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Growth of Information Technology in India: At a Glance

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Abstract

This paper is a comprehensive study of growth of information technology industry in India. Domestic entrepreneurship was the key factor for origination, survival and innovation in an unfavourable industrial policy environment. With the introduction of new industrial policy, domestic firms got boost to provide programming services. Later policy and technological changes induced transnational entry and led to higher value added output. This paper shows that information technology industry could develop even when favourable conditions were missing.

Keywords: Software, India, services, new economic policy.

Introduction

The technology which is used to enhance our ability to communicate information is known as Information Technology. Information technology enables us to store, collect, select , transform, send or display information in any desired way. The principal functions of Information Technology are creation, collection, selection, transformation, sending or receiving, storing, displaying information as desired by us.

In 1974, domestic entrepreneurship (by Bombay-based conglomerates) was the key factor for origination, survival and innovation of Information Technology industry in a hostile industrial policy environment. During olden times the conditions were very unfavourable for the origination of Indian Information Technology industry. Local markets were absent and Government policy toward private enterprise was hostile. The Information Technology industry was evolved when bombay – based conglomerates started supplying programmers to global IT firms located overseas. During 1970's, import tariffs were around 135% on hardware and 100% on software in India. Even the exporters were ineligible for bank finance.

In 1984, government changed the policy towards IT sector. The New Computer Policy (NCP-1984) reduced import tariffs on hardware and software to 60%. Permission was granted to banks to provide finance to exporters. Permission was also granted for foreign firms to set up wholly-owned subsidiaries. These policies laid the foundation for the development of a world-class Indian Information Technology industry.

As an industry, Information Technology is the largest, fastest growing and the most profitable industry in India. Information Technology has emerged as a dominant industry especially with expansion of its software export sector which is the growth engine of IT industry in India. Information Technology industry includes development, production and services related to IT products, IT software and IT services.

The Information Technology industry can be divided broadly divided – Software & services segment and Hardware segment. The hardware industry in India has mainly catered to the needs of domestic consumers, with only marginal exports. On the other hand, 60% of software revenues are from exports and the main growth is in this sector.

Literature review

Over last two decades many researchers have done prominent work in the field of Information Technology industry. The major trends of research in Information Technology industry shows the scope for further research on the problem of development of Information Technology industry in India.

Bajpai and Dokeniya point out that while the application of Information technology and communication technology to government and industry is a demand side issue, establishing a local IT, the Indian and Chinese immigrants who have studied work in the US, while maintaining their base in their adopted country, are playing growing role in linking US technology businesses to those in their countries of origin. According to Jeffrey D Sachs and Bajpai note that venture capital, which is the key nurturing new industries, is very weak in India.

Paper by Nagy Hanna in the World Bank discussion Explain that the future prospects of IT and IT industry in India, She also point out the exploiting IT for development in India.

According to Navi Radjow and Nirupam Bajpai reveals in their research work that, in the emerging knowledge-based global economy, the sustainable competitive advantage of nations will reside not in their possession of nature resources of cheap labour force, but in their countries intellectual asset. As such, the knowledge revolution offer a unique chance to leapfrog entire stage of development.

The Economist, John Browning (1990) wrote : " Information Technology is no loger a business resources; it is the business environment." His statement is not far from truth. Ongoing advances in Information Technology, alongwith increasing global competition, are adding complexity and uncertainty of several orders of magnitude to the organizational environment. Pohjola and Roponen (2001) in their working Project work, which concentrated on the impacts of Information Technology on productivity and economic growth.

Size of Industry

The IT industry is estimated to aggregate revenues of USD 108 billion in 2012-13, with the IT software and services sector (excluding hardware) accounting for USD 95 billion of revenues. Export revenues (excluding hardware) are estimated to gross USD 75.8 million in financial year 2013, growing by 10.2% over financial year 2012. The most prominent IT hub in India is IT capital Banglore and the other emerging destinations are Channai, Hyderabad, Mumbai, Pune, National Capital Territory, Jaipur and Kolkata.

India's growing stature in the information technology enabled the country to form close ties with both the United States of America and the European Union. IT exports software and services of India are to nearly 95 countries around the world.

A Clean Technology

Information Technology is a clean technology. According to Industrial Association of India IT is a Green industry. The IT industry has a sustainable and economically viable future because it does not harm the environment. Therefore, IT industry is a Green Industry. Information technology helps India to secure resources – efficient low-carbon growth. This creates new jobs while protecting the environment. Environment protection in enterprises has been undergoing structural changes in recent years. This reduces the pollution load on environment. As India has become a global information society, the quantity of obsolete electronic hardware is growing rapidly. Information Technology industry reduces the levels of water consumption. IT industry does not discharge the toxic effluents into water bodies. Many places in India already face the problem of shortages of water, which might become critical in coming years with climate change.

Contribution of India's IT industry to Economic Progress

The contribution of India's IT industry to economic progress has been quite significant. The rapidly expanding socio-economic infrastructure has supported the growth of Indian information technology.

The IT-ITES industry has continued to perform its role as the most consistent growth driver for the economy. IT service, software exports and BPO remain the mainstay of the sector.

The Indian IT – BPM industry has exhibited rapid evolution in terms of expanding markets, attracted new customer segments. During the year 2012-13 there has been transition and transformation for the Indian IT-BPM industry.

IT software and services sector (excluding hardware) accounting for over USD 95 billion of revenues. Export revenues (excluding hardware) are estimated to gross USD 75.8 billion in financial year 2013.

The IT services segment aggregated export revenues of USD 43.9 billion, accounting for nearly 58% of total exports from Indian. The BPM segment that has been reinventing itself in the past few years is expected to be the fastest growing at 12.2% and estimated to gross USD 17.8 billion in 2012-13.

Growth of the Indian Software Industry

The growth rate of software sector has been projected on the basis of 35% per annum during the last 10 years. The rapid growth of IT sector in India has made a deep impact on the socio-economic dynamics of the country. The Indian software and services has driven the growth of the country of the economy in terms of employment, revenue generation, standards of living etc. and has played a major role in placing the country on the global map.

India has been the most preferred destination for the global sourcing of IT-ITES, accounting for more than 52% of the global sourcing market size in 2012. The Indian IT industry has been contributing substantially to the GDP.

From around 3 lakh employee base in 2000-01, the industry presently employs nearly 3 million people directly and 10 million indirectly.

The revenue aggregate of IT-ITES industry is expected to grow by about 8.4 percent and reach US $95.1 billion in 2012-13 as compared to US $ 87.7 billion in 2011-12. The Indian software and services exports including ITES/BPM are estimated at US $ 75.8 billion in year 2012-13 as compared to US $ 68.8 billion in year 2011-12, a growth 10.2% growth in dollar terms. IT services sector is the fastest growing segment within the Indian IT-ITES sector. This segment is estimated to grow at 10.0 % and to generate exports revenues of the order of US $ 43.9 billion in year 2012-13 as compared to US $ 39.9 billion in year 2011-12.

According to the studies of Raghvan and Nair, 2001, the Indian software and services sector has expanded at an annual growth rate of 50%. Such a wonderful and sustained growth rate has been

unparalleled in any of the sectors of the Indian economy since independence.

This has not only made the software sector as one of the high value additions and net foreign exchange earning industries but created history of its sorts on the Indian stock exchanges. The listing of Satyam-Infotech in NASDAQ in the year 1999 was a moment of great pride for Indian software industry. It has heightened the international recognition of Indian software companies. Since then a number of Indian software companies have been listed on NASDAQ and New York Stock Exchanges. India exports software and services to more than 100 countries and over half of Fortune 500 companies outsource their software requirements from India.

Software export is poised to emerge as the country's largest exporting sector. Due to these reasons it is firmly believed that 'this is one of the areas where India has potential to become a 'Global Powerhouse'.

Performance of Software Export

In 1970s, the computer started proliferating in the Indian Industrial scene. In 1980s, the Indian policy makers began to understand the potential of Indian talent in computer software. In 1986, this realization led to the formulation of first computer policy related to software. Sicne then IT has been given much thrust & software export has been growing at a phenomenal rate. In1998, IT task force suggested the information technology Action Plan, such as setting up a world class info infrastructure with an extensive spread of fiber optic networks, zero customs, zero excise duty z7 procedural simplification etc.

The performance of Indian software export over the years can be vividly seen from Table – 1

Table 1: Software export on financial year

Financial Year	Base Year (Rs. Crores)	% Growth
1993-94	1020	51.11
1994-95	1535	50.49
1995-96	2520	64.17
1996-97	3900	54.76
1997-98	6530	67.45
1998-99	10,940	67.55
1999-00	17,150	56.76
2000-01	28,350	65.31
2001-02	36,500	28.75
2002-03	46,100	26.31
2003-04	58,240	26.35
2004-05	80,180	37.67
2005-06	104,100	29.85
2006-07	141,000	35.45
2007-08	164,400	16.60
2008-09	216,190	31.50
2009-10	237,000	09.65
2010-11	268,610	13.35
2011-12	332,769	23.90
2012-13	410,836	23.46

Source: Department of Information Technology

Figure1: Graphical representation of Software export on Financial Year Basis

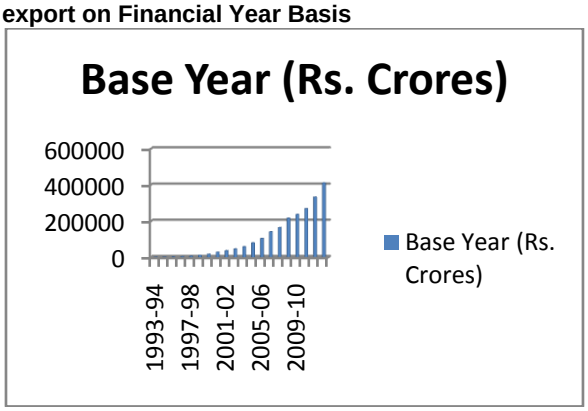
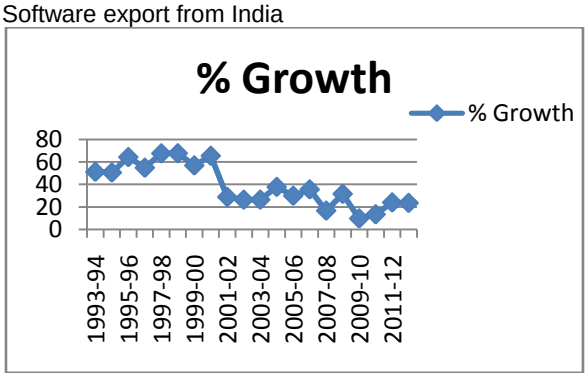


Figure 2: Graphical Representation of % Growth of Software export from India



From Table 1,2 and Figure 1,2 it is clear that there has been tremendous growth and spurt in the software export from India over the years. Export has grown by leaps and bound in value terms from Rs 1020 crores in the year 1993-94 to Rs. 46,100 in 2002-03 and further to an all time high of Rupees 410,836 in 2012-13. This shows that software export has increased more than 40 times over the period 1993-94 to 2012-13.

Table 2: **Annual Average Growth Rate**

PERIOD	Annual Average Growth Rate(%)
1993-94 to 2002-03	53.26
2003-04 to 2012-13	24.78
1993-94 to 2012-13	39.02

Source: Calculated on the basis of Table 1

As the table 2 indicates Software export has registered a very strong annual average growth rate of 53.26 % during 1993-94 to 2002-03 and 24.78% during 2003-04 to 2012-13. It is to be noted that even when all India export slumped to the lowest level during 1997-98 to 1998-99due to South East crisis, software export demonstrated an annual growth rate of 67.45% in 1997-98 and 67.55% in 1998-99. However, annual average growth rate has slipped to around 28% since 2001-02.this has been mainly attributed to slowdown in US economy since 2000. Industry expert feel that software export has been stabilizing around 35%.

Conclusion

From the foregoing analysis it is clear that India's reputation as a centre for world class IT and software development destinations has steadily over the past decade. Over the years software has been growing at high rate of over 35% per annum.

Looking at future prospects both the domestic and international markets for IT products and services are growing at a rapid rate. The Information Technology industry has become one of the biggest contributor of Indian exports with its share going up day by day.

The IT sector is one of the largest employers and therefore it can play a crucial role in nation development.

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