CHAPTER - 2
RESEARCH DESIGN
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2.1 Preamble

The Indian Information Technology (IT) industry is on the take-off stage in the context of emerging opportunities in high-value assignments. All along, the industry has been successful only in bagging low-value assignments. Needless to say, all these assignments involve provision of IT-related services and not delivery of IT products. The latter obviously implies high returns for the industry. A modest beginning has been made by our IT industry towards selling IT products apart from selling IT-related services as is evidenced by global acceptance gained by the core banking solution product developed and sold by the Indian company, i-Flex. The top three IT companies in the country, viz., TCS, Infosys and Wipro, have woken up to the need to add more value to the portfolio of services and products they offer. In fact, they have little to show against their name in the latter category. They have decided to assume more risk in their business dealings as is evidenced by the just-concluded TCS deal with the UK-based insurance and pensions firm, the Pearl Group. The deal is worth USD 847 million!

However, our players have to overcome stiff competition in the high-end verticals from transnational players. After all, the latter have been in the said verticals for quite some time leaving the low-end assignments to players from countries like India. This is not going to be easy since a paradigm shift on the part of the Indian players is needed in the form of a new strategic approach. The provisions of TRIPS and TRIMS have a bearing on the way the Indian players mould their strategy in line with the emerging scenario. Any policy approach that fails to factor in these provisions can only lead to failed expectations. Thus a feasible model is needed by our IT firms which can guide them in moulding an appropriate
strategic Management Practices in Software Industries

strategy against the backdrop of the applicable provisions of TRIPS and TRIMS and in exploiting the strategic options available for the purpose. The research is geared towards this end. Hence this thesis entitled “The Strategic Management Practices in Software Industries”.

2.2 Objectives of the Research

The objectives of the research are to:

1. Examine how IT firms strategise their functions to face global competition.

2. Examine the impact of WTO provisions on IT firms particularly with reference to TRIPS and TRIMS.

3. Examine the key parameters, which play a role while arriving at strategies for implementation.

4. Evolve a feasible model for IT firms to strategise for sustenance and growth.

2.3 Research Gap

The various sources of literature reviewed on the subject, offer useful insights into the important aspects of functioning of our IT sector. As the literature suggests, the global delivery model has conferred a distinctive advantage on the IT sector. Offshore outsourcing also has gained widespread acceptance in the developed world, after the initial hiccups and the top Indian software companies are riding this wave. Additionally, our IT sector has been slowly contracting projects involving greater value addition. Moving up the value chain is the 'in' thing for our units now in view of the experience gained already and the imperative need to scale up volumes and value.
Yet issues remain, as the sources of reviewed literature reveal. 20% of the vendors account for 80% of services in the BPO sector, which is not healthy. Third-party providers, of which there are many, do not exploit the vertical BPO to the hilt. The Indian software firms tried to limit their dependence on such projects as Y2K. Experienced engineers with IT training are running short of supply in India too, thereby impeding the ability of our software firms to offer high-end services.

The review of literature in view of these facts brings out the need of greater emphasis for the researchers concerned to look into the strategic options needed by our IT sector in the present-day context. This would eminently complement their efforts. The resultant gap, after all, needs to be plugged. It is this gap that the researcher seeks to bridge with the help of this thesis.

2.4 **Scope of the Research**

The research covers IT and ITES units operating in and around Bangalore city owing to constraint on resources in time, money, etc. The units are into exports too. Although the research covers units operating in and around Bangalore, the conclusions arrived at can equally and justifiably be applied to units operating across the country.

2.5 **Hypotheses of the Research**

Hypotheses are conjectures and tentative statements the validity of which remains to be tested. They act as a beacon in as much as they provide the direction for the research programme. Accordingly, the researcher has constructed the following hypotheses with the aim of testing them:

1. Null Hypothesis (Ho): The Indian IT industry is characterized by lack of initiative based on strategic thinking; Alternate Hypothesis (Ha): there is scope to take the initiative based on strategic thinking both from the short term and the long term perspective.
2. **Null Hypothesis (Ho):** The Indian IT industry is not fully organized for planning and implementing the strategic initiatives; **Alternate Hypothesis (Ha):** the Indian IT industry needs to reorient itself to formalize strategic planning and implement it.

3. **Null Hypothesis (Ho):** The Indian IT industry's growth has resulted from reactive response to market stimuli; **Alternate Hypothesis (Ha):** the Indian IT industry's growth can be accelerated through proactive strategic initiatives.

### 2.6 Operational Definitions of the Concept

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Software</strong></td>
<td>Anything that can be stored electronically is software</td>
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<tr>
<td>Hardware</td>
<td>The storage devices and display devices are hardware</td>
</tr>
<tr>
<td><strong>Software</strong></td>
<td>Generic software applications sold to the mass market; this involves little, if any, customisation</td>
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<tr>
<td>Package</td>
<td>Refers to one where the software developing firm deputes its employees to its client's premises; this is also called body-shopping; the firm that bags the software development assignment rarely has a long term view of the relationship with the client; the focus is on implementing the current project, testing it and handing over the source code to the client; it rarely calls for a deeper understanding of the client's business; this adds little value to either the developer of software or their employees.</td>
</tr>
<tr>
<td><strong>Category</strong></td>
<td>Description</td>
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<tr>
<td><strong>Offshore Outsourcing</strong></td>
<td>It involves work being done at the site of the firm that bags the assignment; interaction between the software firm and its client is through telephone and e-mail and periodic telecons; it does involve some amount of travel for the developer to the client’s site; as long as the nature of work is restricted to coding and testing, this too does little to the developer in terms of enhancing their skills and expertise and the value that may have been appropriated by the employer as such projects are usually backed by <em>cost plus (time and material)</em> contracts.</td>
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<tr>
<td><strong>Fixed Fee Contracts</strong></td>
<td>Assignments like IT consulting, which are believed to provide 30 times more value than mere coding and testing and maintenance are based on fixed fee contracts; these assignments call for greater expertise from a firm and involve higher risk.</td>
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<td><strong>Strategy</strong></td>
<td>A conscious decision to adopt a major direction-setting objective, together with its implementation path.</td>
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<td><strong>Onsite//Offshore (Hybrid) delivery model</strong></td>
<td>The outsourcing work is distributed between the service providers onsite enter and the offshore development centre and thereby the customer gets the advantage of both types of outsourcing models.</td>
</tr>
<tr>
<td><strong>Offshore delivery model</strong></td>
<td>In offshore delivery model the programme is accomplished at the service provider’s offshore development centre which is located in a different place / country.</td>
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The agreement on Trade – Related Aspects of Intellectual Property Rights (TRIPS) under WTO; it consists of 73 articles in VII parts. The intellectual property rights are private rights but there is need for a multilateral framework of principles rules and disciplines dealing with the intellectual property rights.

Trade-related Investment Measures are performance requirements that have been employed by host countries under the framework of WTO. These should result in industrialization employment creation export promotion.

2.7 Research Methodology and Sampling Design

The descriptive – cum – survey methodology has been employed. Simultaneously, analytical and empirical testing has been applied.

The sampling design adopted for the research is based on non-random technique in that deliberate and judgemental sampling has been utilised to achieve the objectives of the research. Sampling design adopted for the research is based on non-probability sampling and representation basis is convenience model. The non-probability samples are unrestricted. This has been chosen to test and gain the ideas in the subject namely strategies. The results are expected to present evidence as the respondents are from the IT & ITES organisations. The spectrum of the industry covered includes IT and ITES sectors. Altogether 50 units have been selected as sample. Units, which have been operational for at least
five years and are also into exports, have been reckoned as the basis for selection.

2.8 Sources of Data and Data Collection

The research makes use of primary data extensively. The said primary data has been collected through a survey of units that constitute the sample. Primary data has been collected by administering questionnaires on the topic.

TWO questionnaires have been designed to collect primary data:

**Questionnaire – 1:** This questionnaire is designed to understand the way companies strategise their business. This helps in eliciting their ideas for possible improvement, in view of the global competition. These questions are focussed towards the objectives 1 & 2 namely to examine how the IT firms strategise their function to face global competition and to get responses from the respondents about the impact of TRIPS and TRIMS on IT firms.

**Questionnaire – 2:** Questions of the questionnaire 2 is with reference to the objectives 3 and 4 namely to examine the key parameters and to evolve a feasible model. It also intends to examine the key parameters apart from testing the hypothesis.

Likert scale has been used for this purpose. Kendall’s tau-b test has reinforced the result of testing of the hypothesis and to arrive at relationship of the parameters.
Secondary data has been collected by perusing extensive literature on the subject. Literature was accessed from research papers, periodicals, journals, dailies, internet and portals on the subject.

2.9 Analysis of Data

The collected data has been tabulated based on the responses elicited through the questionnaires and analysed. Statistical tools such as chi-squared test have been used to test the hypothesis. Kendall’s tau-b test has been carried out to understand the relationship between the parameters.

2.10 Reference Period

The research covers the period 2000 through 2005. During this period, the IT and ITES sectors witnessed a paradigm shift in their operations. These are days when some of our IT and ITES corporates have become multinationals and rank amongst the top IT and ITES corporates of the world in terms of production volumes, cost-effectiveness, wealth maximisation, etc.

2.11 Limitations of the Research

The following are the limitations of the research:

1. The universe of the sample being only 50 at the maximum, the findings may not be viewed as being fully reflective of the industry across the board. However, the variance can be justifiably regarded as insignificant owing to the higher concentration of India’s IT-related industry in Bangalore city. Hence it cannot affect the findings of the study, even insignificantly.
2. Since Bangalore-based companies alone have been considered for the research, to that extent the findings of the research may not be fully reflective of the industry as a whole. However, a cross-section of the IT-related industry has a significant presence in Bangalore city and hence it can be safely concluded that the findings arrived by using the Bangalore-based companies, as respondents are true in respect of similar companies operating across the country as a whole.

3. Since the research relies on the extent and quality of information disclosed by the sample units, the accuracy of the findings of the research is a function of the accuracy of the disclosure made by the sample units. However, the researcher is confident that the information relied upon for the research is accurate to the best of his knowledge and belief and deviation, if any, could at best be marginal and hence will not affect the accuracy and quality of the findings of the research.

2.12 Chapter Scheme

The research is presented in six chapters as explained hereunder:

2.12.1 CHAPTER-1: Statement of the Problem

Introductory in nature and content, this chapter traces the arrival and the growth thereof of the IT industry in India.

The initial modest phase and the subsequent high-growth phase leading to this industry's increased contribution to the GDP of the country on behalf of the tertiary sector is examined in the context of the eventual globalisation to be achieved.
2.12.2 CHAPTER-2: Research Design

This chapter typically furnishes the design of the research. Apart from the objectives to be fulfilled, the hypotheses underlying the research and the presentation of the research are also explained in this chapter.

2.12.3 CHAPTER-3: Review of Literature

a) Reports on WTO especially TRIPS and TRIMS were reviewed to understand their impact on IT firms

b) Articles/books reviewed:

Detailed study done has been presented under the following headings

1) The reason for referring the literature,
2) Views of the authors of the literature and
3) The perception of understandings (outcomes) of the researcher.

2.12.4 CHAPTER-4: Profile of the Sample Units

In this chapter, the researcher profiles the respondent organisations being considered for the research

2.12.5 CHAPTER-5: Analysis of Data

The researcher has collected extensive primary and secondary data with a view to analysing them in the context of the objectives defined. The data is analysed in this chapter with the help of statistical tools after tabulating and charting the data. The outcome of the analysis has been used to draw conclusions and extend suitable suggestions. Additionally, the hypotheses underlying the research are tested in this chapter.
2.12.6 CHAPTER- 6: Findings and Conclusions

As already said, the data collected by the researcher has been analysed in the light of the objectives to be fulfilled. The analysis has led the researcher to important findings and conclusions, which are summarised in this chapter.

2.12.7 CHAPTER-7: Suggestions, Recommendations and Scope for Future Research

In the light of the findings and conclusions arrived at, the researcher has offered appropriate suggestions which are explained in this chapter. Additionally, the researcher has suggested topics for future research in this chapter. A global process model for IT firms to strategise for sustenance and growth is also presented under this chapter.