SWOT Analysis as a Tool to Enhance Competitiveness of Indian Software Industries

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ABSTRACT:
Software industry is becoming one of the largest industries in Indian IT sector. The Indian software industry has impacted the economy far beyond the boundaries of the sector. It has placed the nation on the global map in terms of technological capabilities. Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis is a strategic tool which facilitates organizations and industries not only to develop their competitiveness but also ensures growth and success. The objective of this study is to do SWOT analysis of Indian Software Industries to enhance their competitiveness in this dynamic environment. This would also help to promote and develop the industry. This paper based on secondary data and in depth literature review will focus on SWOT analysis for the Indian Software industry and also discuss the structure, strategy and competitiveness of the industry.

Key words: Analysis, Competitiveness, Indian, Industry, IT Sector, Software, SWOT, Tool

Introduction
The Indian IT sector is growing rapidly and it has already made its presence felt in all parts of the world. IT has a major role in strengthening the economic and technical foundations of India. Indian professionals are setting up examples of their proficiency in IT, in India as well as abroad. The sector can be classified into 4 broad categories - IT Services, Engineering Services, ITES-BPO Services, and E-Business. IT Services can further be categorized into Information Services (IS) outsourcing, packaged software support and installation, systems integration, processing services, hardware support and installation and IT training and education. Engineering Services include Industrial Design, Mechanical Design, Electronic System Design (including Chip/Board and Embedded Software Design), Design Validation Testing, Industrialization and Prototyping. The Indian software industry has placed the country on the world map in terms of entrepreneurial and technological competences. It has set not only example for other emerging countries that are looking to succeed in this industry but also in terms of export orientation, strategic alliances and foreign investment. It provides a stiff challenge to many developed countries in terms of quality software service delivery and has transformed the liberalization and modernization processes in the country. According to NASSCOM in 2002, Indian software industries output value is $10.1 billion, which was increased by 22 percent from last year 2001; the exports volume is $7.68 billion, which was 29 percent growth. The technological innovations of the Internet and the worldwide web have expanded the debate of the nature of organizations and the way people work.

SWOT analysis refers to analyzing the Strengths, Weaknesses, Opportunities and Threats. However, SWOT analysis in management refers to a structured planning method used to evaluate the strengths, weaknesses, opportunities and threats involved in a project or in a business venture. A SWOT analysis can be carried out for a product, place, industry or person. It involves specifying the objective of the business venture or project and identifying the internal and external factors that are favorable and unfavorable to achieve that objective. Some authors credit SWOT to Albert Humphrey, who led a convention at the Stanford Research Institute (now SRI International) in the 1960s and 1970s using data from Fortune 500 companies. Humphrey, Albert (2005).
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Hence, SWOT analysis means identifying first:

- **Strengths**: characteristics of the business or project that give it an advantage over others.
- **Weaknesses**: characteristics that place the business or project at a disadvantage relative to others.
- **Opportunities**: elements that the project could exploit to its advantage.
- **Threats**: elements in the environment that could cause trouble for the business or project.

Identification of SWOTs is important because they can be of great utility in the latter steps in planning to achieve the objective. First, the decision makers should consider whether the objective is attainable, given the SWOTs. If the objective is not attainable a different objective must be selected and the process repeated. Users of SWOT analysis need to ask and answer questions that generate meaningful information for each category (strengths, weaknesses, opportunities, and threats) to make the analysis useful and find their competitive advantage. Thus, it involves specifying the objectives of the business project and identifying the internal and external factors that are favorable and unfavorable to achieve those objectives. A SWOT analysis helps explain strategic advantages. Strengths are attributes of the person or company helpful in achieving the objective, while weaknesses are attributes of a person or company, harmful in achieving the objective. Opportunities are the external conditions, helpful in achieving the objective and threats are external conditions which could do damage in the objective.

Competitiveness is a multidimensional and relative concept and the significance of the factors of competitiveness change with time and context (Ambastha and Momaya 2004). Competitiveness can be at three levels, at the basic firm level, the industry level and the country level. Some academics believe that country and industry are mere facilitators and it is firm level competitiveness that is important. The sources of competitiveness are the assets and processes within an organization that provide competitive advantage (Ambastha and Momaya 2004).

Today Indian software industries have to compete on two fronts; at the global market – as majority of its revenue comes from exports and at the growing domestic market. The intense level of global competition faced is a huge push factor for enhancing firm-level competitiveness. This has bound the firms to constantly increase performance standards in many dimensions, including quality, cost, productivity, product introduction time, and smooth flowing operations. At the domestic front, both competition and cooperation are witnessed. As the domestic market grows, the inter-firm competitiveness is getting stiffer but the regulated trade environment leads to many synergetic alliances as well.

**Objective**

The core objective of this paper is to study the SWOT analysis (its strengths, weaknesses, opportunities and threats) tool to Enhance Competitiveness of Indian Software Industries. The paper also looks into what are the scenarios for growth of Software industries in the current scenario. Software industries are one of the grown and still more growing industries. Software industry has become one of the most significant growth substances for Indian economies. Software Industry as a knowledge based industry has the tremendous potential of becoming an engine of accelerated economic growth, productivity improvement for all sectors of the Indian economy and means of efficient governance. SWOT analysis enhances as tool for the factors shaping the competitive position of the software industries in the global arena.

**Background**

In 1998-99, the software industry in India was worth Rs. 158.9 billion (US$ 3.9 billion). If the value of in-house development, which is taking place at many large corporate organizations, is added then the figure would touch around Rs. 190 billion (US$ 4.6 billion). This impressive growth has not been achieved overnight. The C.A.G.R (Compounded Annual Growth Rate) for the Indian software industry revenues in the last five years has been 56.3 percent. Here the C.A.G.R. for the software export industry has been 60.71 percent while that for the domestic market has been 46.05 percent. (NASSCOM, Deity)
In 1998-99, the domestic software market has been estimated at Rs. 49.5 billion (US$ 1.25 billion) and this does not include the in-house development of software by end users. The domestic software market has shown a C.A.G.R. of 46.05 percent which has been steadily improving in the last few years. The growth rate of the domestic software market was 41.02 percent 1998-99. The domestic software market is expected to gross Rs. 73 billion in 1999-2000. With the rigorous enforcement of Copyright laws, increase in government spending on I.T. it is expected that in the coming years, the domestic market for software can even register more than 50 percent annual growth rates. Also, the government has implemented zero import duty on software. This is already having floating effect on the market and there is an increasing trend of buying software through the Internet. It is expected that by 2008 revenues of Indian domestic software market would touch US $ 37 billion. In the next few years, the prominent growth in the domestic software market is expected to get boost by segments such as banking, E-governance, defence, etc. (NASSCOM, DeitY)

The Indian software export industry continues to show impressive growth rates. In terms of Indian rupees, the C.A.G.R. over the past five years has been as high as 60.71 percent. The industry exported software and services worth Rs. 0.30 billion (U.S. $ 0.03 billion) in 1985; in 1998-99, a total export of Rs. 109 billion (U.S. $ 2.65 billion) was achieved and it is expected that during 1999-2000, software exports will be worth Rs. 172 billion (U.S. $ 3.9 billion). The software industry in India expects to reach an export level of U.S. $ 6.3 billion by 2000-01 and U.S. $ 10 billion by 2001-02. The National IT Task Force of India has set a target of U.S. $ 50 billion of annual I.T. software and services exports by 2008. (NASSCOM, DeitY)

For achieving this velocity of business, both the software industry and the Government of India are currently taking some bold and focused steps. Amongst others, this exercise includes path-breaking measures adopted by the National IT Task Force to further liberate the economy, simplification of procedures, and deployment of additional resources for technical manpower development, new marketing channels, enhancing global brand equity and providing state-of-the-art infrastructure for software development. The drive on I.T. services like E-commerce, Software Development, Interactive Integration services, Application Service Providers (ASP’s).

The growing of new software companies until a couple of years ago was limited to a few cities. The industry was mainly concentrated around Bangalore, Mumbai, Chennai, Delhi, Pune, Hyderabad and Calcutta. Most of the state governments have today accorded the highest priority to the development of the IT sector in their states.

**Discussion and Findings**

**SWOT Analysis of Indian Software Industry**

**Strengths**

Indian software industries quality is the trademark which provides high quality. The key components are good quality knowledge workers and good-looking price performance. The basic foundation for any software development activity is the availability of quality knowledge workers. India’s main competitive advantage is its abundant, high-quality and cost effective human resources. According to Department of Communications and IT of government of India For the entire 2012-13 fiscal, 640,000 professionals were employed in the domestic market, while, the number of persons working in the foreign markets in the IT-ITeS sector stood at 23,24,000 during the period, he added. This is the second largest I.T. work force in the world. The Information and Communication Technology (ICT) in schools have been subsumed in the Rashtriya Madhyamik Shiksha Abhiyan (RMSA) to provide computer education to all and smart school. A strong base of national institutes, engineering college and universities has laid a strong foundation of education in engineering skills amongst Indian software professionals.

Services offered by software companies in India are Custom Business solutions, Collaborative Content Management, Internet Marketing, Web Branding Services, Database Migration services, Customization Services, Application Development, Outsourcing, ERP solutions, IPhone Apps development, Collaborative Commerce, Programming Services, Quality assurance and testing services, Multimedia offering, Consulting, IT Business Sectors.
Most of the software companies in India are into varied types of business. Infrastructure Software: These include OS, middleware and databases. Enterprise Software: These automate business process in diverse verticals like finance, sales and marketing, production and logistics. Security Software, Industry-specific Software, Contract Programming etc. Indian software professionals easily adapt themselves to new technologies. Software programmers from India are able to provide expertise for all or large projects with dollar savings. The motto is ultimate adherence delivery schedules and customer satisfaction. Indian software industries increasingly large numbers are demonstrating their ability to handle large projects, a software export as well as the domestic demand in the last few years has been consistently growing at annual growth rate of about 50 percent. India’s success in providing efficient software solutions can be also attributed to the mathematical and logical ability Indian’s. The Indian IT software and services industry has set itself higher aspirations and goals. The time difference with USA was converted to an advantage for the industry to be able to offer 24 hour turnaround capability to US firms.

Policy changes beginning in the 1970s began to shift India towards a focus on software exports (Correa 1996). Further policy revisions in the mid-1980s, trade liberalization policies and software technology parks provided the infrastructure to allow offshore software production for foreign customers. Concentrated government efforts ever since have promoted the making of the industry. Since 1999 the Government of India has accorded thrust area status to the software sector. The Government has amended the Copyright Law to make it one of the toughest in the world; eliminated import duty on computer software; exempted profits derived from software exports from Income Tax etc. The Government of India has also set up innovative scheme like Software Technology Parks, etc., for promoting software exports. A growing number of State Governments and cities are building hi-tech buildings and habitats to accommodate the ever increasing numbers of software companies and enterprises. These are in the form of intelligent habitats and buildings and include infrastructural support like high-class value-added data communication services, captive power, recreational facilities, etc. They incorporate state-of-art facilities viz. plug-and-play features. This is assisting companies to quickly set up their software operations in India.

Weaknesses

Although, a few companies have started making shrink-wrapped software packages, the industry as a whole is still not oriented towards development of world class ‘shrink-wrapped’ software packages. Thus, the industry is not able to take advantage of a multiplier effect for growth in revenues. Lack of adequate computerization has led to a relatively weak domestic software market. Even, the PC penetration rate is very low. With low penetration of PC’s; it is obvious that Internet penetration is also poor. The Indian software industry possesses the expertise to absorb and use the latest technology. However, barring a few exceptions, it has still not produced enough original technology breakthroughs. Succinctly put, the industry has not created original operating systems or new computer languages and technologies, which could be used globally. Some of the leading companies in India have handled software development for mission critical real time operations. However, the industry as a whole does not have much experience in this field. As the Indian software industry has been growing at a fast rate, most of the project managers are becoming entrepreneurs, thus creating a gap in demand and supply of project management skills. In building a robust venture creation process, India still faces few constraints. To build a prolific venture community, India needs to focus on boosting all stages of venture creation process and have simplified procedures so that the domestic Venture Capital movement can flourish and overseas Venture Capital funds can be attracted. With the exception of isolated cases, not much exists in providing software applications in innumerable local languages. Thus, computer penetration in India is restricted to merely the English speaking population.

Opportunities

The market is large and rapidly changing-from a mix of legacy client server to web / package-based services. Market openings are emerging across I.T. services, software products, I.T. enabled
services and E-businesses, and creating a number of new opportunities for Indian companies. According to NASSCOM the corporate, government and consumer sector of the Indian domestic market offers a U.S. $18 billion opportunity by 2008 to software and services companies. The global outsourcing business was worth U.S. $77 billion in 1997 and has been growing at the rate of 15-18 percent per annum. A recent survey indicates that by 2002, more than 59 percent of the Fortune 1000 companies and other multinationals will outsource some part of their application development and maintenance activities. India can gain and corner a greater marketplace. India not only has a huge opportunity to service this market but also has a unique opportunity to address the needs of the NRI community around the world. India today commands a very high respect among investors in India and overseas. Almost all major overseas stock exchanges are keen for Indian software companies to list themselves on their respective exchanges. This is a major opportunity for the Indian software industry to attract the requisite investments. The recent permission to allow private ISP's operate in India and set up their own gateways will unprecedented Internet proliferation throughout India. It is imperative that the industry goes up the value chain and progressively increases domestic market development with a focus on both software and systems. It is required that the industry provide total solutions, including installation of hardware and software and also post installation maintenance and upgrades. The industry approach has to change from taking cost based leverage to innovation capability based advantage (Parthasarathi and Joseph 2002, D’Costa 2002).

Threats

In the past decade, the Government and industry have worked very well together in India for the success of the I.T. software and services industry. Now the Government's role needs to be increasingly directed towards providing suitable infrastructure and continuing its role in the simplification of policies. Any further plans for Government control, restrictions interference could well pose a threat to the industry. The immediate need of the hour in India is to have a world class telecom infrastructure at globally competitive tariffs. The Department of Telecommunications has taken a number of initiatives including the National Telecommunication Backbone, National Internet Backbone, and plans for providing high bandwidth Internet connectivity to remote corners of India. However, Government monopoly, lack of speed and adherence to outdated telecommunication rules and regulations can prove to be a threat to the industry. The world is moving at the speed of Internet. The decision-making and time taken for implementation in India needs to be at a much faster pace so that the Indian I.T. software and services industry does not lose any opportunities.

Although, the software industry is growing at a phenomenal rate, many other sectors in India have not yet been able to keep pace with it. Lately, almost all major cities are building hi-tech buildings to house the software industry. These buildings have state-of-art infrastructure, data communication facilities, captive power etc. But, lack of power, highways, housing and international airports is some cities have become a major constraint. Rising cost of infrastructure, basic services and salaries can pose a threat if not sufficiently balanced with value addition.

Recommendations

New entrants have to be aware that there exist a number of smaller, less visible competitors. It has been established that the dominant and powerful firms have a tendency to engage in low technology business activities, whereas the less dominant firms are involved with high technology activities. Thus, new entrants can select the segment they want to compete in based on their resources and exploration/exploitation strategies. They can identify whether their competitors will be major or minor market players. Small, in-experienced and less dominant firms might want to consider entering into cooperative agreements with other experienced or larger firms to gain synergetic advantage until their own resources are built. (Majumdar et al. 2010)

Bhatnager and Madon (1997) suggest that investors are very positive about the future of the Indian software companies due to the good performance of the firms in the Indian capital markets and their continued investment in them. Until the late 1980s firms could not tap the equity market and therefore started with a low capital base. But today the scenario has changed and the industry is well
established as a profit maker. New companies can now draw on financial institutions and public for capital. Critical size is seen to have achieved by start-ups in a matter of 1-2 years and they are performing well on the equity market. Another consideration for competition are the many non IT companies that are moving into software to tap the higher return business.

Conclusion

Nowadays, the proportion between software and hardware is changing. Hardware prevails in past but now it is software. Software industry will become the largest industry of IT market and it is a sunrise industry with the fastest speed to develop already. Bill Gates believes that there is no so called limit in developing of software industry. According to the report of New York Times, FEBRUARY 23, 2012 the cost of development software can reduce 20 percent, owing to our policy to develop software industry and cheap labor cost.

In conclusion, the easily available investments and high income industry, lower entry obstacles. Also, the precedence of successful startups and list of strengths and opportunities mentioned, make the industry a practical alternative for business. With the right combination of capital, human resource, products and services and the correct positioning according to the assessment of the structure and competitiveness of the industry, it will always be a sound investment to enter the Indian software industry.

References


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