

# Qualitative Approach Towards Risk Assessment And Management

An Innovative Management Tool For Sustainable Development Of Micro, Small And Medium Enterprises [MSMEs] In India

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**Abstract—** The Micro, Small & Medium Enterprise [MSME] sector occupies a prominent position in the Indian economy. This sector offers some unique features like high employment generation capacity, significant contribution to the GDP and foreign exchange earnings of the nation as well as the power to remove regional imbalances in industrialization. The MSME units cater to markets inaccessible to or ignored by large industries. However, in spite of such benefits, the units in the MSME sector suffer from certain inherent limitations which, coupled with adverse factors external to the units, bring about business failures and hinder the development of this sector. Such limitations include low capital base, inadequate managerial competence, lack of business experience (for new entrepreneurs), inadequate succession planning, high labor turnover, lack of relevant and timely information, limited hinterland, inappropriate production methods, financial indiscipline and improper marketing. These factors stem from the fact that the ownership of the MSME units in India is predominantly proprietary and the proprietors are persons with limited resources, knowledge, experience and capability. Such limitations, often coupled with certain external adversities like thin margin, power shortages, inadequate and delayed financial assistance, raw material problems, completion from large industries etc. constitute the risk profile of the MSME units which exposes the MSME units to a greater threat by adversely affecting the Key Success Factors (KSFs). Traditional risk management approach envisages application of advanced and complex quantitative techniques which is usually beyond the capacity of entrepreneurs of MSME sector in India. This paper aims to suggest a qualitative approach towards implementing Enterprise Risk Management (ERM) for sustainable development of the MSME units in India through the process of appropriate risk assessment and management of the MSME units and attempting to minimize the risk factors by setting up a centralized multi-tier knowledge body and by training up the existing and potential entrepreneurs of MSME units to identify such risk factors and to take pro-active decisions as defensive measures to insulate such units against adversities stemming from such risk factors.

**Keywords-** MSME, Risk Profile, Key Success Factors, Qualitative Approach, ERM, Sustainable Development, Pro-active Decisions.

## I. INTRODUCTION

The Micro, Small & Medium Enterprise [MSME] sector is a very important driving force of the Indian economy. This sector, besides acting as a catalyst in bringing about balanced industrialization of the nation, possesses some immensely beneficial aspects like high employment generation capacity, significant contribution to the GDP and foreign exchange earnings. Moreover MSME units cater to those markets which remains inaccessible to or ignored by large industries. However, these units suffer from certain inherent weaknesses which render them vulnerable to external adversities. This set of internal weaknesses and threats posed by the dynamic external business environment constitute the risk profile of the MSME units. Some of these constituents are generic for all MSME units, some are specific to the respective industries while some other are specific to the respective units. Improper management of these risk factors hinders the development of the MSME sector. Some effective strategy need to be adopted urgently to help the MSME sector to get better equipped to manage the risk factors and adapt successfully to their respective business environments. The objective of this paper is to suggest a methodology to formulate a strategy for sustainable development of the MSME units in India through the process of appropriate risk assessment and management of the MSME units and attempting to minimize the risk factors by setting up a centralized multi-tier knowledge body and by training up the existing and potential entrepreneurs of MSME units to identify such risk factors and to take pro-active decisions as defensive measures to insulate such units against adversities stemming from such risk factors.

## II. CONSTITUENTS OF MSME SECTOR IN INDIA

The coverage of the MSME (Micro, Small & Medium Enterprises) Sector in India has been defined by The Micro, Small & Medium Enterprises Development (MSMED) Act, 2006 which became operational from October 2nd, 2006. The Act identifies Micro, Small & Medium Enterprises on the basis of level of investments in plant & machinery for

manufacturing enterprises and of investments in equipments for service enterprises.

The nomenclature and classification of MSME units on such basis are contained in Table 1.

### III. ROLE OF MSME SECTOR IN INDIAN ECONOMY

The MSME sector plays a prominent role in the Indian economy. The time series data in respect of the sector on various economic parameters i.e. production at current prices, production at constant prices (1993-1994), employment generation and export amounts, are as contained in Table 2. It may be mentioned that data with respect to MSMEs have been collected/compiled for the first time in 2006-07 and hence include both the industry and service sectors. Till the year 2005-06, data in the Table 2 refer to micro and small scale industry only.

As per the 4th Census with reference year 2006-07, there were about 261 lakh enterprises providing employment to about 595 lakh persons. The projected corresponding figure for the year 2008-09 was 285 lakh enterprises generating employment for about 659 lakh persons. The data clearly indicates an improvement in employment elasticity in the MSME sector. This fact has been corroborated by a study on the Indian MSME sector by Shambhu Ghatak.

The MSME sector has maintained a higher rate of growth than the overall industrial sector as would be clear from the comparative data on growth rates of production for both the sectors during the period of six years from 2002-03 to 2007-08. The details are given in Table 3.

The contribution of MSMEs in the GDP has increased from 5.86% in 1999-2000 to 8% in 2007-2008 at 1999-2000 prices. Its contribution to total industrial production has also increased from 39.74% in 1999-2000 to 45% in 2007-2008 at 1999-2000 prices as is evident from Table 4.

MSME units play a vital role in reducing income inequality in a nation and India is no exception. Over 90% of the MSME units in India being proprietorship concerns (2009-10), it is imperative that such units are vital vehicles for self employment and there is distinct and strong correlation between self-employment and equality of income. In states, where self-employment is high, inequality is low. So self-employment and entrepreneurship should be highly promoted in a country like India (Debroy & Bhandari, 2007). MSMEs provide a natural habitat for entrepreneurs. Through this platform, the latent/ raw talent available locally can hone their skills and talents, to experiments, to innovate and transform their ideas into goods and services needed by the society.

Dispersion of MSMEs in all parts of the country can help in removing regional imbalances by promoting decentralized development of industries.

### IV. CHALLENGES FACING THE MSME SECTOR IN INDIA CAUSING SICKNESS AND BUSINESS FAILURES

The MSME sector, in spite of its prominence in the Indian economy, suffers from a number of weaknesses. Considering three yardsticks to measure sickness in the MSME sector in India, i.e. [a] delay in repayment of loan over one year, [b] decline in networth by 50% and [c] decline in output in last three years, about 14.47% of the registered MSME units were identified to be either sick or insipient sick (Quick Results, Fourth All India Census of Micro, Small & Medium Enterprises 2006-07, Government of India, Development Commissioner (MSME), Ministry of Micro, Small & Medium Enterprises) and management problems was identified to be one of the factors causing such sickness.

Similar factors were found to be the causes for sickness in a sample of units coming under PMRY scheme in some districts of Orissa in a study by Dr. Rabi N Misra and Dr. Sudhansu Sekhar Nayak (2008).

In another study, factors like improper project planning and formulation, entry of unmotivated and inefficient entrepreneurs, lack of demand for products, procedural wrangling and infrastructural bottlenecks were found to be the main causes of sickness in small scale industries at Jagatpur New Industrial Estate in Cuttack District of Orissa (Panda & Meher, 1992).

Other studies also identified almost the same reasons for sickness in small scale units with inclusion of certain other factors like incohesive partnership / board, doubtful integrity, low equity base, faulty product selection, bureaucratic delays from the government and financial agencies etc. (Mathur, 1999).

A new factor i.e. expected role failures of role players, was also found to be causing sickness in small scale industries in the state of Jammu & Kashmir, in addition to the reasons stated above, in a study conducted by Dr. Khursheed Ahmad Bhat (2000).

Of late, another problem has been identified with the MSME sector in India. As per a study on Mapping of ESR practices in five Indian MSME clusters carried out by UNIDO-CDP, the responsible citizenship issues concerning this sector are :

- Poor management system;
- Environment degradation;
- Polluting nature;
- Child labour;
- Low wages to labour community;
- Long working hours;
- Lack of minimum standard of labour welfare;
- Working environment;
- Non-compliance of regulatory norms;
- Poor health and safety at work place;
- Lack of skilled manpower;

- Poverty

A SWOT analysis of small & medium enterprises done by Ghalla Bhansali Stock Brokers Pvt Ltd in 2009 reveals the following weaknesses of such enterprises in India:

- Lack of funds;
- Lack of marketing skills;
- Lack of information;
- Poor adaptability to changing trade trends;
- Non-availability of technically trained human resources;
- Lack of management skills; and
- Lack of access to technical information and consultancy services

The above studies corroborate the fact that the MSME sector, in spite of its prominence in the Indian economy, suffers from a number of weaknesses causing business failures.

Studies carried out by the above mentioned scholars identified the following generic factors to be the hindering the development of the MSME sector in India and in some other countries as well. The factors have been arranged in order of importance which have been based on the number of studies identifying them.

#### External factors to the organization:

- Inadequate and delayed financial supports by banks
- Absence of smooth and timely supply of raw materials
- Power shortage
- Inadequate infrastructural support
- Uncongenial government policies

#### Factors internal to the organization:

- Entrepreneurial and managerial incompetence
- Inadequate information base
- Improper financial management including fund diversification
- Obsolete technology, faulty production methods and improper capacity utilization
- Human resources related problems including faulty recruitments and high labor turnover
- Improper marketing management
- Faulty Planning
- Improper Product Mix
- Faulty Demand Analysis and Forecasting
- Doubtful integrity of entrepreneurs
- Incompatible constitution of business

It is observed from the above studies that the MSME units are vulnerable to almost a similar set of risk factors not only in India but also in other countries, as found by Owens & Beynon-Davis (2001), Asian Development Bank (2002), Temtime & Pansiri (2004), Wong (2005), Wong & Aspinwall (2005), Narayanasamy & Shetty (2008), Philip (2010),

Valmohammedi (2010), The World Bank (2011), Chittithaworn (2011) and Medrano (2011). Moreover, in India, the problems identified to plague medium and small scale units in various parts of the country, displays a striking similarity. It is also noticed that the nature of the said risk factors for the MSME units remained static during the period from 1992 to 2011. However with the passage of time and concurrent development of information technology, implementation of Electronic Commerce and Enterprise Resource Planning (ERP) emerged as new key success factors for the development of this sector.

It transpires from the above studies that the internal problem factors to MSME units outnumber that of external problem factors. The reasons basically stem from the ownership structure and low capital base of such units.

The ownership pattern of the MSME sector units in India as per the fourth all India census of micro, small & medium enterprises in India (reference year 2006-07) reveals that 91.57% of the registered MSME units, 94.67% of the unregistered MSME units and 94.49% of the total MSME units are proprietary concerns. Private and public companies together account for only 0.80% of the total MSME units in India. The other forms of such units include partnerships (0.68% of the total MSME units), co-operatives (0.51% of the total MSME units) and others (3.51% of the total MSME units). This obviates four inferences :

- Firstly a vast majority of the MSME units, being mostly proprietorship concerns, suffer from a low equity base;
- Secondly, due to the same reason, the management of such units, being mostly a one-man show, is essentially narrow-based. This is corroborated by the findings of scholars cited above who have identified inefficient management, low equity base, strained financial resources and very limited power to withstand the adversities of changing business environment due to small size and market of operation as significant factors causing business failures in the Indian MSME sector units;
- Thirdly, the MSME units run on a thin margin. This fact coupled with low equity base, magnifies the adverse effect of disruption in cash flow position on the business operations of such units; and
- Fourthly, the life span of a person being limited, the MSME units, run mostly as proprietorship concerns, come to an abrupt end with the demise of the proprietor.

These four factors severely deprive the MSME sector to withstand any unfavorable situation for long, making them vulnerable to such situations. This makes sustainable development of this sector difficult. Thus it is imperative that the issue of curbing the factors contributing to the weakness of MSME units in India is of paramount importance.

## V. INITIATIVES TO COUNTER THE OBSTACLES IN THE WAY OF SUSTAINABLE DEVELOPMENT OF THE MSME SECTOR IN INDIA

Regulatory bodies formed for development of the MSME sector in India have designed and executed several programs to sustain the development of this sector. Such programs basically aim at three aspects i.e. [a] providing cheaper and faster institutional finance to eligible MSMEs, [b] providing short-term training programs to prospective and existing entrepreneurs on certain functional aspects of starting and running the business and [c] conducting programs, usually of very short durations, disseminating motivating information to prospective entrepreneurs.

Development Commissioner (MSME), Ministry of Micro, Small and Medium Enterprises conduct programs for entrepreneurs of MSMEs focused on Enterprise & Skill Development, Technology Up-gradation, Access to credit, Cluster Development Program and Marketing Assistance (<http://dcmsme.gov.in>). The MSME Development Institute at Kolkata (Formerly Small Industries Service Institute) (<http://sisikolkata.gov.in>) conducts programs and provides certain services to potential and existing entrepreneurs of MSMEs which are focused on the traditional supports to such units as mentioned above.

## VI. THE GAP IN THE TRADITIONAL APPROACH FOR EMPOWERMENT AND DEVELOPMENT OF THE MSME SECTOR IN INDIA

As has been pointed out earlier, MSMEs in India are predominantly proprietary in nature and hence the management is essentially narrow based. All the business decisions, strategic, tactical and operational, are taken by the entrepreneurs. Their authority in the organization is supreme and their decisions are final. Thus their entrepreneurial qualities are crucial for sustainable development of the respective units.

As majority of the MSMEs in India are proprietorship constitutions, partnerships being a distant second, legal framework for governance of such organizations is also missing.

Thus the personal capability of the entrepreneurs becomes a significant determinant for sustainable development of the MSMEs. As such MSMEs have low equity base and run on thin margins, a wrong decision of the owner(s) can be fatal for the organization. The entrepreneur of MSMEs have to play many roles in their respective organizations. They have to be visionaries, planners, leaders and managers.

The area of providing training to the entrepreneurs of MSME units in India, both existing and potential, about the basics of risk assessment ad management, is still to be given its due importance.

A proper framework for providing training to the entrepreneurs of the MSME units in India, both existing and potential, about the basics of identifying, assessment and management of risk factors as applicable to their respective organizations, is lacking.

## VII. A QUALITATIVE APPROACH TOWARDS IMPLEMENTING ENTERPRISE RISK MANAGEMENT (ERM) AS A STAREGIC TOOL FOR EMPOWERMENT OF THE MSME SECTOR IN INDIA

### What is ERM

Every business organization exists to provide value for its stakeholders. All business entities are confronted with uncertainties. These uncertainties include probability of unforeseen and undesired events in the future which might have an adverse effect on its objectives. These uncertainties are referred to as risk (ISO 31000 (2009)/ISO Guide 73). Thus risks are possibilities of an undesired outcome or absence of a desired outcome (Smith & Merritt, 2002).

KPMG (2001), identified the following types of generic risks usually confronted by any business organization:

- Compliance risks;
- Governance risks;
- Integrity risks;
- Operational risks;
- Human resource risks; Finance risks; and
- Information risks

It is worthwhile to note that the above mentioned risks have a striking similarity with the factors causing business failures in MSME sector units in India as discussed above.

The process adopted by an organization to analyze its exposure to various types of unforeseen adverse events in the future, assessing the probable impact of such events on the business and determining the best feasible way to counter such exposure and impact, is known as risk management. Risk management stresses upon the fact that survival of an enterprise depends heavily on its capabilities to anticipate and prepare for the possible future adverse situations rather than to wait for such situations to actually happen and then to act to counter it (Raghavan, 2005). Thus risk management is essentially proactive and not reactive.

Linking the above two concepts, it follows that when risk management is done at an organizational level or enterprise level, such practice is termed as ERM. Accordingly Committee of Sponsoring Organizations of the Treadway Commission (COSO, 2004) defines ERM as : “Enterprise risk management is a process, effected by an entity’s board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity and manage to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives.”

ERM has also been defined as a discipline i.e. an orderly or prescribed conduct or pattern of behavior of an enterprise, by which an enterprise, in any industry, assesses, controls, exploits, finances and monitors risks from all sources for the purpose of increasing the organization's short-term as well as long-term values to its stakeholders (Casualty Actuarial Society, 2003).

The challenge for the management of every business organization is to determine the extent of uncertainty it can accept in order to maximize value to its stakeholders. Uncertainty presents both risk and opportunity. Efficient ERM enables the management to effectively tackle and harness the risk and opportunity associated with the uncertainty and thereby to enhancing value to its shareholders.

#### *Utility of ERM in countering the factors causing business failures in the MSME sector units in India*

The MSME sector units in India suffer from some inherent limitations as discussed above. The main issue thus boils down to identifying the potential risk factors which can have an adverse effect on :

- The flow of materials / products i.e. from the suppliers to the business unit and ultimately to the end-consumers; and
- The flow of finance i.e. from the stakeholders to the business unit and then from the end consumers to the stakeholders through the business unit.

The situation has been depicted in Figure 1.

In such a situation, ERM has immense importance as it can enable the MSME units by providing the methodology to fortify themselves in a better way against risks and to have a better chance of surviving an adverse situation.

#### *A qualitative approach towards implementing ERM in Indian MSME units*

Given the limited educational, technical & managerial competence of the management of Indian MSME units, the approach of such units in embracing ERM should be a simple, easy-to-understand-and-implement approach.

The entrepreneurs can take the following simple five-step sequential approach to implement ERM as a part of business strategy (Smith & Merritt, 2002).

- Scanning the internal as well as the external environments relating to the business and identifying the potential risk factors;
- Analyzing the risk factors to determine the driving force(s) behind them, how severe their impact might be on the business and how likely they are;
- Prioritizing i.e. ranking the risks so that the entrepreneur can chose the most important among them to resolve;
- Planning as to what action(s) need be taken and how, to counter the risks in the rank list; The actions include four basic alternatives, to avoid a risk, to

- transfer a risk (take insurance coverage), to control i.e. mitigate the risk and finally to absorb the risks;
- Monitoring the progress on the action plans, discontinuing the action plans those have been satisfactorily resolved and looking out for new risk factors.

The above steps, as suggested by Smith and Merritt (2002), have been depicted in Figure 2. A simple four-level methodology may be adopted for training up the entrepreneurs, both existing and potential, so that they can implement the basic ERM process based on pro-active decisions, in their business units. As it has been mentioned earlier, the MSME units in India, due to their low financial strength and other inherent limitations, cannot withstand any adversity in business situation for long. Thus it is imperative that a pro-active risk management system is best suited for such units as it reduces the reaction time.

**Level 1 :** As proposed by Smith & Merritt, the first step is identification of potential risk factors. This may be done by identifying the Key Success Factors (KSFs) for survival and development of the organization and continuous & careful monitoring of the environment, both internal and external, capturing the relevant information and correctly interpreting them for their likelihood and severity of affecting the KSFs. The entrepreneurs should be trained in and be motivated to make greater use of the internet and knowledge portals. It is particularly important that the entrepreneurs correctly identify the KSFs and the risk factors. The institutions in India set up for the development of MSME units may maintain updated information database which may be accessed online by the entrepreneurs. Any mismatch between the actual KSFs & risk factors and those perceived by the entrepreneurs will render the ERM process ineffective. The entrepreneurs should be properly trained, should there be the need for it, in this matter.

**Level 2 :** If the entrepreneurs are able to correctly identify the KSFs and the potential risk factors, they should carry out an impact analysis which is a critical study about the likelihood of occurring and the severity of such risk factors. Proper training should be imparted to the entrepreneurs regarding this exercise, should they be lacking in it. They should be trained in constructing a simple matrix having the likelihood of a risk factor and its associated severity of impact on the two axes of coordinates as shown in Figure 4 (Osborne 2012).

If the severity of impact and likelihood of the risk factor are graded from 0 (negligible) to 4 (very high), then the product of the two scores along the two axes of coordinates would provide an overall score for the risk factor. A higher score would indicate a greater risk.

This matrix would help the entrepreneurs to assess the risk factors on the two parameters of likelihood and severity of impact.

**Level 3 :** The next step is to prioritize the risk factors based on the outcome of the impact analysis. Risk factors having higher scores should be given priority over those with low scores.

**Level 4 :** The final step is to train up the entrepreneurs to adopt proper risk management strategies for the prioritized potential risk factors. They should be trained to decide:

- which of the risks are to be avoided;
- which ones to be controlled;
- which ones to be shifted through insurance etc. and
- which ones to be absorbed.

The matrix as shown in Figure 5 can be taken to be a generic guide to the entrepreneurs in the matter (Osborne 2012).

They should be also be trained to draw up a risk management plan which would guide them to take pre-decided actions to be taken on the happening of an adverse eventuality. The quicker they take an appropriate measure, the more chance they have to survive such adversity in business situations.

The schematic diagram for the four-level pro-active decision-based ERM implementation process for the MSME units in India is given in Figure 3.

However the real challenge is to inculcate the mentality among the entrepreneurs of the Indian MSME units to consider ERM as a responsibility and not as an ad hoc exercise.

Risks for the MSME units, as has been discussed above, arise from two sources i.e. from the external environment and the internal environment. The MSME, due to their low financial strength and inadequate managerial expertise, are not in a position to scan monitor the external environment, capture the relevant information and correctly interpret them. It is here that a central agency can come to their assistance. Some risks arising out of the external environment are generic while some are specific. The specific ones can be region-specific or industry specific. Thus such an agency may operate in a three-tier mode. At the bottom level there will be district level institutions which will be under a state-level authority. The state-level authorities will be governed by a central authority.

Such a central agency should perform the following activities.

- Continuous monitoring of the external environments and maintaining a updated database for actual and potential risk factors, both generic and specific;
- Continuous interaction with the MSME units regarding such risk factors, the preventive measures for them, any change in the environments and proper guidance in the matter;
- Proper training to the entrepreneurs to enable them to take pro-active preventive decisions regarding the risk factors, specially the internal ones.

Such an agency should work in close co-operation with the various government agencies imparting training and assistance to MSME entrepreneurs in other areas i.e. technical training and financial assistance.

In essence, such an agency should educate the entrepreneurs in such a way so that they consider ERM as an entrepreneurial business philosophy rather than a mere process.

## VIII. CONCLUSION

MSME units has a prominent presence in the Indian economy and have significant potential to contribute to the economic development of the nation. Apart from contribution to GDP, employment generation and export earning, MSME units can remove income inequality and regional imbalances in industrialization. MSME units being a natural habitat for entrepreneurs, has the potential for harnessing the latent talent available locally for producing goods and services needed by the society

However, MSME units, with their inherent limitations of low equity base, narrow-based management with inadequate management capabilities, small size, limited resources and constrained leveraging capacity, are vulnerable to various risk factors which are omnipresent, more so in the current era of hyper competitive market scenario and rapid dynamism in business environment.

In order to be better equipped to counter the risk factors and stand a better chance of surviving an adverse situation, MSME units needs ERM to be tied inseparably with their business strategies. ERM is thus a strategic tool in the hands of MSME units to gain competitive advantage which is essential for survival and progress in the present hyper-competitive and highly dynamic business scenario and thus for adding value for its shareholders.

Thus there is future scope of carrying out empirical research for assessing the indispensability of ERM as a tool in the hands of the entrepreneurs of MSME units in India for sustainable development of such units.

Table 1: Classification of Micro, Small & Medium Units

Classification of enterprises	Types of Enterprises	
	Manufacturing Enterprises [Ceiling of investment in Plant & Machinery]	Service Enterprises [Ceiling of investment in Equipments]
Micro	Rs.25 lakh	Rs.10 lakh
Small	Rs. 5 crore	Rs. 2 crore
Medium	Rs. 10 crore	Rs. 5 crore

Source : [http://www.and.nic.in/C\\_charter/indust/MSMED\\_classification.pdf](http://www.and.nic.in/C_charter/indust/MSMED_classification.pdf)

Table 2: MSMEs Performance : Production, Employment & Exports

Year	Prodn at Current Prices [Rs. Crore]	Prodn at Constant Prices (1993-94) [Rs. Crore]	Employt [Lakh Persons]	Exports [Rs. Crore]
1992-93	84413	92246	174.84	17784
	(4.71)	(5.60)	(5.33)	(28.10)
1993-94	98796	98796	182.64	25307
	(17.04)	(7.10)	(4.46)	(42.30)
1994-95	122154	108774	191.40	29068
	(23.64)	(10.10)	(4.79)	(14.86)
1995-96	147712	121175	197.93	36470
	(20.92)	(11.40)	(3.42)	(25.46)
1996-97	167805	134892	205.86	39248
	(13.60)	(11.32)	(4.00)	(7.62)
1997-98	187217	146262.90	213.16	444.42
	(11.57)	(8.43)	(3.55)	(13.23)
1998-99	210454	157525.10	220.55	48979
	(12.41)	(7.70)	(3.46)	(10.21)
1999-00	233760	170379.20	229.10	54200
	(11.07)	(8.16)	(3.88)	(10.66)
2000-01	261297	184401.40	238.73	69797
	(11.78)	(8.23)	(4.21)	(28.78)
2001-02	282270	195613	249.33	71244
	(8.03)	(6.06)	(4.44)	(2.07)
<b>At 2001 – 02 prices</b>				
2002-03	314850	306771	260.21	86013
	(11.54)	(8.68)	(4.36)	(20.73)
2003-04	364547	336344	271.42	97644
	(15.78)	(9.64)	(4.31)	(13.52)
2004-05	429796	372938	282.57	124417
	(17.90)	(10.88)	(4.11)	(27.42)
2005-06	497842	418884	294.91	150242
	(5.27)	(15.83)	(12.32)	(4.37)
2006-07	709398	NA	594.61	182538
	(166.20)	NA	(42.49)	(101.62)
2007-08**	790759	NA	626.34	202017
	(11.47)	NA	(5.34)	(10.67)
2008-09**	880805	NA	659.35	NA
	(11.39)	NA	(5.35)	NA

The figures in brackets show the % growth over the previous year. The data for the period up to 2005-06 is only for small-scale industries (SSI). Subsequent to 2005-06, data with reference to micro, small and medium enterprises have been compiled.

\*\* Projected

SOURCE : MSME ANNUAL REPORT – 2009-10 – MINISTRY OF MICRO, SMALL & MEDIUM ENTERPRISES, GOVERNMENT OF INDIA. PP 13-14

Table 3 : Comparative Data on Growth Rates of MSME Sector

Year	Growth Rate of MSME Sector	Growth rate of Overall Industrial Sector
2002-03	8.68%	5.70%
2003-04	9.64%	6.90%
2004-05	10.88%	8.40%
2005-06	12.32%	8.10%
2006-07	12.60%	11.50%
2007-08	13.00%	8.00%

SOURCE : MSME ANNUAL REPORT – 2009-10 – MINISTRY OF MICRO, SMALL & MEDIUM ENTERPRISES, GOVERNMENT OF INDIA. PP 15

Table 4 : Contribution of MSMEs in GDP and Total Industrial Production

Year	Contribution of MSMEs (%) at 1999-2000 prices	
	Total Industrial Production	Gross Domestic Production
1999-2000	39.74	5.86
2000-2001	39.71	6.04
2001-2002	39.12	5.77
2002-2003	38.89	5.91
2003-2004	38.74	5.79
2004-2005	38.62	5.84
2005-2006	38.56	5.83
2006-2007**	44.12	7.44
2007-2008**	45.00	8.00

SOURCE : MSME ANNUAL REPORT – 2009-10 – MINISTRY OF MICRO, SMALL & MEDIUM ENTERPRISES, GOVERNMENT OF INDIA. PP 16

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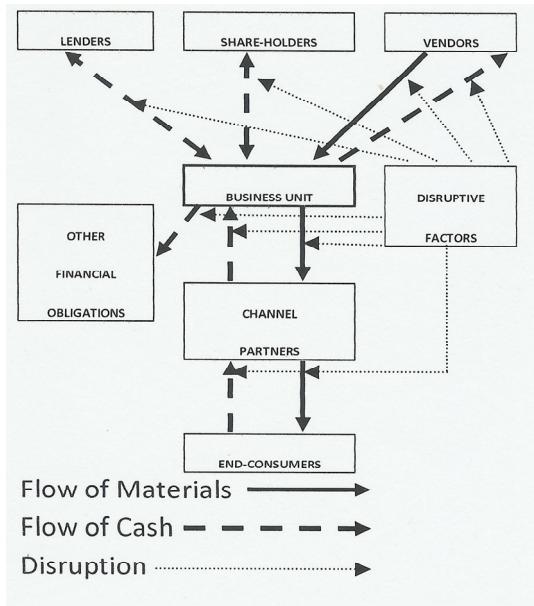


Figure 1: Flow of materials and cash vis-à-vis disruptive factors

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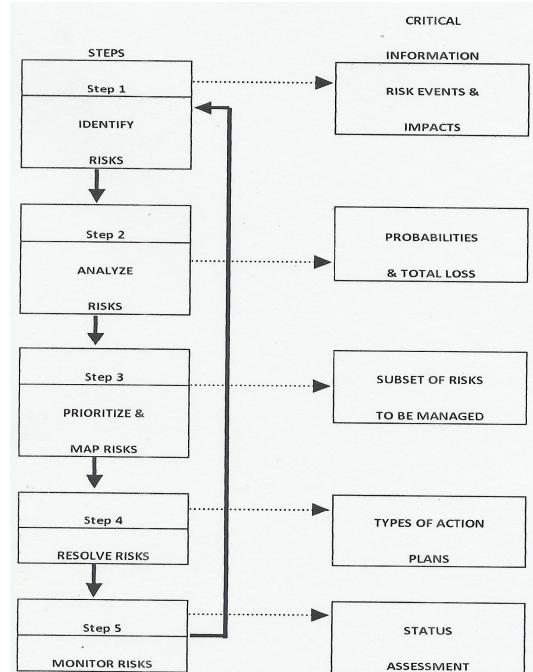


Figure 2: The 5 step risk management process  
Source: Proactive Risk management – Controlling Uncertainty in Product Development. Preston G Smith & Guy Merritt. Productivity Press 2002. P 30

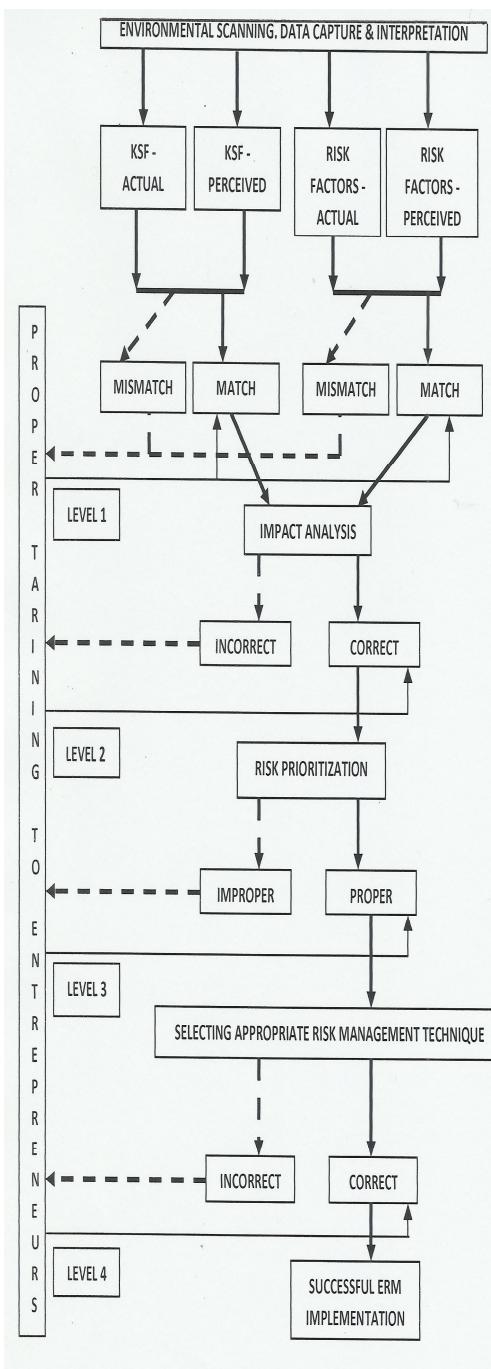


Figure 3: Proposed model for successful implementation of ERM in MSME units

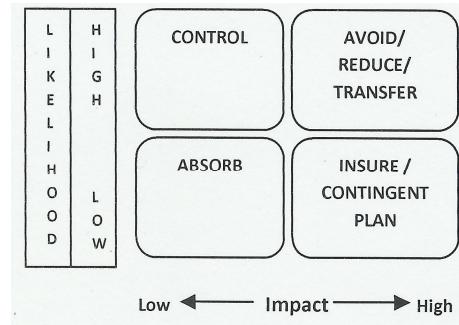


Figure 4: Matrix showing different risk management techniques

		High	4	4	8	12	16
		3	3	6	9	12	
Likelihood		2	2	4	6	8	
		1	1	2	3	4	
Low		0	1	2	3	4	

Impact

Legend:

- White box: NO ACTION - ABSORB
- Light gray box: Might Mitigate
- Middle gray box: Should Mitigate
- Dark gray box: Must Mitigate

Figure 5: Grid showing different risk management approaches