1996; Audretsch and Thurik, 2000).

Following are some of the major areas regarding contribution of levels of entrepreneurial activity:

- Create challenges and opportunities – careers, job creation, technology development, and new products/services.
- Productivity improvement, economic development, and innovation.
• Social opportunities and poverty alleviation.
• Open up new markets and create new customers.

Furthermore, entrepreneurs’ attitudes towards concepts of strategic planning, and their responsibilities are often crucial in MSMEs (Fossen et al., 2006).

There are potential and large number of benefits of strategic planning; some of them include:
• Assembling all business activities to enhancing coordination in an organization.
• Performance evaluation and better control towards fulfilling objectives.
• Recognizing market opportunities for enhanced growth.
• Increasing communication among employees.
• Motivating employees to adapt changing environment.
• Enhancing the manufacturing performance of organizations (Talukder and Quazi, 2010).

Numerous empirical studies have acknowledged a positive relationship between strategic planning and organizational performance in spite of the controversy regarding their contribution in an organization (Greenley, 1994; Fossen et al., 2006).

2.7 PHYSICAL INFRASTRUCTURE

The availability and accessibility of physical infrastructure at reasonable price is considered as a potential factor for small firms to grow and nurture innovativeness. Unfortunately, small firms face infrastructural constraints and this area has been neglected in most of the examinations related to these firms. Furthermore, the extent of infrastructural constraint or inadequacy is extremely affected by the location of a firm and varied between urban, semi–urban and rural areas (Das, 2008).

A limited access to public infrastructure services and an underdeveloped physical and social infrastructure are the major constraints to the growth and survival of MSMEs. The poor infrastructure including roads, cold rooms, working buildings, warehouses, power, water and communication adversely affect the development of MSMEs. Unlike large private sector corporations which can meet the expense to finance their own private infrastructure like power and roads, MSMEs rely heavily on public infrastructure whose supply is sometimes costly and unreliable (Williamson, 2000). Unavailability of power supply, especially in small firms raises the cost of development resulting in the lack of reliability and reduced productivity, production of poor quality products and failure to fulfill
orders. An underdeveloped infrastructure restricts access to markets and raw materials, limits operations, limits private investment, and therefore hinders the growth of these firms (Reinikka and Svensson, 2001).

Inadequate power supply, water supply and transportation are some of the major the factors contributing towards infrastructural lacking. Small firms are always dependent upon electricity boards for continuous power supply and are unable to set up an independent power supply unit because financial constraints. Inadequate transportation system results in increase of production cost. As per the study conducted by Das et al., (2001), out of 1106 surveyed firms, 697 firms (more than 63%) agreed that they have serious infrastructural problems (Lahiri, 2012).

MSMEs are either located in rural areas in an unorganized manner or in industrial estates. The status of physical infrastructure is unreliable and poor especially in rural areas which include water, good quality roads, uninterrupted power supply etc. Availability of requisite infrastructure, skilled manpower, and latest technology are essential to follow global trends thereby ensuring competitiveness of these firms (Nath and Singh, 2010).

2.7.1 ECONOMIC AND RELIABLE POWER SUPPLY

Electricity is considered as the major source of energy/power to operate the machines. The quality of power supplied to the industrial sector defines the industrial growth of any country. Singh (2012) in his study concluded that power supply to the MSMEs in India is not as per necessity. The business sector in any nation has proved to be adversely affected with poor electricity supply in today’s competitive environment. In India, supply of electricity is unstable for small scale sector (Adenikinju, 2003).

India is consuming about 3% per annum of the world’s total energy and is the world’s sixth largest energy consumer. Enhanced population along with economic growth is the main reason for increased demand to the levels beyond the production capacity in India. The requirement of electricity in India is exceeding supply by nearly 6% and 11% respectively in terms of total and peak requirements. India’s electricity sector faces problems of capacity, poor reliability etc. because of the growing demand of power. The expected power shortage is assumed to be between 11 to 18 percent (UNDP, 2007).
There is tremendous pressure on Indian power supply sector to bridge the existing gap between supply and demand. Small firms generally face problems of power cuts, unstable voltage dips, and surges. The sensitive computerized numerically controlled (CNC) machines are very prone to breakdown even due to slight variation in voltage which causes loss of heavy investment (Gedam, 2011; Venkatesh and Muthiah, 2011).

Damage to materials and equipment have been caused due to power disruptions and high frequency of interruptions increases maintenance and repair costs. Most of the organizations have installed their own generators in response to power shortages. Additional power generators installed by such firms are reliable and economical, as per unit cost is lesser than the supply from the public grid (Ponmani, 2011).

2.7.2 GOOD RAIL AND ROAD INFRASTRUCTURE

Good transportation means are a very essential infrastructure facility for development of MSME sector in any country. In the lack of this facility, industrial development cannot be expected. Transportation network improves the accessibility to an area and also the movement of goods and passengers within the area. The raw material is brought from other areas and finished product is then transported to various parts of the country/region through the transport network.

Effective transport infrastructure consists of good quality roads, rail network, and air transport which decrease the cost of business operations and facilitate organizations to transport goods and services to market in a timely manner. Indian MSMEs primarily use the road transportation system for transport of goods within the state or railway system for inter–state transportation (Ponmani, 2011). Roads in India are divided to three groups:

- National highways
- State highways
- District and rural link roads

The rail network is very important for industries to carry heavy and bulky goods inside and outside the state (Kaushik and Kaur, 2011).

Table 2.1 presents that there are world–class roads, air transport facilities, railway and cost effective freight in Singapore. India has quality rail road, besides severe capacity and quality constraints in road, port, and air transport as compared to Sri Lanka and Singapore. In Sri
Lanka, road conditions and standards are poor to fulfill the requirements of rapidly growing freight and passenger traffic (World Bank, 2011).

Table 2.1: Status of Transportation in Asian Countries (World Bank and the International Finance Corporation, 2010–2011)

<table>
<thead>
<tr>
<th>Elements</th>
<th>Singapore</th>
<th>India</th>
<th>Sri Lanka</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of roads</td>
<td>01</td>
<td>90</td>
<td>55</td>
</tr>
<tr>
<td>Quality of railroad</td>
<td>06</td>
<td>23</td>
<td>40</td>
</tr>
<tr>
<td>Quality of ports</td>
<td>02</td>
<td>83</td>
<td>44</td>
</tr>
<tr>
<td>Quality of air transport</td>
<td>02</td>
<td>71</td>
<td>62</td>
</tr>
</tbody>
</table>

Uneconomical management of buildings and lands, signaling systems of rail infrastructure and deteriorated tracks also cause hindrance in business environment. Poor quality roads, port, rail road, and air transport facilities create delays in transport of goods and services at the right time to the right place (Ponmani, 2011).

2.8 MARKET RESEARCH

Small firms are generally started by highly motivated and hardworking individuals, with ambition and vision, attributes which if combined with a marketing orientation can increase the firms’ possibility of success. The future of small and young firms is eventually determined by the marketing challenges faced by them in the beginning (Singh et al., 2009). Presence of markets and products is just not sufficient for small business success, but effective marketing of those products within the concerned markets is also required (Cromie, 1991).

There is a lack of marketing strategies in small firms and is supposed to be often problematic as compared to large firms despite the equality in fundamental principles for both the sectors (Romano and Ratnatunga, 1995). SMEs have been characterized as innovative, dynamic, and efficient and their small size allows for immediate feedback, flexibility, better understanding, quicker response to customer needs, and a short decision–making chain (Smith, 1990).

Small firms are faced with a mixture of market and competitive circumstances (Brannen, 1983); are assumed in general not to engage in innovative or marketing practices (Cannon, 1991) although innovation can be more rapidly facilitated by their flexible organizational structure as compared to the larger firms that have more bureaucratic structure (Matthews and
These firms have natural production and pricing flexibility, but normally lack market power and strong brand names (Chen and Hambrick, 1995); have less goal conflicts, and at the same time are incompetent in the efficient utilization of marketing techniques (Stasch and Ward, 1987).

In addition, small firms are generally characterized with the limited customer base, an over dependence on the owner/manager’s marketing capability, lack of marketing activities, absence of planned marketing (LaBarbera and Rosenberg, 1989); and inability in facing market challenges (Hankinson, 1991; Stokes and Fitchew, 1997). Lack of marketing expenditures is another difficulty for these firms as the higher level of sales returns are generally absorbed by unchanging costs of products generally. Literature highlights the unwilling nature of small firm owners/managers in eliminating a dearth in marketing expertise by incorporating formal training programmes (Chen and Hambrick, 1995).

2.8.1 USE OF MARKET FUNCTION TO COLLECT INFORMATION

The constraints for hindrance of marketing function in MSMEs include firm size, poor cash flow, lack of marketing personnel, strategic and tactical customer–related problems. Leppard and McDonald (1991) stated that in MSMEs, the presence of the entrepreneur had a substantial impact on almost every aspect related to the marketing activities. Small firms aim at protecting themselves from direct competition and begin their marketing strategy with the same thinking (Kotler, 1977).

Small firms react more quickly to changing market demand a compared with large organizations due to their flexibility which forms an important competitive strength for these firms (Heathfield, 1997). Suitable marketing tools must be welcomed in small firms for improving marketing activities of these firms as they are already constrained in terms of resources. Small firms have different needs in terms of marketing and also the inbuilt nature that have an impact upon the ability as well as willingness of their entrepreneur to make use of marketing techniques and tools (Bennett, 1993).

Most of the entrepreneurs in small firms rely on their previous work experience, technical knowledge and judgment (Lilien et al., 1992), while adopting a marketing strategy to identify changing customer demands without taking feedback from them (Stokes and Fitchew, 1997). Marketing and selling boundary of small firms becomes much distorted, because marketing only takes place during selling of the product and large number of entrepreneur of small firms...
consider selling as marketing. Marketing has varying importance to individual organizations and cannot be easily standardized (Oakey, 1991).

Marketing supports the expansion of business and in turn growth of sales and market share of a firm in today’s competitive environment. For determining the competitive advantage and recognizing the market position of a firm, feedback from customer regarding its behavior with respect to the product is required (Cooper, 1994; Wright et al., 2005).

2.8.2 PROPER MARKETING STRATEGIES
Marketing is generally considered as a method of attracting new business in small firms by proper utilization of marketing strategies to improve customer base (Stokes and Wilson, 2006). Various studies related to marketing practices in MSMEs report that these firms usually focus on sales as they are often sale driven and not market. There exists a gap between success of small firms and the role of marketing strategies (Romano and Ratnatunga, 1995). The available studies do not highlight the reasons or operational limitations of failure to implement, develop and maintain a marketing strategy in an organization (Pich et al., 2002; Keefe, 2004; Ponmani, 2011). Entrepreneurial marketing is classified into three best-known forms as shown in Table 2.2.

Table 2.2: Forms of Entrepreneurial Marketing (Marjanova, 2008)

<table>
<thead>
<tr>
<th>Form</th>
<th>Main characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guerrilla Marketing</td>
<td>Bootstrapping, creative/leveraging use of available resources and a highly targeted mix of innovative and effective communication techniques, networking, using energy and imagination; low cost.</td>
</tr>
<tr>
<td>Buzz Marketing</td>
<td>Customer–generated information distribution by verbal means, especially recommendations, through personal networks by creating excitement, infatuation and enthusiasm, often connected to events.</td>
</tr>
<tr>
<td>Viral Marketing</td>
<td>Self–replicating promotion spreading and multiplying like a virus over community webs. Similar to buzz marketing, but more Internet oriented.</td>
</tr>
</tbody>
</table>

To this end, market or marketing orientation, that is “marketing concept”, becomes essential for better performances in the long run thereby enabling small firms to take advantage of sustainable competition (Marjanova, 2008). However, small firms do not acquire requisite
skills and resources as compared with larger firms and become more hesitant to adopt a marketing strategy as indicated in the research (Verhees and Meulenberg 2004).

MSMEs usually lack marketing specialists and their entrepreneurs are typically the only decision makers. Therefore, an alternative to adopt or not adopt a marketing strategy depends upon their thinking as well as expectancies about such an approach in their company (Bennett, 1993; Radas and Bozic, 2009).

2.8.3 UP–TO–DATE MARKETING KNOWLEDGE

Today’s global marketplace is extremely competitive with characteristics of speed and change in general and expectations of customers are concerned with more features and modifications in the existing products on continuous basis. New possibilities in the market and enhanced use of new technologies also significantly affect the methods of production especially in small firms. There is a need to continuously adapt the changing requirements of the market and organizations need to update the methods of operating businesses (Marjanova, 2008).

SMEs should re–look at their business model and set up their core competencies, through technological upgrading, innovation etc. Market strategy differentiates the winners and the losers and small firms must be market driven for successful implementation of these strategies. This approach is also needed for launching the product in the market. Market knowledge seems to be very important that helps micro and small enterprises in identifying their competitors (threat for their existence) in the market (Trivedi, 2013).

Successful implementation of market strategy helps small firms in developing a competitive advantage through customer feedback, requirement and knowledge for reorganization in the market. Recent research demonstrates that MSMEs do not adopt marketing strategies to the level that exists within larger firms to achieve organizational goals and objectives. In MSMEs, the characteristics like small size, lack of resources, entrepreneur inability, and unawareness regarding adaptation of marketing concept etc. greatly influence implementation of marketing strategies (Marcati et al., 1998; Kor and Mesko, 2013).

Limitations in resources and size causes small firms to be more dependent on the market situation, therefore this approach becomes more important for these firms as compared with larger enterprises. To enhance customer base and to present a strong value in the market,
small firms are required to plan and implement a well structured marketing strategy. Most SMEs understand the significance of marketing and how it can add more value, but some of the above issues have stopped them to look into marketing over sales. Literature related to small firms and marketing concept emphasize that a market driven approach can result in enhanced organizational performance and a positive relationship among market strategies and organizational performance (Tidd, 2001; Afuah, 2003; Marjanova, 2008).

2.9 ORGANIZATIONAL CULTURE

Culture is known to be a dynamic concept which is understood to some extent by nearly everyone surrounded by the culture. Literature states that culture should subsist as a function of the cognitive machinery (Deshpande et al., 1993). It is a set of universal beliefs and values which help the members of the organization to understand the purpose of that particular organization and set some norms for their behavior in the organization (Brooks, 2008).

The need for creating a superior value for customers and to attain the sustainable cut–throat advantage drives a business to maintain and create the culture that can create the necessary behaviors (Narver and Slater, 1990). The difference in established cultures between small and large organizations occurs because of the age of the organization, the span of activities, existing preferences, and geographical dispersion. The existing culture gives rise to specific decisions, activities and policies. Culture is highly perceptual and informal, but generally shows that what kind of activities or behaviors are necessary for success in a particular business (Ghobadian and Gallear, 1996).

2.9.1 UNDERSTANDING OF ORGANIZATION’S MISSION AND GOALS

There exists a unique purpose and reason for survival of each and every organization. This uniqueness reflects in organization's mission statement (David, 1989). The mission statement provides a good and concise response for query “what is your business about?” Boost confidence, professionalism and engenders shows an effective and informative answer to this question (Analoui and Karami, 2002).

A sense of mutual expectations is promoted by this mission statement among the employees and it also communicates a public image of the firm to their main stakeholders (Wickham, 1997). The mission report also ensures synchronization of purpose in an organization across all levels and also generations of firm’s employees. It brings together one and all towards one
purpose beneath company goals (Toftoy and Chatterjee, 2004) and also establishes considerate of the purpose and goals of a company in employees (Scandura et al., 1996) which leads to rise of their commitments (Toftoy and Chatterjee, 2004) and consequently attains higher levels of organizational performance (Campbell et al., 2001).

Campbell et al., (2001) suggested that there may be situations when inappropriate missions and goals can occur. This situation may be where the management team is changing or is unlikely to be stable, where strategy is not certain or is expected to vary, or where tough differences exist among members of the management team. In those situations maintaining flexibility in values and overall strategy is a necessity.

2.9.2 WORKING ENVIRONMENT IN ORGANIZATION

In the past 30 years, safety scientists regularly directed their interest to the organizational environment; in particular to the concept 'safety culture’ to consider maintenance and improvement in their responses to work–related risk. Yet there is inadequate literature regarding studies of cultural environments within SMEs (Marcati et al., 1998).

Zohar (1980) viewed organizational climate as “a review of the molar perceptions that employees share about their work environments”. From the review of existing literature, he outlined the determined safety climate dimensions as with:

- Management commitment to safety.
- Rank and status of safety officers — frequency of communication and contact between management and workers, and frequency of inspections.
- Use of safety devices, level of general environmental control, and housekeeping.
- Flexible and practical systems for risk management
- Average age of workers, stability of workforce and turnover.
- Methods of safety endorsement and continuous knowledge about safety in the workplace.

A subject of educational interest for a number of years is high performance work systems (HPWS) and there is now considerable evidence indicating the positive relationship of such systems with improved business presentation (for exemplar, Sheppeck and Militello, 2000; DenHartog and Verburg, 2004). Sung and Ashton (2005) define HPWS as “work practices that are intentionally introduced with the purpose of improving business performance”.

39
A generally accepted definition of HPWS is ‘sets of complementary work practices covering three broad areas of practices’.

### 2.9.3 ORGANIZATIONAL PRACTICES AND POLICIES

Organizational practice and policy can be defined as a set of policy actions which are planned to increase the efficiency and amount of innovative activities where ‘innovative activities’ refer to the adaptation, creation and adoption of innovative or improved processes, products, or services (Bennett, 1993; Huang et al., 2004; Sirmon and Hitt, 2009). The Organization for Economic Co–operation and Development (OECD) (1996) indicated that an efficient innovation policy strategy should merge a number of structural and macroeconomic policies actions and its success will depend on the complementarities and communal support among the different policy actions and validity of the policy framework. In certain aspects of national innovation systems, the deficiency of coherent policy practices can limit and also offset the effect of other well–functioned policies and destruct the effectively and efficiency of the whole system (European Commission, 2004).

While individually SMEs may have small financial, social, and environmental impacts, but together their impact is major. One of the basic questions in related prose is how a single economic unit, particularly a small–scale enterprise, can be unavailable in the uptake of sustainability practices (Landabaso, 2000).

However, policy and economic agents may also want to communicate more than price or ability, to deal with the doubts attached to knowledge and innovation. The traditional concept of markets and (state) hierarchies with respect to their formal, linear, and anonymous communication, fails to incorporate these broader information requirements. The uncertainties attached to predict the future is termed as one of the reasons why a market as communication and co–ordination mechanisms may not perform very well. The market may fail to envisage the economic value of new products, new technologies, new resources, new firms, or new entrepreneurial capabilities (Ominde, 1964; Nauwelaers and Wintjes, 2002; Bartel, 2004).

In predicting the future, although policy makers face difficulties, this kind of market strategy is a broadly accepted explanation for public intervention. For example, ‘a generic national policy tool, like a tax–reduction scheme, seems appropriate to ‘protect” these young, new entrepreneurial experiments, providing them a chance to prove themselves and to encourage
the market (that is, customers, but also labor and financial markets) of their potential and, moreover, to encourage the government of their possible contribution to the region and its policy goals’. The same view may hold true for new technologies or a young regional cluster of firms, or sectors or even older non–innovative organizations that wants to and are trying to become innovative (McEvoy, 1984; Acharya, 2008).

2.9.4 CAREER DEVELOPMENT OPPORTUNITIES FOR SKILLED EMPLOYEES

Career is defined as a “sequence of life experiences over time” (Arthur, 1994). It involves the career model, decision–making style, incorporation of life roles, self concepts, and values expression. Career development is influenced by lifelong behavioural and psychological processes that consequently help in career advancement of an individual throughout the lifespan (Herr and Cramer, 1996).

In order to remain competitive in the current economic environment, organizations are required to be more flexible in the advent of enhanced market demands and rapid changes (De Vos et al., 2009; Lazarova and Taylor, 2009), which has an influence over career development patterns of an individual. Current career patterns have replaced the employment security with employability (Spokane, 1991; Inkson and King, 2010).

An individual’s career potential is governed by acquisition of skills, new abilities, knowledge, and other characteristics that have value to the current and prospective employers and thus includes employability. It is therefore regarded as a significant factor in understanding modern career success (Lado and Wilson, 1994). However, in recent years, the research on career success and employability has been carried out equivalent to one another, but literature lack in highlighting the relationship among career success and employability. In addition, employability improvement has not been studied with respect to the combined effects of individual and organizational initiatives (Hall, 2002).

Career development interventions include career development responsibilities for empowering individuals (Fugate and Kinicki, 2008; Hallier, 2009). Following are some of the important activities that seem helpful in developing individual’s career:

- Awareness regarding self abilities;
- Skills related to make effective decisions;
- Occupational awareness;
- Attainment of skills related to search of a job;
• Making balance between life and occupational choices;
• Capability to deal efficiently with challenging conditions.

Career development schemes for individuals should be made available through a variety of informal and formal mechanisms e.g. workshop–based activities, one–to–one discussions, educational activities, web–based career information systems, web–based career development programmes, and/or email/telephone help lines. Local policies and availability of provision largely affect the access to these services both within and outside an organization. Sometimes, career development opportunities are linked with the performance review of an individual; on the other hand, these kinds of reviews raise individual levels of awareness regarding career development requirement and personal growth (Bacon et al., 1996; Kaman et al., 2001).

2.10 COOPERATION NETWORKS
The skills like ‘cooperation Networks’ are needed to transmit skills, information, and technology to, and receive them from, component or raw material service firms, subcontractors, suppliers, consultants, and technology institutions. Such linkages affect the enterprise’s productive efficiency (allowing it to specialize more fully) as well as the technology diffusion through the economy and the deepening of the industrial structure, both essential for development of industries (Meyanathan and Munter, 1995).

2.10.1 INTER–FIRM NETWORKS
Inter–firm networks entail all possible forms of economic interaction among firms to achieve competitive and cooperative advantages. Several forms that an Inter–firm linkage can have are: forward, backward or horizontal. Backward networks exist when large firms acquire services or goods from smaller firms and forward networks occur while one firm sell goods or services to a different firm. Horizontal networks involve communications with firms of the same industry for joint ventures (Kumar and Bala Subhrmanya, 2010).

While comparing the innovation–related characteristics of large firms with small firms, it reveals that an innovative disadvantage of large firms can prove as an innovative advantage for small firms, and vice versa, which can make partnership between firms of two different sizes advantageous for the parties. As a consequence, the alliance between small and large
firms, which characteristically have opposite resources, can facilitate innovation success (Meyanathan and Munter, 1995; King et al., 2003).

From an operational perception, collaboration has many forms which range from one–to–one alliances through to multi–firm industrial clusters. Even as the nature of alliances may vary, they all have to deal with a number of general issues like integration, trust, organizational barriers and ongoing learning (Betts and Santoro, 2011).

2.10.2 COLLABORATION BETWEEN INDUSTRY AND ACADEMIA
Evolving trend of knowledge advancement and new technologies has been represented by Industry–University (I–U) alliances. Collaboration among universities and industries has emerged as one of the priority in the OECD countries which has become a trend in European innovation policy. These kinds of relationships have been considered crucial to development of the innovation system of a country (King et al., 2003).

The collaboration of universities and industries lead to two types of transfers mainly; these are technology transfer and R&D results transfer. The R&D results transferred lead to innovative ideas in industries which lead to development of new product with the help of technology transfer from university to industries. For firms, U–I collaborations provide admittance to new knowledge as well as technology, can solve technological problems in products and manufacturing processes, and maintain access to highly trained facilities i.e students and faculty members in university (Mansfield, 2000).

A new pattern of Industry–University research strategic alliance is used to convert economic growth methods with the need to implement the scientific view on development. Among partners external to the firm, collaboration with universities has been considered as an essential component of innovation in knowledge intensive sectors within regions. Industry–University collaboration can kindle learning and help drive the advancement of new technologies (Angel, 2002; Feng et al., 2011).

2.11 GEOGRAPHICAL LOCATION
There is a significant impact of location on the growth opportunities and market potential of new firms and also on existing ones. Geological closeness to buyers as well as suppliers creates a form of improved environmental scanning that facilitates organizations to identify and utilize growth opportunities more easily in the market. It has impact on the
market panorama of latest firms. Appropriate location is very imperative to both new and recognized MSMEs and can have constructive impact on their performance (Olawale and Grewe, 2010). In general, geographic location has its connotation for access to markets and other resources like finance, infrastructure, skilled labor, distribution, subcontractors and transport logistics and other facilities. Also, the growth of MSMEs depends on appearance of neighborhood and maintained or continued operations of future business in that location (Thapa et al., 2008).

The urban areas have positive supply–side circumstances for development of firms (Keeble, 1997). The firms situated in urban areas usually have an ease of contact to consumers and the inputs required (i.e. finance, technology, premises, etc.) to construct goods or services. MSMEs situated in metropolitan areas may also benefit from ‘agglomeration economies’ and spatial externalities i.e. information, specialized labor, network of suppliers, concentration of existing exporters, specialized knowledge, specialized infrastructures, etc. (Malmberg et al., 2000; Parr, 2002).

It is identified recently that urban firms which are getting benefits from external agglomeration economies are more possible than the rural firms to be exporters. However, the costs linked with the mainstream of inputs are usually higher in urban areas, which may limit development of MSMEs (Chevassus–Lozza and Galliano, 2003). Enterprises situated in urban areas might face dissimilar closure possibilities as compared to their rural counterparts. More income is made by home–based enterprises in marketable areas as compared to similar enterprises in more far–off regions (Cortes, 1987). Firms situated in remote rustic areas are less energetic on various proportions of innovation which may be influenced by the verity that most of the rural areas lack in well developed business and financial service sectors from the urban areas. Moreover, a very less awareness and use of external business information have been reported by firms that are located in rural areas (Keeble, 1997).

In recent years, a lot of study has been done to find the reasons why industrial firms chose some particular geographical locations. Choices are made by Hi–tech industries are significantly different from those made by conventional industries (Frenkel, 2001; Vaessen and Keeble, 1995). Additionally, it has immense effect on MSMEs performance. More particularly, enhancing the export performance of MSMEs in local areas has become significant to researchers and governments (Vatne, 1995; Larsson et al., 2003).
Regional MSMEs grow slower than metropolitan MSMEs and on an average are half as gainful as their metropolitan counterparts. Moreover, higher incomes are being enjoyed by people living in metropolitan areas than people living in the rural regions and this space is getting bigger. However, almost 50 percent of nations export income is contributed by regional business which concludes that MSME exporters have the potential to become a major supplier in developing regional economies (MacGregor and Varazalic, 2005). In the perspective of exporting, location is viewed as an enabler of resource acquisition and capability development as it can offer advantages in one or more of these areas (i) access to positive networks and clusters that assist collaborative and knowledge sharing, (ii) intense challenge that leads to greater competitiveness, and (iii) accessibility to suitable infrastructure services favorable to the accumulation and flow of knowledge, information, and support systems (Huang et al., 2004; Freeman et al., 2010).

2.11.1 CONNECTIVITY WITH OUTSIDE REGIONS

The cost of doing business has increased significantly for MSMEs because of transportation connectivity problems by means of land and sea which is further compounded by disruptions in basic facilities and insufficient communication coverage (Trivedi, 2013). Development of any industry is highly dependent on the system of transportation in that area and MSMEs are adversely influenced by poor transportation system, especially in the remote areas. This risk becomes more powerful when the resources like raw material are available in the other parts of country (Tidd, 2001).

During the time of raw material shortage, the remotely located MSMEs become idle because of poor transportation system which could otherwise support them by delivering the required resources or raw materials from other parts of the country at appropriate time. Reduced connectivity of small firms due to poor transportation system to the other regions threatens them by export of finished goods to the right market and accessing customers (Zohar, 1980).

The next major base of connectivity to the world is telecommunication. Major source of telecommunication is internet. In the last few years, the utilization of internet has grown up. This has facilitated high access to internet as it has become comparatively cheaper and more reliable (Lange, 2011). MSMEs located in remote areas are not performing well in exportation due to various export barriers they face (Milanzi, 2012). Therefore, their involvement in exportation is low as compared with other regions and continents and, due to
this, they are lagging behind in terms of social and economic development (Bakunda, 2003; Asiedu, 2004). Poor access to and knowledge of information and communications technologies is one of the barriers to exporting faced by MSMEs (Anderson, 2011).

It is the link or connectivity or simply the networking system between small firms located in various regions of a country, which facilitate them to improve their performance by sharing information about new product development, new technology development, upcoming government policies etc. The inadequately located MSMEs which are hardly linked with the outside regions are not developed or not even developing as compared to the better located MSMEs (Mori and Munisi, 2012).

2.11.2 LARGE SCALE INDUSTRIAL SECTOR IN THE REGION

Many small business entrepreneurs see large businesses entirely in competitive terms. This description is considered accurate in case of small firms that compete directly with larger industries. For example, competition of a small manufacturer engaged in plastics will be with the larger firms engaged in the same kind of business (Bennett, 1993). It should be a known fact that large firms whether local, national, or even international can take on other. Certainly, all the large enterprises do not wear similar hats to different researchers as one small firm’s aggressive challenger may act as other small firm’s business supporter, customer, or distributor (Huselid, 1995).

Well–managed smaller firms have long demonstrated themselves to be very skilled at anticipating market trends, utilizing their lean structures to outpace larger companies and capitalizing on new technologies (David, 1989). But while their small size enables them to avoid the lumbering bureaucracies that obstruct the actions of most progressive larger enterprises, small companies are also restricted by certain realities that can be easily addressed by larger firms. These obstacles are often highlighted if the small firm hopes to set up a presence ahead of its domestic borders. Increasing globalization makes it hard for small firms to act alone efficiently. Their distribution and marketing channels are often inadequate for getting their innovative services and products to an international marketplace (Thornhill, 2006; Ominde, 1964).

The constant need of small companies for finance also confines their maneuverability. The time and concentration of their entrepreneurial management is often abstracted to find and negotiate financing instead of developing distribution and market and systems. Though their
innovations may be precisely what the marketplace wants and needs, they are probably to be handicapped in attaining it (Nieto and Santamaria, 2010).

Large firms act as an obvious resource of support in many areas like distribution, financing, marketing etc. Further, large firms have comparatively greater technological and financial resources for carrying out innovation activities and their capabilities and resources signify that they are better positioned for innovations that need specialized equipment, large teams, investment in production facilities, relatively long–time–to–value investments or extensive distribution networks. In difference, small firms have advantages in terms of responsiveness to changing markets, entrepreneurial dynamism, and internal flexibility (Hallier, 2009).

The inter–play of the capabilities and resources of small and large firms gives rise to the opportunity for innovation. It is necessary to examine how certain “small firm–large firm” (SF–LF) relationships can most efficiently unite the advantages of small and large firms in technology innovation activities. These ‘dynamic complementarities’ indicate that small firms can play vital role in the dispersed innovation processes of large firms, particularly in an atmosphere where large firms are more and more engaged in a variety of ‘open innovation’ practices and these large firms provide assistance to MSMEs in the terms of new technology and finance (James et al., 2014).

2.11.3 ACCESS TO GLOBAL MARKETS
Global economic integration requires an international expansion approach which positively impact long–term survival and growth of small firms in an economy in the varying competitive environment of today’s business operations (Karagözoglu and Lindell, 1998).

The firms that are using inter–firm clusters and linkages are however becoming increasingly globalised. The amount of internationally competitive manufacturing MSMEs is around 24% and there may be increase in this. About 20% MSMEs draw their turnover between 10%–35% from cross–border activities. Presently, MSMEs add between 35%–40% of exports of manufactures in the world and also account for a small share of foreign direct investment (FDI). Therefore, the MSMEs which are internationally active are growing faster than their domestic counterparts (OECD, 2000).
Availability of low labour cost, raw material, proper supply of electricity, moderate climate etc. in some particular region are the main factors that assist in firm’s production system as per the international standard. Globalization has encouraged more and more firms to transfer their manufacturing capability from advanced industrialized countries to developing economies which are enriched with these resources (Dasanayaka, 2011).

For MSMEs, poor geographical location acts as a big constraint in global reach. MSMEs generally belong to locations which have bad communication source; they cannot remain in touch with international market. Poorly located MSMEs also have inappropriate access to transportation. Therefore, it becomes more difficult for these firms to take part in international markets with full potential (Todd and Javalagi, 2007).

2.11.4 NUMBER OF SIMILAR BUSINESSES LOCATED NEARBY

Even though competition is good for economy of any country but competition in excess also has an unfavorable effect on the survival of firms located in poor geographical area (Beaudry and Swann, 2001). The firms of similar kinds require nearly same type of raw material for production of goods. When there are limited number of raw material suppliers in some particular area resulting in high demand, the inadequate supply of raw material leads to elevated degree of bargaining power in the hands of suppliers (Hall, 2002). The suppliers may charge excessive prices for the raw material which in turn affects the cost of production for the competing firms (Baral, 2013). Also, identical production processes are carried out in similar type of firms and skilled workers are the major requirement to perform these operations. Competition to employ the highly skilled manpower becomes high. Therefore, workers demand for higher wages that a further lead to higher labour cost and in addition enhances the production cost (Berry, 1998).

Number of buyers is directly linked with the growth of the firm. Large number of buyers means higher profits for enterprise which raise the performance of that enterprise. In some particular areas, where customers are limited, number gets divided among these firms, which negatively affects the income of individual firms. At the same time, this factor is not good for firm’s survival as it goes in the favor of customer to bargain the product cost at the lowest level (Burgelman et al., 2006).

Logistics always remains a matter of concern for manufacturing firms, but the importance of logistics highly increases in the case of a manufacturing unit established in a poor
geographical location (Devos et al., 2009). The profitability of a manufacturing unit is directly affected by the cost of transportation of finished products and raw material. Generally, in a poor geographical location, there are a few transportation avenues available to a business unit, and to employ their services the same kind of business units already present in an area compete with each other by offering better fares to the transporters. This price war ultimately becomes a negative aspect of competition as it increases the overall cost of operations of a business unit (Li and Wu, 2010).

2.12 TECHNOLOGY INNOVATION INITIATIVES
A study about innovation in MSMEs has investigated the scope of innovation, like the connection among innovation and firm routine, social environment and innovation of the small firms (Subrahmanya, 2015) and, small firms and societal network (Freel, 2005; Sharif et al., 2012; Subrahmanya, 2015). It is observed that usually MSMEs don’t innovate in a formal manner, “learning by doing” is the most ordinary style of innovation. Therefore, large number of scholars considered innovation in MSMEs as a casual process of innovation (Kristiansen, 2003). Innovation in MSMEs has also considered the same as a characteristic for the entrepreneur, deriving from the motivation and vision of entrepreneur (Abereijo et al. 2009). From enormous studies conducted by various researchers, it is found that Entrepreneurial Capability, Technology Infrastructure Capability, Organizational Culture and Climate, and Government Initiatives are the main input factors improving the technology innovation in small firms.

2.13 ENTREPRENEURIAL CAPABILITY
French economist Richard Cantillon, in the early 18th century, put forth the term entrepreneur. He formally defined it, in his writings, “as the agent who buys means of production at certain prices in order to unite them into a new product”. Further, he defined the term entrepreneurship as “self–employment of any kind where the entrepreneur is the bearer of uncertainty and risk”.

Soon after that, the French economist Jean Baptiste Say defined entrepreneur as “somebody who shifts economic resources out of an area of lower to an area of greater yield and higher productivity”. He added Cantillon’s definition together with the idea that “an entrepreneur is one who builds a single productive organization by bringing other people together”. But according to Peter Drucker, Say’s definition is not able to tell us exactly who the entrepreneur
is. And since Say coined the term roughly two hundred years ago, there has been deficiency of consensus over the definition of entrepreneurship and entrepreneur (Kim, 1988).

A critical role of ‘innovation’ to the entrepreneur was assigned by Joseph Alois Schumpeter, for the first time, in 1934, in his ‘magnum opuses’, which is a theory of ‘economic development’. Schumpeter considered ‘economic development’ as a distinct dynamic change. Such discontinuous dynamic changes are done by entrepreneur by applying new combinations of the factors of production, i.e., ‘innovation’ (Schumpeter, 1934).

Entrepreneurship, as demonstrated by the characteristics of the entrepreneur, is considered to be essential to the characteristics of MSME performance by some researchers. Such a claim was mainly popular among studies of the entrepreneurial firm, in which the entrepreneur acted as a founding and leading role model in the progress of the enterprise. Many researchers have tried to explore the various characteristics of entrepreneur affecting the performance of MSMEs, including the entrepreneur’s background as well as demographic characteristics like gender, education, age, and ethnic origin. The direct and indirect assistance of the opportunity, entrepreneur’s relationship, innovative, and human competencies influence the long–term performance of a small firm by means of organizational capabilities and competitive scope (Man et al., 2012).

Mainly, Entrepreneurship is a grouping of three dimensions: risk–taking, innovativeness, and pro–activeness. Entrepreneurial orientation refers to ‘a firm’s strategic orientation, confining specific entrepreneurial features of decision–making styles, practices, and methods’. Innovativeness reflects an affinity to support new ideas, novelty, experimentation, and creative processes, thus departing from established technologies and practices. Entrepreneurship perhaps has constructive performance implications for any firm. The decrease of product and business model lifecycles makes future profit streams from existing operations doubtful and at the same time businesses require to continually look for new opportunities. Innovative companies that create and introduce new products and technologies can produce a surprising economic performance (Wiklund, 2003).

**2.13.1 EDUCATION LEVEL OF ENTREPRENEUR**

Today’s concept of entrepreneurship education has a wide meaning, which includes various factors like economic, social, and cultural. Therefore, entrepreneurship education is a social
and dynamic process in which individuals, either alone or in collaboration, recognize opportunities for innovation and work upon these by converting ideas into targeted and practical activities, whether in economic, social, or cultural context (Greco et al., 2015; Kristiansen, 2003; Shang et al., 2010).

Education is essential in sharpening the tacit capabilities of an entrepreneur. Although it has been argued that formal education system is not sufficient for learning entrepreneurship, the expansion of entrepreneur's awareness of the business environment around him makes education essential. Education becomes a helpful tool to the entrepreneur in circumstances where the problem faced requires decision making and taking action outside the sphere of normal business operations. For making quick and right decisions, having a wide knowledge of things is essential, if not inevitable for a small–scale entrepreneur (Alkali, 2012).

2.13.2 ENTREPRENEUR TRAINING

Due to their small size and resource limitations, MSMEs particularly face numerous problems. Availability of finance is a major problem for small firms in starting a new project. Most of them also face problems with regards to lack of finance for expanding an established business. Due to their inadequate resources, they suffer more from administrative burdens and red tapism as compared to larger enterprises. They often lack in developments regarding communication and information technologies, and come across difficulties in finding competent staff as well as providing them with appropriate training and education. Moreover, it can also be problematic to find successors for retiring business owners (Khayyat and Lee, 2015).

The levels of technology innovation and adaptation that can be accomplished by a firm are largely governed by the quality of the workforce in the labour market and the training availed by the employees. Training, both on–the–job and final, is one basis of technology learning that supports and substitutes firm level technology competencies (Pasadilla, 2010). Training is aimed at exposing the workers to new technologies and/or increases their performance, enhances technological capabilities, production and efficiency over time (Kor and Mesko, 2013).

Entrepreneurship training is one of the most complicated problems hindering small firm growth. In spite of the increasing contribution of non–governmental organizations and other small enterprise training agencies in the informal sector, their training programs have had
small or no impact on the change of attitude and attainment of entrepreneurial skills to target beneficiaries. Reasons for this fact have not been well discovered and neither do we have empirical evidence to explain the same (Tidd, 2001).

2.13.3 TECHNICAL COMPETENCIES OF ENTREPRENEUR

The business operation is constantly changing with fast technological advancements which are considered to be very complex in a competitive business environment. An entrepreneur is expected to act together with these environmental factors which require him to be highly proficient in various dimensions like attitudinal, intellectual, behavioural, managerial, and technical aspects (Spokane, 1991). Therefore entrepreneurs are permanently challenged to organize a set of competencies to be successful in their entrepreneurial endeavours, growth and/or survival. Some of these competencies are inherent while others are attained in the process of learning, training, and development (Jennings and Cox, 1995). Troilo (2014) also defined competencies as knowledge, skills, and personal characteristics of an individual.

Entrepreneurial competencies are defined as fundamental characteristics possessed by an individual that result in new venture creation. Since maintenance of machinery is considered as one of the major elements that comprises technology innovation and adaptation capability (Lall, 1992), it can be thought that the firms in the sample had reasonably high technological development competencies. In small–scale firms, some of their technology innovations originate often during the carrying out of preventive and routine repairs and maintenance. Majority of the innovations that originate by this method are alterations to the machinery that are undertaken either to avoid break downs or improve on the machine performance. In–house maintenance and repair potentials are therefore critical to firms because they offer the foundation to shop floor innovations, which are considered as the most important types of technological advancement that take place in MSMEs (Tidd, 2001).

Within an enterprise, there are numerous factors that decide its capacity to carry out in–house repair and maintenance. The most critical one, however, is the levels of knowledge, skills and experience of the entrepreneur (Hall, 2002).

2.13.4 BUSINESS PLANNING AND WORK EXPERIENCE OF ENTREPRENEUR

Entrepreneur's ability to innovate also depends upon the previous work experience which is another important attribute. Work experience is useful to the entrepreneur as it helps him in
the accumulation of technical know–how as well as other skills required for innovation (Lall, 1992). The longer the period for which an entrepreneur has worked, the more skills and experience he ought to have acquired from the job which widens his entrepreneurship intelligence (Fugate and Kinicki, 2008).

Establishment of new firms is one of the channels which affect economic development of any country. Using firm–level data for eastern and western Europe, it is discovered that entry regulations obstruct the creation of new firms, while regulations that promote access to finance boost entry (Barel, 2013). The study also suggests that in several cases a poor business environment might affect the performance of MSME sector, because limitations and market deficiencies reduce competition and slow down firm growth.

A comparison of UK and Italy illustrates this effect. In Italy and UK where entry costs are 20% and 1.4% of GNP respectively, there are a lot of small firms with slower growth. The problem in Italy is that the MSME sector has numerous old and incompetent firms compared to its UK counterpart. Certainly, firms start at larger scale in Italy, but grow more slowly as compared to the firms in the UK which are about twice as large by age ten (Beck and Kunt, 2006).

Customer preferences and business environment will always have a change to be more complex as well as dynamic in nature. Firms can only survive by making internal changes to balance the changes that occur in market. To deal with the changing customer preferences and changing business environment, the idea of market orientation has been introduced by many companies, which is one of the significant developments in marketing studies (Egbedokun et al., 2012).

2.13.5 FINANCIAL SCHEMES AND LOAN PROCEDURE

Indian MSME sector has great impact of lack of adequate access to finance on their growth and development. MSMEs are not capable of accessing the capital markets for their financial requirements and therefore, banks act as an important source of funding for these firms. In recent years, policy makers and governments have been giving significant attention to facilitate the development in MSME sector, because this sector gives a good foundation for entrepreneurship as well as development in the economy (Thampy, 2010). Limited access to formal sources of external finance leads to reduced contribution of MSMEs towards economic growth as small firms face larger growth constraints compared with large firms.
Institutional and financial development helps improve MSMEs’ growth constraints and enhance their access to external finance and hence levels the playing field among firms of different sizes (Egbetokun et al., 2012).

Financing obstructions are preventing small firms to reach the optimal size. It is also highlighted in literature that small firms devote a smaller share of their working capital and investment with formal financial sources as compared to large firms. There is the effect of financial market structure to lessen MSMEs’ access to financing tools and techniques to overcome small firm’s financing constraints. The introduction of transaction–based MSME financing tools like factoring and credit scoring, on the other hand, has emphasized the advantages of large banks that provide finance to small recognized firms (Beck and Kunt, 2006; Okrnglicka, 2014).

There is lack of simplicity concerning the financial conditions of MSMEs in the Indian financial system (Berry, 1998). Unless fair and thorough information on small firms is available, banks would hesitate to take the risk and may desire to lend to comparatively larger firms to comply with regulation, consequently leaving smaller firms constrained for capital. Improving the quality of financial information of small firms is an essential requirement for increasing the flow of funds to the MSME sector, as the decisions on loan finance are also influenced by quality of information (Das, 2008).

2.13.6 RESEARCH AND DEVELOPMENT (R&D)

R&D can be called as “the engine of development”, but it has also been argued that this engine in fact has two major functions: firstly, as a direct source of process and product developments, and secondly, to develop and maintain the broader competencies to utilize and incorporate information available externally. In addition, R&D and maintenance of a wide variety of skills makes it easier for the firm to adjust to changing demands for successful product and process development. The likelihood of a firm engaging in R&D has been found absolutely related to export intensity, to its size, and, not surprisingly, to actions in innovative markets (Afuah, 2003).

The literature on technology emphasizes the role of research and development in conquering the lack of internal financial resources and in improving competitiveness as well as innovativeness. Certainly, small firms engaged more in technological development utilize cooperative R&D for resource acquisition, information exchange, risk management, and
technology transfer (Nooteboom, 1994; Adner and Helfat, 2003; Rogers, 2004).

2.14 TECHNOLOGY INFRASTRUCTURE CAPABILITY

Broadly, technology infrastructure is defined as elements of an organization's technology base that is being originated outside the traditional boundaries of the firm and which is then used by a majority of the firms in the sector (Wang et al., 2007). A number of studies illustrate that innovation barriers are related to organizational culture, institutional constraints, cost, human resources, flow of information, and government policy (Hall, 2002; Acharya, 2008; Troilo, 2014).

Competitiveness of any industry depends upon the technological capability to enhance its economic performance. Technological capability has been termed as an accumulation of technological knowledge gathered by an organization over time. It reflects the capability of not only responding speedily through modifications in products and processes, but also to provide the cutting edge in competing with other firms through innovation activities. The gathering of this technological knowledge is obtained by personal mastery of organizational learning and new knowledge (Masurel et al., 2010).

The idea of technological capability has been more broadly used in present competitive environment. Technological capability occurs cumulatively and gradually in a firm. Generally, it begins with simple routine activities, through more complex duplicative and adaptive activities requiring searching operations, leading to the most innovative activities which are based on the more formalized research (Lall, 1992). Innovation capability is one of the important characteristics of technology capability (Romijn, 2010). Drejer (2003) has proved the association between organizational learning and innovation. Numerous studies have proposed new theories for knowledge management and product development.

2.14.1 MATERIAL RESOURCES

It is necessary that quality products should be produced at reasonable prices as it determines the price of a product. Therefore, the main focus should be to motivate the small–scale sector to manufacture high quality goods/products by providing them with necessary financial assistance, technical guidance, raw materials, marketing assistance, etc. In the process of technology innovation, raw material plays a significant role and therefore raw material should be available at reasonable price to enhance innovation performance of an organization.
Small–Scale industries are weak in financial position and are faced with the problems of shortage of raw materials like iron and steel, grade coke, pig iron, chemicals etc. These industries have to use the services of intermediaries, but such an activity results in elevated costs and is disadvantageous when raw materials are imported, because the profit margins of intermediaries are rather high (Kim, 1988).

Types of raw materials used by industries depend upon the requirement of any industry. There are some industries, which utilize indigenous raw materials while others are based on imported raw materials (Beer et al., 1984). With small–scale industries, the non–availability of raw material in adequate quantities remains the main problem. The lack of scarce raw materials is expected to continue in future also. Therefore, the policy for the development of MSMEs should be to encourage this sector based on local and indigenous raw materials whereas those based on imported raw materials should be discouraged. However, it should be the accountability of the state to fulfill all the requirements of the existing industries by guaranteeing liberal allocation of raw materials from the issuing import licenses and state depots for reasonable amount required for production (Subrahmanya, 2005).

2.14.2 RESEARCH AND DEVELOPMENT EXPENDITURE
R&D is categorized into three types: basic research i.e., experimental work carried out without any specific use or application in view; applied research which is an organized examination that is carried out with a commercial or practical objective; and development research which is usually a work meant at perfecting an invention i.e., translating basic and applied research results into new and/or improved processes and products (Oyelaran–Oyeyinka et al. 1995; Bwisa and Gacuhi, 1997).

Therefore, it is also known as “any creative and systematic activity undertaken to enhance the stock of innovations and inventions” (Bwisa and Gacuhi, 1997). In majority of the cases, R&D is undertaken in well recognized laboratories whether in universities, R&D institutions, or even in industry. Being a ‘systematic’ activity, it is generally well organized with its own allocated resource amenities, like finance, manpower etc. However, in developing countries this ideal condition does not always exist especially for MSMEs. While the type of R&D management and organizational structure can be termed to be ‘formal’ and is both innovation– and invention–oriented in the former case, it is more ‘informal’ and basically
innovation–oriented in the latter case of MSMEs in developing countries (Drejer, 2003).

With the inadequate financial, capital, and human resources at the disposal of MSMEs, it becomes very important for these firms to collaborate with other institutions in undertaking their R&D activities. Linkage which is defined as “a network of relationships of productive units, surrounded by a framework of inter–industry and intra–industry externalities” (Oyelaran–Oyeyinka et al. 1995) is an idea that is exceptionally beneficial in R&D activities in developed economies for manufacturing firms. However, in developing countries, MSMEs’ collaboration and R&D linkage is still very low (Mansfield and Yeon, 1996).

2.14.3 AVAILABILITY OF TECHNOLOGY INFRASTRUCTURE

The effective utilization and marketing of all the resources employed in the process of production defines the level of competitiveness of any country, therefore the whole chain of production should be efficient. This signifies that the process of production should be cost effective and meets quality requirements of the consumers. This development can be achieved through the use of latest technology (Huselid, 1995).

In India, adapting and developing new technologies especially in the MSME sector is still low despite a huge pool of technical ability. The MSME sector today requires an efficient information system to support and distribute information to different users. Such kind of information systems will be utilized to offer effective interface between computer technology and users and will also provide information to managers of the enterprises on the day–to–day operations (Swain and Pratihar, 2002).

2.14.4 MARKETING AND PROMOTING PRODUCTS

MSMEs require reacting promptly to the growing marketing needs and innovations so as to withstand the increasing competition from large firms from within and outside. This sector requires better access to market amenities in order to sustain and further improve its involvement towards employment generation, output, and exports (Kaman et al., 2001; Swain and Pratihar, 2002; Hussain et al., 2011).

A published research has already highlighted that an enormous opportunity exists for MSMEs to accomplish their required financial goals by recognizing their presence and potential. Furthermore, it is revealed that since most of the India’s MSMEs, particularly the small scale industry, generate a large percentage of their profits from the local market; they still rely on
conventional media like newspapers and telephone directories to contact their customers (Hall, 2002).

2.14.5 NEW TYPES OF PRODUCTION PROCESSES
The production system is defined as a system which is organized to attain a particular production goal. This system combines the whole variety of activities starting from booking the orders through design, purchasing raw materials, production processes and marketing to form an independent and decentralized production organization (Kim 1991).

The necessity to improve the effectiveness of production process development has been broadly commented upon. To sustain a competitive edge, organizations have established the fact that they have to meet changing customer expectations of service and quality on time as well as at the right price. Concurrent Engineering (CE) is defined as an integrated approach to new production process employing multi–function teams or task forces. The central concept is to make sure that research, development, design, manufacturing, marketing and purchasing related to product all work in parallel from beginning of the concept through to its final launch in the market place (Filson, 2010; Forsman and Annala, 2011).

The existing methods of companies adopting CE for new product development may result in an improper time to market. The companies therefore agreed that, in order to maintain competitive edge, they require to commit themselves to dropping new product/process development lead times (Smith, 1990; Fiet, 1996; Elbanna, 2007).

2.14.6 MANUFACTURING TECHNOLOGY ENTIRELY NEW TO FIRM
The manufacturing MSMEs in today's globalised economy are facing hard competition and rising demands for better quality services and products which are characterized by reliable deliveries, fast response time, and new and/or improved production methods (Stokes and Fitchew, 1997). In such a dynamic environment, development is considered as a main strategic factor for competitiveness of these manufacturing MSMEs. But technological development has been revealed to take many ways that reflect the numerous sources of production upon which it is based i.e one of the critical insights of current manufacturing theory is that firms hardly innovate only on the basis of internal resources, but they draw on skills, knowledge, technical solutions, equipment and methods from outside the firm itself (Wilson, 1995).
Most of the manufacturing firms have complex relationships with customers, research institutes, suppliers, industry associations and so on. This kind of interdependence have led to a broad set of models of development based on ‘interactive learning’ among firms and their wider environment (Bacon et al., 1996; Abereijo, 2009).

2.14.7 FINANCIAL STRATEGIES FOR UTILIZATION OF FUNDS
Developing an effective financial program that supports educational and training activities for enhancing organizational capabilities has become essential for highly innovative companies (Souitaris, 2002). Manufacturing industry in developed economies spend considerable portion of annual turnover on technology innovation. Encompassing an innovation budget is main reason that differentiates innovative and non–innovative firms (Radas and Bozic, 2009)

Decisions regarding financial strategy are influenced by the company’s external atmosphere and must be analyzed for potential threats and opportunities (Sirmon and Hitt, 2009). The proposed strategy must have room for the interests and requirements of company owners, customers and management as much as possible (Abereijo, 2009; Hall, 2002). Financial strategy is subject to the overall corporate strategy i.e it includes investment strategy, profit distribution strategy, legal relations strategy, and financing strategy (Carmeli and Tishler, 2004).

2.14.8 LOANS FROM BANK FOR TECHNOLOGY INNOVATION
Financial statement lending is a transaction technology depending primarily on the strength of financial statements of a borrower. This technology have two requirements, first, the borrower should have proper information regarding financial statements as per broadly accepted standards of accounting. Second, the borrower must possess a strong financial situation to be reflected in these statements. The loan agreement that takes place from analysis of these statements may reveal a various contracting elements such as personal and collateral guarantees. Under financial statement lending, the lender examines the usual future cash flow of the MSME which will act as the primary source of reimbursement. Guarantee matter is difficult to implement precisely, because MSMEs are unable to make good communication and cooperation with the banks. In addition, unlike other lending technologies, financial statement lending, is reserved for comparatively informational transparent firms (Lado and Wilson, 1994; Pfeffer, 1998; Talukder and Quazi, 2010).
Small business credit scoring is based mainly on hard information about the firm and its entrepreneur. The owner information is mainly personal consumer data acquired from consumer credit bureaus. This is combined with data on the firm composed by the financial institutions and usually from commercial credit bureaus. The data are inserted into a loan performance forecast model, which produces a score or summary statistic for the loan. But in case of MSMEs, the banks unavoidably have careful loan behavior and additionally the assessment for credits loan is extremely strict (Berger and Udell, 2006).

2.15 ORGANIZATIONAL CULTURE AND CLIMATE

Literatures related to organizational climate looks at crucial issues involving the effect of social interactions inside the organization. While climate is contextually linked with situations relating to how employees feel, think, believe, and respond towards the organization. However, this can be a matter of manipulation by individuals who are in positions of power in the organization (Acikgoz and Gunsel, 2011). Organizational climate is defined as the “present perceptions of people inside a work environment with respect to the noticeable (physical, social, and political) nature of the individual relationships that affect the completion of work within a specific organization”. Shim (2010) defined organizational climate as ‘employees’ mutual knowledge and opinion with others in their place of work”.

Culture in small firms is defined as less written records and directions. People unfamiliar with this kind of culture often mistake informality for lack of concern. A small firm owner casually requesting a subordinate to complete an activity may express unspecified consequences for non–performance than those of a registered letter of demand (Huang and Brown, 1999; Thornhill, 2006).

Management's role and involvement is a primary difference between small and large companies. Generally, the entrepreneur of a small firm has greater attention and control of the firm through ownership. They can easily recognize all employees’ weaknesses and strengths as they often perform all routine activities or processes by themselves. They understand customer desires and habits and know the customer's representatives. They are familiar about the relative weaknesses and strengths of the firm's products/services and also its competitors (Berg and Harral, 1998).
2.15.1 MOTIVATION OF EMPLOYEES

It is a basic responsibility of every manager to motivate his subordinates or to generate the “will to work” among them. It should also be kept in mind that a worker might be immensely competent of doing some work, but nothing can be accomplished if he is not willing to work. Creation of a ‘will to work’ is motivation in easy but true sense of the term (Tidd, 2001).

The main purpose of motivation is to create an environment for employees to work with a sense of discipline, responsibility, loyalty so that the objectives of an organization are achieved successfully (Nganga, 2011). Motivational techniques are used to encourage employee growth. Some managers attempt to motivate their employee by using rewards, formal authority, and punishments but motivation is much more complicated. It involves the concept of family, growth, learning, team work, salary, other benefits, and the like (Laforet, 2013).

Motivating people so as to make their best involvement in the achievement of organizational goals is one of the most significant concerns of a manager or management. Therefore, it becomes imperative for him to realize what motivates people to perform as they do (Nganga, 2011). Some human activities are random and consist of reflexes and emotions, the majority of it is goal directed in the manner that it is meant at the satisfaction of some desire. Since the desires of the organization and the employees are not always the same, the manager can better assimilate these two sets of desires by achieving an insight into the needs of his employees and then channelize these into the direction of organizational needs (Tirkey and Badugu, 2012).

2.15.2 TRAINING OF EMPLOYEES

Training beefs up the stock of technical resources within an organization and this occasionally has resulted in the formation of a pool of information that can be used in improving and modifying production processes in organizations. It has been found by Thornhill (2006) that innovative MSMEs are mainly those whose managers/owners were at one time apprentices in similar large firms. Knowledge acquired in period of apprenticeship were then transferred to their firms and used to enhance the firms' performance, modifying the production products and processes. Also studies in African countries like Zimbabwe and Ghana (Nelson and Mwaura, 1997) have highlighted that the training characteristic of on–the–job training or learning by doing through apprenticeship has been helpful in building up the
capabilities, local technological base, and also the development of innovations in small-scale firms.

Training is one of the essential avenues through which technological knowledge and skills are transferred and innovative capabilities are built and improved. But training is usually of an informal nature in the MSMEs. Although public training institutions are instrumental in imparting knowledge and skills to technicians, artisans, and other middle level personnel in production, their impact has been comparably negligible in enhancing the innovation capabilities of those trained (Adner and Helfat, 2003; Hallier, 2009).

Apart from the unfavorable effects that liberalization had on formal training, the in–house informal training of apprentices was also affected. Due to the necessity for MSMEs to survive in the present liberalized market environment, several firms took methods to reduce cost. Unluckily, one of the areas where these firms had to cut down on expenses was on apprentice training. Even though the apprentice system is mainly "geared to the transformation of traditional skills at reasonably low levels of technological sophistication" (Lall, 1992), it used to play an imperative role in providing the skilled labour to MSMEs. These developments in the apprenticeship training programmes and education system in the country therefore had a positive impact on skill development and hence on technology innovation capabilities of the firm because skilled work–force is essential for technology transformation in MSMEs.

2.15.3 AVAILABILITY OF SKILLED MANPOWER

The quantum and quality of the technical personnel employed increases the possibility of an organization being engaged in technological research and development and its probability of success in undertaking innovation. There exists a direct relationship between the quality and quantity of skilled workforce such as technicians, engineers, and highly skilled artisans in a firm and innovation since skilled employees bring about innovation through the learning–by–doing process (Scott et al., 1986).

For reacting to the changing market environment and lowering the cost structure, the organizations are required to use contingent labor (Matusik and Hill, 1998). These workers represent a variable rather than permanent cost for the firm and are engaged in production only when their particular skill set and/or productivity and knowledge is essential. Moreover,
contingent labor can be released easily once their involvement is no longer required in an organization (Foote and Folta, 2002).

2.16 GOVERNMENT INITIATIVES

Government policies affect the functioning of the MSMEs at a large scale. Providing external technological support to MSMEs and technology transfer rather than innovation and R&D assistance has been the key characteristic of government assistance programmes for technology development in Indian MSMEs. Government policies look into MSME development and to evaluate performance with respect to their contributions towards entrepreneurship and employment generation (Pasadilla, 2010; Subrahmanya, 2005).

2.16.1 GOVERNMENT SUPPORT IN ACQUIRING LATEST TECHNOLOGY

India recognized the necessity for improving the competitive strength of small firms through technology development and modernisation as early as in the 1950s with the setting up of:

(i) A network of Small Industries Service Institutes (SISIs) and Development
(ii) Commission for Small Scale Industry (DCSSI) and their extension centers
(iii) National Research Development Corporation (NRDC), and
(iv) National Small Industries Corporation (NSIC).

At this stage, government policy being emphasized promotion of modern small firms, it was realized that what was critical was to provide technical information, technical training or advice and technology itself (Narayana, 1989). Thus, SISIs along with DCSSI were set up to offer these services. NSIC came into existence to give machinery on hire purchase, apart from providing marketing support. NRDC was established with the aim of commercializing indigenous technologies developed in CSIR laboratories. In the process the issue of promoting the ability of small firms to carry out R&D and generate technological developments appears to be mistreated (Pasadilla, 2010).

In the 1990s, with the beginning of economic reforms and inherent shift in policy towards improving the competitiveness of small scale sector, technology development supposed to have greater consequence on these firms. But hardly any policy measure or scheme has been introduced to support the R&D and technology development activities of small scale industry. This is evident from the structure of institutions which presently provide technological support to small firms and policy measures initiated in the 1990s. Certainly, DSIR has
introduced a scheme of incentives to encourage R&D in industry, which is applicable to small firms as well. But these incentives just intended at providing financial concessions more than anything else. Further, there is no clear scheme to encourage communication between small firms and research institutions for R&D and technology development (Subrahmanya, 2015).

2.16.2 FUNDS FOR R&D INITIATIVES
The nature and level of R&D in small industry is evaluated with respect to the issues such as how many firms have carried out R&D, why R&D has been carried out in these firms, what are the dimensions, objectives, sources, intensity, and the achievements of R&D. The role of external support, mainly that from government promoted institutes and inputs committed for R&D such as capital and personnel are also examined. The government has been following the path of globalization and liberalization since 1991 through de–licensing of industries, dismantling of regulations and controls for existing as well as new investments, radical reduction of tariff barriers for imports, elimination of constraints for foreign investment and phasing out of quantitative limitations (Raravi and Timmanagoudar, 2014). This has increased local competition and exposed small industry to international competition. As a result, reacting to technological changes and fulfilling the expectations of customers have become crucial for survival and growth of a small firm (Subrahmanya, 2005).

Further, in order to assist the MSMEs in fully exploiting their potential by increasing their competitiveness to take on the challenges of hard competition as well as availing opportunities created by trade liberalization, the government in its NRDC scheme announced "major promotional package" for MSME sector to give advantage in technological up–gradation, credit and industrial infrastructure up–gradation (Jahanshahi, 2011).

2.17 THEORETICALANDEMPirical MODELS
De Toni and Nassimbeni (1996) in the context of study conducted on small firms of North East Italy argued that the main problems related to the preface of innovation inside small firms include shortage of a skilled workforce and also market uncertainty. Entrepreneurs, who assessed the problems encountered by the sampled small subcontract firms in the prologue of innovation, concluded that the main problem was that of recruiting trained personnel. The technically qualified personnel, as well as, manpower favor employment in medium sized and large sized industries where work conditions and employment scenario are more eye–catching. The other issues related to innovation included
financial hazard linked to hard innovation, the lack of technical expertise, and the innovation cost.

Hayashi (2002) proposed in the context of Indonesian metal working and machinery SMEs that inter–firm cooperation through subcontracting ties increases productivity of SMEs. The main problems faced by Indonesian SMEs were lack of technical knowledge, lack of marketing knowledge, lack of managerial knowledge, and poor access to financial resources. It was difficult for SMEs with limited human and financial resources to acquire technology, develop markets and arrange finance by themselves. But collaborative inter–firm linkages with large enterprises helped SMEs to overcome their limitations. The results of the study indicated the positive role of vertical inter–firm cooperation, in the form of subcontracting, in improving the productivity of Indonesian SMEs.

Ozgen et. al., (2007) conducted a survey; the population for study was 500 industrialized companies resolve by the Istanbul Chamber of Industry in Turkey. The illustration size of 215 private sector companies was haphazardly drawn from the directory of companies. Data were collected through a questionnaire, and then analyzed by SPSS software. The study concluded that organizations which are innovative have enough strength of multi–skilled labor force. Strategies range from classification of areas of skills in which shortfalls can occur and hard work is carried to create those skills. These organizations persuaded their employees to work in a variety of departments and divisions in order to gain a well–founded experience.

Vohra (2008) conducted a questionnaire based survey prepared on different categories of problems such as lack of raw material availability, lack of finance, lack of marketing, lack of human resources etc. Target population comprised of exporters in hand tool and textile sector in the manufacturing city of Ludhiana, Punjab, India. A sample of 66 exporters was selected. The study revealed that small firms have insufficient resources for market intelligence generation. These units rely much on secondary information (such as newspapers, business journals, or even personal contacts, suppliers, word–to–mouth, bankers, etc.) for generating sustainable market intelligence. There exists a straight affiliation between the firm’s experience in the market and the market orientation. The results indicated that major problems in exports include: red tape in public institutions, lack of competitive pricing, poor organization of firms’ export department, lack of export marketing research, lack of
personnel qualified in export marketing activities, ineffective communication with overseas buyers.

**Nanda and Singh (2009)** conducted a study of 93 small scale cutting tool and auto-component units to highlight the technology innovation initiatives for enhancing organizational performance and suggested a technology development realization program to make important organizational revolution. The study presented the five main components comprising the technology development realization program. These components included Technology Infrastructure, Manpower Competence and Management Commitment, Regulatory Support, Interaction with Others, and Research Output. Descriptive analysis was conducted to evaluate the status of each factor and to categorize industries according to their performance in different factors. The performance of industries was poorest in Technology Infrastructure factor.

**Rankhumise (2010)** conducted a study with the objective of examining the opinion of small, medium and micro enterprise (SMME) owners regarding the factors that affect the performance of these firms. The researcher individually administered 120 questionnaires amid the existing SMME entrepreneurs. The investigation was based on responses from 111 questionnaires that were administered to entrepreneurs, acquiescent a response rate of 92.5%. It was found that 23.7% of new businesses dissolved in two years after their start, while 51.7% dissolved within four years and 62.7% within six years. The major reasons were found to be following: “47.5% failed for regulatory reasons, 38.4% failed as a result of financial trouble (including excessive debt, extremely high operating expenses, and insufficient working capital), 7.1% failed because of neglect by the owner (including poor work habits, business conflicts, and family problems), 3.4% failed because of inexperience and 3.6% failed for various other reasons, such as ‘disaster and fraud’.

**Roman et. al., (2011)** in their study analyzed the innovation capability of SMEs in Seville province of Spain by elaborating (analyzing) a sculpt which explained in practical manner the innovative outcomes of any kind of business. They found out dimensional factors of innovation capability; these include: “(i) Knowledge – incorporation of new members, learning and capacitating and R&D (ii) Human Factors – staff training and attitude, criteria for promotion, rewards and risk taking (iii) Organizational Factors – autonomy, liason/communications resources, hierarchical power and market focus”. They formulated a research hypothesis that these factors (Innovation Capability) exert a positive impact on
the innovation outcomes. Other factors like contextual factors (age, size, quality standards) and environmental factors (rivalry and dynamics of competition) were also included in the hypothesis formation and were supposed to exert a positive impact on innovation outcomes. The empirical analysis was done using linear and quadratic model approach and hypotheses were validated using F– Snedecor Test. In the category of Innovation Capability, all variables were found significant w.r.t. innovation outcomes except creativity in promotion.

Tahir et. al., (2011) studied the various factors that lead to technological development of successful SMEs and concluded that there are several factors which lead to successful technological development of SMEs. They concluded that demographic qualities of an entrepreneur like education, training, and past experience have significant positive impact on successful development of SMEs. Other factors include easy access to finance, marketing by SMEs and clustering by SMEs.

Juan et. al., (2012) conducted a survey of 750 small units which had employee strength of maximum up to 100 employees. The data was collected through questionnaires which included queries about the innovation activities in small firms. The dependent variables were product innovation and process innovation (radial and incremental) as indicators of innovation process. The independent variables were personal characteristics of entrepreneur viz. level of business education and previous experience before setting up the business, firm size, dependency on the main client and supplier, classification of new markets, and commerce opportunities. Research showed that personal characteristics of entrepreneur, firm size, and classification of new markets and business opportunities were factors positively related to product and process innovation while reliance on the main client and supplier were negatively related to product and process innovation.

Romero and Roman (2012) in their study of 750 SMEs in Andalusia region of Spain explored the determinants of innovation in small businesses and differentiated between the two types of innovations (i.e. product and process innovation). Their study concentrated on three main characteristics which affect product and process innovation in small businesses; these characteristics included: (i) Personal characteristics of the self employed – general business education, motivation, previous experience as an employee (ii) Organizational Characteristics – firm size, sector, dependency on specific clients and suppliers, cooperation, other managerial activities (iii) External environmental characteristics
knowledge spillovers, university system and R&D institution, regulations and public support measures. A conceptual model was developed and logistic regressions were used to analyze the influence of sovereign variables on the dichotomous innovation variables.

2.18 CONCLUDING REMARKS
MSMEs are the fountain head of Indian manufacturing and service sectors. The entrepreneurs of small firms in India are making progress in various industrial sectors such as manufacturing, food processing, textiles, garments, pharmaceutical, information technology, agro, retail, service sector etc. In spite of the remarkable contribution of MSME sector to the economy of the nation, concerned government departments, financial institutions, banks and corporate sector are not supporting them significantly. This is one of the main reasons for which small firms are competitive in both national as well as international markets. MSMEs face numerous problems like incomplete and inadequate market knowledge, non availability of skilled labor at reasonable prices, lack of sufficient and timely finance, lack of appropriate and latest technology, unsuccessful marketing strategies, low production capability, lack of penetration into new markets, interaction with various government departments to resolve issues and so on (Rajamohan and Durairaj, 2012).

There have been many studies which establish the main factors contributing to the technological innovation initiatives of organizations especially MSMEs. Further, there have been very few empirical studies reported in literature that support the theoretical findings.

With this backdrop, the present study is an attempt to focus on empowering of the small firms. As discussed earlier, MSMEs significantly contribute towards economic development and growth in India, therefore it is pertinent to study and analyze the barriers of growth within small firms and identify technological innovation initiatives to improve manufacturing performance of the selected class of industry.