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NEW ENTERPRISES IN THE DIGITAL ERA

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Introduction

1. The information explosion, coupled with breath taking advances in communication technology has ushered in a New World order, which has evolved around digital solutions. Economies of nations have been impacted in a noteworthy manner and a wired world is increasingly conditioning our responses. In today's "knowledge economy", knowledge is regarded as the fifth factor of production which by itself, questions the law of diminishing marginal returns. It is believed that greater inputs of knowledge in any business would automatically lead to higher returns. Therefore, the key to today's success is the level of knowledge inputs in a firm.

2. With knowledge being an increasingly valuable factor, the issues of its security and protection gain importance. On the one hand, we have the philosophical and cultural tradition that propagates that knowledge is to be shared and disseminated freely; on the other, the value of knowledge forces one to be more protective towards it. This dichotomy can be seen not only among the different cultures of the world, between the East and the West, between the developed and developing economies, between regions having concentration of internet driven business and the regions which are 'have-nots'. This great "digital divide" becomes an extremely important issue for the sustainable development of any economy in the new millennium. As we come to terms with a new reality, there is also a realization that businesses need to change their mindsets and react quickly and effectively. Fortunately, half to two-thirds of the businesses, all over the world are Small and Medium Enterprises (SMEs), which have traditionally been known for the agility of their response to a changing environment.

3. SMEs the world over, comprise a widely divergent spectrum of establishments, engaged in economic activities ranging from micro and rural enterprise to modern industrial units using sophisticated technologies. Due to their contribution in each and every national economy, the importance and emphasis on SMEs has been accentuated in the minds of policy makers, planners and the industry in the recent past. This is the consequence of the recognition that the shift from agrarian to industrial and to post industrial knowledge based societies is not through the large industrial houses but through individual and small initiatives by visionaries from the SMEs. While the ability of SMEs to respond quickly to change is well acknowledged because of their extremely lean organizational structure, the demands of a digital era are qualitatively different from those which SMEs had hitherto been accustomed to.

The digital era and the knowledge economy

4. Knowledge in its different forms is the engine of economic progress; and an economic system not based on knowledge is unthinkable. The present changes in the world economy, in which a firm's access to know-how, the speed with which knowledge grows and is communicated, and the increasing knowledge content of output, are the main determinants of growth. The vast amount of information made accessible via the computer allows the process of knowledge accumulation by networking all sources of knowledge thereby facilitating the globalization of knowledge.

5. The process of economic globalization is directly the result of the developments in the last two decades in the Information and Communication Technologies (ICTs). The term ICT covers a wide range of hardware, including computers, wired and wireless communication technologies and the software needed to operate the hardware. "Being online" has become a

synonym of being part of the global society. Until the 1980s, the telephone was the only form of communications technology that had been diffused internationally on a significant sale. There were only a few million personal computers worldwide in the early 1980s. Electronic data networks existed, but their use was strictly limited. By 2000, there were 400 million personal computers and projections indicate that by 2010 there may be 1 billion personal computers. The processing capacity of each of these could be 10 million times higher than that of a mid-1970s computer. The number of computers connected to the Internet increased from 1 million in 1993 to 20 million in 1997 and is expected to reach 120 million by 2001. Unit prices for equipment and connections have dropped dramatically. ICT facilitates access to information and can boost the efficiency of almost all the operations of a firm. Again, information can now be sent anywhere at very low cost; the trade off between focusing on specialized, high quality information and reaching a wide audience is eliminated. As a result of ICT and electronic networking advances, the role of time and distance for economic activities has been dramatically reduced favoring globalization.

Electronic and mobile business (E-commerce)

6. In the field of Marketing, the world is entering the era of Electronic and Mobile Business (EMB), where not just trade but the full range of business operations will revolve around networked ICT. This advent of E-Commerce has opened new vistas for doing business using the Internet. E-commerce helps in conducting traditional commerce through new ways by transferring and processing information, since it is this information which is at the heart of any commercial activity. E-commerce, like the normal business that we are familiar with, can broadly be divided into the following three types:

- Business to business (B2B)
- Business to consumer (B2C)
- Consumer to consumer (C2C)

7. It is in such business to business and business to consumer transactions that enterprises, in general, and SMEs in particular, endeavor to compete in the changing market place. At the same time, it must be mentioned that as our understanding of a networked world deepens, these modes of business are also increasingly being called into question.

Understanding SMEs

8. Before we venture to explore the roles of SMEs in the new digital era it is extremely important for us to understand the dynamics and dialectics which govern SMEs. These are defined differently world over on the basis of quantitative parameters such as the number of persons employed and/or the annual turnover or the level of fixed investment. Employment is the criterion for determining whether a unit is SME or not in countries like China, Germany, Japan, Mexico, Taiwan, South Korea, etc. What prevails in India is the concept of Small Scale Industry, which is related to the value of the investment in Plant and Machinery of any undertaking. Despite these diversities of definition, there are common threads, which characterize almost all the SMEs. They have been set up at the initiative of one or two persons, and essentially rely on their entrepreneur's skills. Spatially speaking, SMEs are dispersed all over an economy or located in clusters either around a large manufacturing unit or where the raw material is easily available. SMEs do not have a very formal and strict hierarchical structure and mainly depend upon inter personal relationships. SMEs either cater to niche markets which may be localized, or, are suppliers of components to the larger units.

The SMEs draw their strengths from being the junior partners of large manufacturing/assembly units. SMEs are usually the prime driver of jobs, in some cases creating upto 80% of new jobs.

9. While the comparative advantages of SMEs are well acknowledged, it is also a fact that SMEs across the world encounter common problems. The need for a mentor in the initial period, finance/credit at reasonable rates particularly in critical times, limited access to the state-of-the-art technology, dynamic avenues in marketing, quality control, unequal competition, relationship with large manufacturers, too much of bureaucratic inspections and control and inadequate infrastructure support are problems which plague this sector. First generation entrepreneurs who set up many SMEs have a product or service idea, a knack for hard work but limited knowledge about market, government or bank procedures, cash flows or how to manage labor. This is where technical assistance and handholding support is crucial, and is not always available. World wide as new SMEs are emerging, there is also a very rapid rate at which SMEs close down.

10. The table below is indicative of the contribution of SMEs across diverse economies.

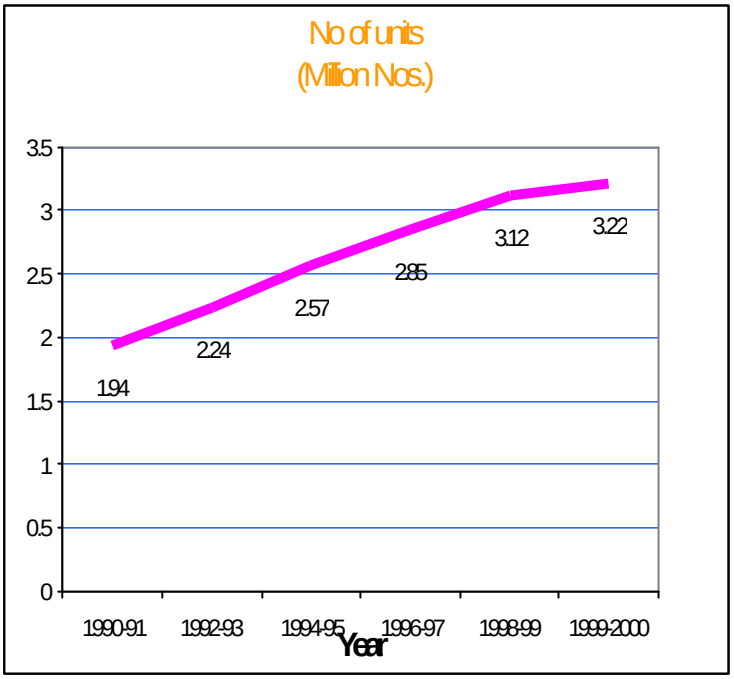
Country	Share
Japan	99% of all establishments 52% of output 72% of employment 13% of exports
Taiwan	97% of all establishments 81% of output 79% of employment 48% of exports
Singapore	97% of all establishments 32% of output 58% of employment 16% of exports
Republic of Korea	90% of all establishments 33% of output 51% of employment 40% of exports
Malaysia	92% of all establishments 13% of output 17% of employment 15% of exports
India	95% of all industrial establishments 40% of industrial output 45% of industrial employment 35% of exports

Source:
(1) SIDBI Report on SSI Sector 2000.
(2) Handbook on Foreign Direct Investment by Small & Medium Sized Enterprises, Lessons from Asia UNCTAD Geneva, 1998.

The Indian small scale sector, an overview

11. The Indian small scale sector has been fortunate to build upon a local heritage of enterprise, dynamism and renewal. From about 80,000 units in the late 1940s to over 3.2 million units today, the sector has been proving its mettle time and again. The performance of the Indian small-scale sector in terms of critical economic parameters such as number of units, production, employment and export during the last decade (1990-2000) is indicated below.

Year	No. of units (million nos.)
1990-91	1.94 (6.86)
1991-92	2.08 (6.88)
1992-93	2.24 (7.88)
1993-94	2.38 (6.01)
1994-95	2.57 (7.98)
1995-96	2.72 (5.95)
1996-97	2.85 (4.88)
1997-98	3.01 (5.5)
1998-99	3. 12 (3.55)
1999-2000 (P)	3.22 (3.33)

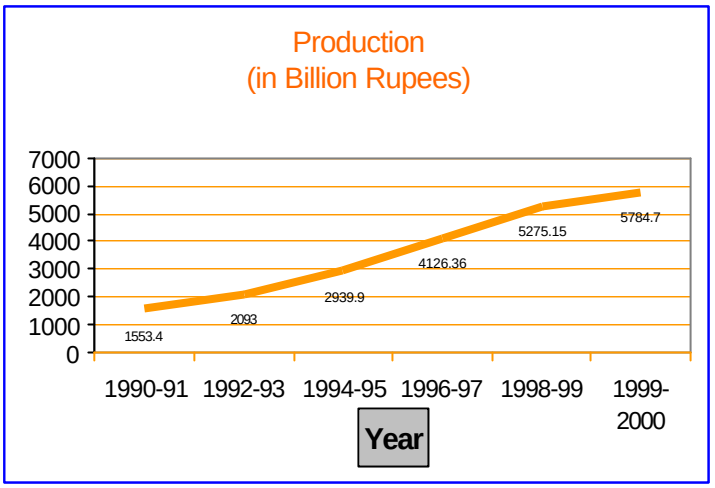


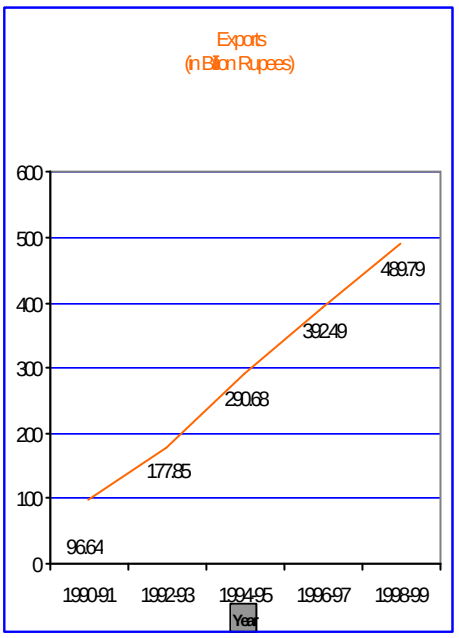
Note:

1. A small-scale industrial unit is defined as one in which the investment in plant and machinery whether held on ownership terms or on lease or by hire purchase does not exceed Rs.10 million.
2. Figures in brackets indicate percentage change over previous year.

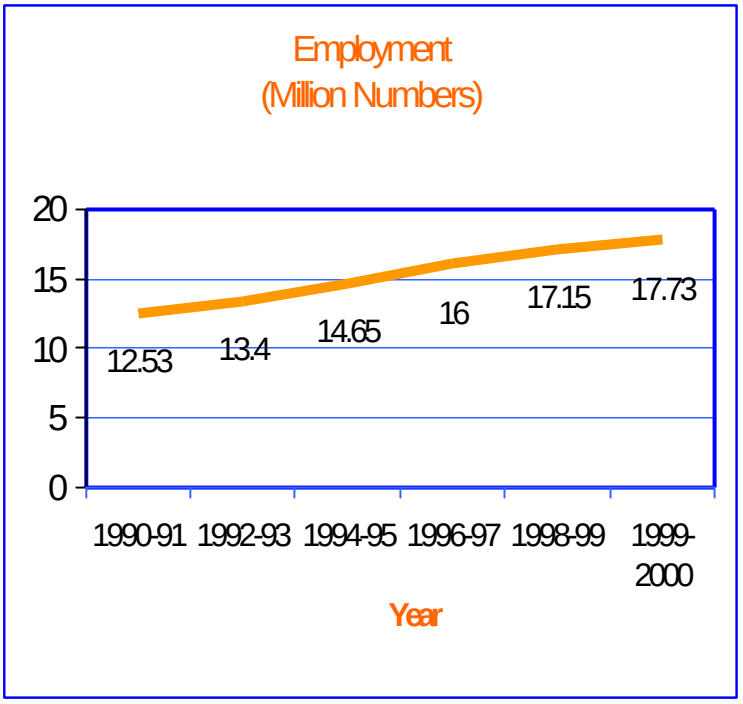
Year	Production (Billion Rs.) (at current prices)
1990-91	1553.40
1991-92	1786.99
1992-93	2093.00
1993-94	2416.48
1994-95	2939.90
1995-96	3562.13
1996-97	4126.36
1997-98	4651.71
1998-99	5275.15
1999-2000 (P)	5784.70

Note: USD 1 = INR 46



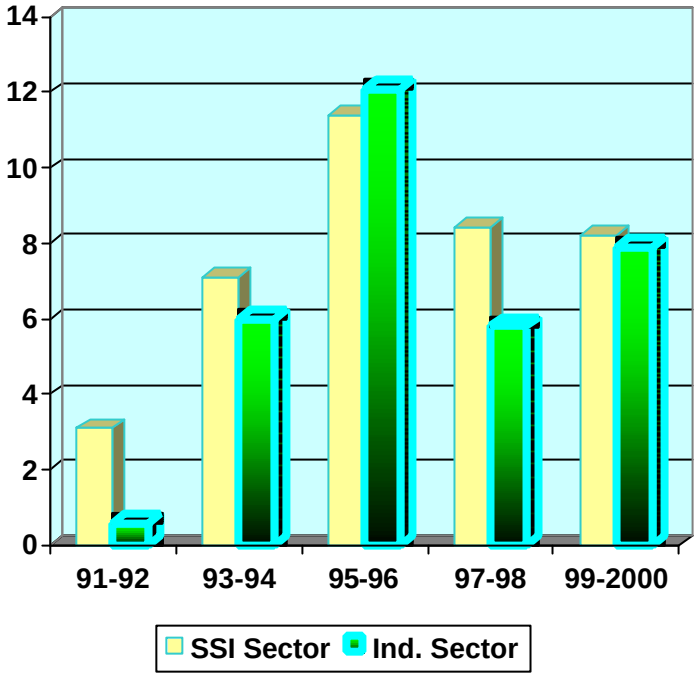


Year	Employment (million nos.)
1990-91	12.53 (4.77)
1991-92	12.98 (3.59)
1992-93	13.40 (3.28)
1993-94	13.93 (3.97)
1994-95	14.65 (5.15)
1995-96	15.26 (4.13)
1996-97	16.00 (4.84)
1997-98	16.72 (4.5)
1998-99	17.15 (2.62)
1999-2000 (P)	17.73 (3.33)



Note: Figures in brackets indicate percentage change over the previous year

Year	Exports (Billion Rs.) (at current prices)
1990-91	96.64 (26.74)
1991-92	138.83 (43.65)
1992-93	177.85 (28.11)
1993-94	253.07 (42.29)
1994-95	290.68 (14.86)
1995-96	364.7 (25.50)
1996-97	392.49 (7.61)
1997-98	439.46 (11.97)
1998-99 (P)	489.79 (11.45)
1999-2000	N.A.



Note: Figures in brackets indicate percentage change over the previous year

12. The Indian small sector has been consistently outperforming large industry on crucial parameters such as growth in production and growth in employment. The tables below indicate this.

Table I

Trends in growth: SSI and industrial sector (in %)

Year	SSI Sector	Industrial Sector
1991-92	3.1	0.6
1992-93	5.6	2.3
1993-94	7.1	6.0
1994-95	10.1	9.4
1995-96	11.4	12.1
1996-97	11.3	7.1
1997-98	8.43	5.8
1998-99	7.7	4.0
1999-2000	8.23*	7.9**

* 1st two quarters ** April-February

Table II

Period	GDP Growth per annum	Increase in jobs per annum	
		Organized Sector including Government	SSI Sector
1980-1990	5.7%	1.59%	6.7%
1991-1997	5.7%	0.86%	3.5%

13. As the Indian economy is in a state of industrial transition, the contribution of industry in GDP is constantly going up and is presently just over 25%. But, the most spectacular shift has taken place in respect of the services sector, which now contributes over 46% of the GDP. As the knowledge economy gains ascendance over the traditional smokestack economy, far better opportunities are emerging for the Indian small units in the service sector. Such units are generally referred to as Small Scale Service and Business Establishments (SSSBE). Presently SSSBEs upto Rs.1 million investments are considered as small units in India. The sector is showing very rapid growth and is able to leverage on its basic skills helping it to emerge as a leader in respect of software, servicing and communication. Various activities recognized as SSSBE include Cable TV services, rope-ways, marketing and industrial consultancy, documentary film making, auto repair, software development, servicing of equipment, long distance telecommunication kiosks, photographic labs etc. Increasingly, the service sector is helping to utilize the skills of a vast number of educated youth of the country.

14. A specific mention must be made of Indian skills in software development that are acknowledged all over the world. In addition, telecommunications, accounting support services, medical and consultancy services, legal work amongst others are opening up new vistas for small units. The abundant supply of educated and technically trained English speaking people in the country has proved to be an invaluable asset in the process. Another sector that is showing prominence in this context is Bio-Technology.

15. A mention may also be made of the recently announced Policy for the Small Scale Industries in India i.e. on August 30, 2000 to ensure their global competitiveness in the context of liberalization. The emphasis of this new Policy is on modernization of technology and quality upgradation through a series of measures which include collateral free loans, capital subsidy for technology modernization, subsidy for obtaining ISO-9000, simplification of administrative procedures, creation of Common Facility Technology Centers, Entrepreneurship Development Institutes etc.

Integration of SMEs with the knowledge economy

16. Today, it is possible for an SME to easily integrate with the world market because of the technologies, which it can access. Enhanced information availability implies a better reach to a greater market audience, the globality of talent and resource pools, easy entry in the supply chain and enhanced manufacturing and design capabilities. ICT has, thus, revolutionized the methodology of doing business.

17. However, business in the EMB era would also entail structural changes within the firm. The entry of a firm in this e-chain shall effect all its internal processes. Production is affected because of the much wider competition and the need to respond fast. Competitiveness now is not restricted in its meaning to costs and prices, nor is a concept, which equates machines with technology. Intensive competition and the availability of interactive multimedia technologies mean that producers and customers- whether these are other firms or consumers – are much closer linked than in the past. Firms need to deliver (in all senses of the word) round the clock, and must continuously generate new ideas and products. Flexibility, quality, customer and service-orientation are essential. Networking and trust among partners characterize the knowledge-based firm.

18. Obviously, radical changes in the character of production and trade are unthinkable without similar changes in management. Flexibility requires flat hierarchies, clusters of operators working more or less independently and first-class internal communication. Management and firm strategy, production and sales will make increasing demands on know-how and skill levels, and continuous learning becomes so very essential.

19. The salient characteristics of a knowledge-based enterprise as compared to a traditional one are indicated below:

Classical and knowledge – based industry – a comparison

Classical	Knowledge-based
Energy-intensive	Information-intensive
Standardized	Customized
Stable product mix	Rapid changes in product mix
Automation	Systemization
Single firms, branches	Networks of firms, clusters
Centralization	Distributed Intelligence
Specialized skills	Multi-skilling
Vocational training	Continuous training and re-training
Government control, planning and sometimes ownership	Government information, regulation, coordination and vision.

Source: UNIDO

20. By initiating changes, SMEs can easily capitalize on new opportunities. Successful integration will have profound effects on the operations and the results of a firm, which can be summarized as follows:

Emb facilitates	Results in
• Faster communication. • Faster reaction to markets. • Smoother business processes. • A more "mobile' enterprise: -fewer stocks. -less fixed capital. -flexible staffing. -etc.	• Lower costs. • Higher quality of products. • Increased turnover

Source : UNIDO

The knowledge economy and the developing world

21. Despite its universal appeal, range and availability, access to ICT is very unevenly distributed. The OECD countries accounted for about half of all connections to fixed telephone lines, over 60 per cent of all mobile phone connections and about 90 per cent of all Internet hosts (firms, organizations, etc., with a web site) in 1999. The picture is modified when looking at trends for the coming years. Mobile phone connections are expected to rise by about 240 per cent worldwide in the period 2000-2005. This is not only much faster, but is also a marked difference in growth patterns by region. North America, Western Europe and Asia-Pacific have growth figures ranging from 200-220 per cent. The Central and East European countries are slightly above world average. The figures for South America, Africa, the Middle East and Central Asia (covering the People's Republic of China and India as well) are well above 300 per cent.

22. Not all economic activities offer the same scope for EMB. The question of how existing enterprises in various countries will adapt to the challenges is probably a more important issue right now than the emergence of Internet start-ups. "Hybridization" of traditional enterprise activities and ICT – supported operations are the logical way forward for the great majority of firms. Small firms that can identify and exploit an ICT niche can potentially become world players, just as in the most advanced economies.

23. In developing countries and transitional economies, SMEs usually face serious obstacles in adapting to and participating in EMB. Small enterprises, with their limited resources, are more affected than large ones by the problems in the e-business environment, which makes it very hard for them to penetrate markets where established firms from developed countries are operating already. With limited human resources, the EMB environment is often unfavorable for SMEs. Existing legislation is sometimes biased in favor of large enterprises. Added limitations include the lack of formalized contractual relations and the reliance on cash payments. On the positive side, small start-ups do not face the obstacle of outdated management and production structures.

24. The issue today is not so much the survival or success of individual firms in the global market: successful entrepreneurs can be found in the most hostile environments. But a developing country that does not face the challenge systematically through an appropriate economic and industrial strategy will lag behind and is likely to face the worsening of internal

economic and social divisions. On the other hand, a serious commitment to the integration of ICT with the society and the economy may enable a developing country to start narrowing the gap, as some Asian countries are doing. Therefore, it is imperative that Governments provide a conducive atmosphere for the EMB to grow within their countries. The most important aspects would be connectivity, information security, human capital and an e-business climate. All this would constitute what we would call the level of e-readiness. A favorable macro-environment would ensure the faster absorption of product and process technologies by the SMEs.

The Indian scenario

25. Entrepreneurs in India have responded to the digital boom in different ways. The first tangible indications came through increased penetration of personal computers in business. The Small and Medium Businesses (SMB) along with SOHOs (Small Office Home Office) have been the drivers of growth in the computer hardware and software industry. The table below indicates the growth in these sectors:

Computer and peripherals

Year	Computers (Thousand Nos.)	Computer Peripherals (Rs. Billions)
90-91	70	7.0
91-92	100	8.0
92-93	130	9.0
93-94	180	10.0
94-95	250	11.0
95-96	350	12.5
96-97	475	15.0
97-98	570	17.5
98-99	700	20.0
99-2000	860	23.0

Source: Intecos – cier's market forecasts and indicators

26. Existing Indian SMEs have looked at options such as an Internet presence through web-sites often hosted on foreign servers or co-located on the limited hosting options available domestically. Networking of firms/clusters has just begun. For new SMEs, software development and IT enabled services have emerged as a golden opportunity. Areas such as content development, animation and call centers already account for 85% of IT enabled services. SMEs in this field are already exploring options in medical transcriptions, back office operations, insurance claims processing, on-line education, etc. However, as is true of any sunrise industry, the high rate of entry is also marked with a high rate of exit. The high rate of exit need not be seen as a pessimistic indicator but, in fact, represents collective learning, as entrepreneurs learn to put viable business and revenue models in place before embarking on ambitious business plans.

27. Alongside, Government has been seeing its own role as diminishing in respect of control and ownership and concentrating on vision, advocacy, mentoring and facilitation. State interventions can be at three levels:

(a) the enterprise level: schemes and interventions which directly interface with the enterprise;
(b) the sector level: interventions which focus on a particular cluster or sector and not on individual firms;
(c) the broad-base level: policies and initiatives that are applicable to the entire gamut of the SMEs.

28. A number of policies and schemes that broadly fall in the above three categories are under implementation. For example, at the enterprise level, direct schemes include providing managerial and technological interventions, training of entrepreneurs and skilled workers, incentives to acquire ISO-9000 Certification, promotional activities to adapt pollution control technologies, etc. At the sector level, programs include specialized National Programmes on the Development of the Toy and Dimensional Stone Industries, organizing sector specific vendor development programs and buyer-seller meets, etc. At the broad-based sector level, schemes and incentives include fiscal support, reservation of goods that can be manufactured only by the small scale sector, setting up of infrastructure facilities, providing capital subsidy for technological upgradation, mutual credit fund, etc. An Internet presence to small units is provided through a national Small Enterprises Network (SENET) program. All these interventions are provided by the Government of India and provincial governments to facilitate the development of the small scale sector operating in a disadvantaged position and to provide them with a level playing field vis-a-vis the larger corporations. Further, the Government of India has conducted 28 Sensitization Programs all over the country to sensitize the small sale associations and entrepreneurs on the impact of globalization and liberalization. Similarly, programs focussed on the IPR needs of the SMEs are also envisaged. In addition, the Government of India is also planning a scheme to provide direct subsidies and assistance to SMEs who are going in for registration of patents.

29. As existing businesses strive to become e-enabled and SMEs enter the uncharted territory of new IT enabled services, a number of concerns arise which entrepreneurs must address. An Internet presence in itself is not sufficient and is merely a first step. Creation of trust about a vendor of goods or services, impersonality of transactions, back up facilities for processing of orders received electronically, electronic payments, after sales servicing in remote locations, domain name infringements, violation of trade marks and patents, copyrights (specially those granted in another country), revenue sharing disputes on royalty are examples of such concerns. Some of these concerns relate to the internal business processes while others have wider ramifications in terms of IPRs.

<u>The importance of IPRs in the digital era and in particular the knowledge-economy</u>

30. Technological upgradation requires constant innovation through Research & Development. In the complexities of today's technologies, innovation is not as simple as inventing the kettle. It requires multilateral and multi-layered inputs, many man-hours and much effort to continue to provide state-of-the- art technologies. Although only a small number of SMEs engage in formal R&D (that too in a limited way), but many make significant contribution to the generation of innovations as they are staffed by scientific professionals. Moreover, the fact that they are well represented in new knowledge based

industries such as Information Technology and Bio-technology enhances the totality of their contributions.

31. Here comes the issue of protection of the intellectual property and the security systems offered by governments to the inventors. It is argued that knowledge can grow only if it results in a tangible benefit to its holder. Further, as much money and effort has been spent in acquiring this knowledge, it is like any commercial venture that should provide profits. Essentially a westernized concept, this has now found place in the oriental economies. To the Orient, knowledge was never a commodity but was freely available to be disseminated to all those who gain from it. Even today in many developing economies where this cultural ethos prevails, the issues of patenting, copyrights, etc. are confusing. But, times are changing and there is more emphasis on the tangible results, which the acquisition of knowledge brings to its acquirer. Developing countries, not only due to the influence of the TRIPS Agreements, are experiencing that stricter Intellectual Property (IP) regimes would, perhaps, lead to greater R&D efforts, thereby providing the required doses in their development. IP and its effective protection provides a balance of interest between the creators of new technology who spend large outlays in the creation and development of technology, and the users of that technology, who employ it as an important tool for improving their technological ability and competitiveness in the market place. Many Asian countries have successfully converted themselves to this new theology and have provided protection to the Intellectual Property Rights of their enterprises enabling them to maximize commercial gains.

32. The issue assumes even greater importance when we talk in the context of the SMEs. The SMEs are already faced with resource crunches. Any effort to innovate would naturally mean time and money. Thus, opportunity costs for the SMEs become very high and, the issue of strict IPR legislation guaranteeing exclusive rights to those who invent, innovate and create commercially exploitable ideas becomes imperative for them. Legislation obviously is a must for the protection of creativity and inventiveness of all entrepreneurs, and in that sense is an essential component for socio-economic growth, for developing indigenous technological capacity, for generating exports through enterprise competitiveness and for attracting foreign investments. For those who are a part of the value-added chain and provide for special markets, intellectual property becomes a major concern and its effective use a business strategy.

33. Ensuring and enforcing intellectual property rights in the E-commerce environment, therefore, is being seriously debated within the large as well as small units. Both WIPO and WTO have also been looking at this very closely. Although there is no global agreement on what kind of protection would be best suited, IPRs in E-commerce would not be monolithic in nature, but multiple IP rights will have to be used for protecting an inventive work.

34. In India, for example, IPRs of computer software are protected under the provisions of the Indian Copyright Act 1957. Major changes to the Indian Copyright Law were introduced during 1995. This has made the Indian Copyright law, one of the toughest in the world. For the first time in India, the Copyright Law clearly explained the rights of the copyright holder, the position on rentals of software and the rights of the user to make backup copies. Most importantly, the amendments imposed heavy punishment and fines for the infringement of the copyrights of software.

35. Several agencies of Government of India are now helping the law enforcing agencies to protect the rights of a Copyright holders, as a result of which, there has been a drop in the software piracy as shown below:

Drop in Software Piracy in India

Year	Percentage
1993	89
1994	83
1995	78
1996	75
1997	68
1998	63
1999	60

Source: NASSCOM

36. These security and protective measures have assisted the Indian software industry. Being one of the most dynamic amongst the sunrise industries with a turnover of US$ 5.7 billion during the year 1999-2000, it is projected to grow @ 53% during 2000-2001. It is estimated that 185 of the Fortune 500 companies have sourced their software solutions from India. The IPR legislation has certainly contributed to this impressive performance.

Conclusion

37. In the 16th century the British writer and philosopher, Sir Francis Bacon has observed that 'knowledge is power'. This thesis seems to make even more sense in the 21st century. As in war, knowledge in business, has become a force multiplier. In the age of networks, immense business opportunities have opened up for enterprises. To exploit the same, SMEs need to sharpen their skills for adaptability and change. Inability to change would mean losing out in the race with competition. SMEs by virtue of their natural strength are more likely to succeed provided that the macro environment supports innovations.

38. While individual efforts of firms are no doubt significant, the collective efforts of SMEs are more crucial. The development of consortia, a production chain based on the efficient use of capabilities, leverages on outsourcing and interconnectivity amongst firms will be a critical response mechanism, in a knowledge economy.

39. The role of Government needs to focus specifically on removing constraints to the survival and growth of SMEs. Different countries have their own indigenous strategies for this. In India, as an illustration, the software and IT enabled services have been provided considerable relief from the bureaucratic burden of labor related laws. The underlying premise behind this is the understanding that the professionals in the software sector being far more educated and informed, are unlikely to be victims of exploitation. Another area of intervention could be increased funding opportunities for SME pioneers in new products, services and processes. This could take the form of Government taking a committed share in the initial public offerings (IPOs) of such SMEs or establishing Venture Capital funds that would allow the resource crunched SMEs to easily access funds for ingenious ventures. Such funds may be sector specific in sunrise industries and could be owned either by Government, financial institutions or by private groups.

40. In the Digital Era, creating awareness about IPRs amongst SMEs through their Associations is of strategic importance. It is these Associations which can guide the SMEs with specific product based solutions. At a higher plane, capacity building at the level of the Government, institutional support agencies and NGOs gains ascendancy to reorient attitudes and policies towards this need. Specifically, national level Small Enterprise Agencies need to be geared in this respect. In addition, the strengthening of Patent Offices to reduce the time taken in obtaining patents and disseminate information on available technologies, legislating for utility patent regime are areas through which Governments could help create a positive ambience. A scheme for directly subsidizing costs of obtaining patents would go a long way in the protection of IPRs.

41. Individual SMEs can thrive as Internet borne competitors. These may be new units which focus on IT solutions or existing units transformed into 'brick and click' entities. Nevertheless, the rapidity of technological change will lead to rapid boom and bust cycles, as the dot com episode confirmed. What will be required is level headedness and not being swept in the prevailing euphoria.

42. In many ways, a new networked world is before us. It is up to the entrepreneurs and other professionals to respond intelligently to it. While lack of timely and proper response would entail missing out on the new revolution, but if they do seize the opportunity, business gains and economic growth would be their constant companions. In the past SMEs have proved themselves time and again and the 'digital era' would be no exception.

[Annex follows]

Annex

Bibliography

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