Chapter-II

Methodology

2.1. Introduction:

As discussed in the first chapter, the aim of the present study is to examine the relations between the social background and access to IT education. Within this framework, an empirical study was conducted on the question of access to different social groups.

The present chapter discusses the methodology adhered to in selection of the cities, selection of IT education centres, and sample of respondents. This chapter also covers the tools and techniques of data collection employed in the study. The chapter is broadly divided into two sections, while the first section deals with the selection of fieldwork methods, section two focuses on the concepts employed in the study.

2.2. Research Design

Research design of the present study adopts cross-sectional design. Study shows how the social background influences accessibility of IT education and training opportunities to members drawn from different social categories in Andhra Pradesh. The study also demonstrates how and to what extent social background determines accessibility levels of social categories that differ by virtue of their birth into particular families and social categories.
strategy poses several practical problems and hence the second strategy was adopted.

Having described the methodology in the present chapter, before going to examine the relation between the social differentials and access to IT education it is quite important to understand how the IT education is organized in India in general and Andhra Pradesh in particular. The next chapter also talks about how the organization of IT education has larger implications on the issues of access to different regions and social groups of diverse nature.

The following chapter dwells upon the organization of IT education and its implications for accessibility.
2.3. Pilot study

Andhra Pradesh is one of the major sources for human resources in the field of IT in India. On an average 23% of the total software personnel originates from the cities and towns of Andhra Pradesh. IT jobs are highly coveted among the members of middle classes and upper castes in Andhra Pradesh.

Following a review of literature of Information Technology and society relations in general and their implications for IT jobs in particular, the researcher conducted a pilot survey among 40 students pursuing IT courses in two IT training centres by using the questionnaire and interviews to collect data from students. Another interview schedule was also prepared for eliciting information from management of IT education centres.

2.4. Selection of the field

In accordance with the objectives of the study and research design I selected four cities namely Hyderabad, Vijayawada, Warangal, and Tirupathi. The rationale behind selecting these four cities as field sites is: Firstly, apart from Hyderabad the other three cities represent three regions of Andhra Pradesh namely costal Andhra, Telangana, and Rayalaseema respectively. Secondly, a significant number of IT Educations centres are concentrated within these cities. Thirdly, all the four cities have acquired reputation for quality in imparting education at different levels and finally the political economy of these cities is also unique in nature compared to the other cities of Andhra Pradesh.
The rationale behind selecting Hyderabad is, that it has been projected as the future capital of Information Technology industry in India. As a result of several proactive policies of the state government, a significant number of software and hard ware companies have been established in Hyderabad. As a corollary of these developments hundreds of IT education centers emerged across the city ranging from international to local institutions that offer a wide range of courses.

Vijayawada, known as one of the major commercial and educational centre of Andhra Pradesh, is located on the banks of river Krishna. The hinterland of Vijayawada is agriculturally prosperous due to the availability of the Krishna river water for irrigation. Because of green revolution and the strategic location of city, a significant number of educational institutions were started to meet the demands of the city aspirants and the students from near by towns and villages.

It appears that some of the economically resourceful castes and classes by virtue of their landownership seem to deploy their agrarian surplus in IT education, as an avenue of investment. IT has become another avenue for such investment for accumulation of capital by investing in IT educational institutions.

Warangal is a historical city and known as the major commercial and educational centre for Telangana region. Warangal city and district are relatively prosperous in agriculture compared to other cities of Telangana. A significant number of government and private educational institutions have been established in city. Similarly a significant of number of IT education institutes also have emerged in city, which range from local to internationally reputed instituions like NUT and Aptech.
Tirupathi is more popular as a temple city, because of the local deity Lord Venkateswara. As a result of investments of resources by the temple management, a number of educational institutions ranging from elementary school to university level have developed. On the other hand a significant number privately managed colleges shaped the Tirupati town as a centre for educational activity including IT education and training. NUT was the first training centre to come up in the city and the number has increased to 20, which offer different types of courses in IT field.

In contrast to other cities, in Hyderabad most of the IT education and training seekers belong to social groups like middle classes, comprising professionals, self-employed (business), civil servants, and white-collar workers. The other three cities primarily located in midst of the rural hinterland. The composition of IT education and training seekers tend to be different in the four cities selected for the study.

Primary data were collected from a sample of students drawn from the IT education and training institutes in four cities of Andhra Pradesh.

2.5. Selection of IT education centres

IT education is imparted by academic and industrial organisations both in public and private sector, but it is dominated by the non-formal sector (Private). The reputed IT education centres were selected for the present study namely NUT, Aptech, CMC, and SSI. The selected were either franchise or the branches of the respective training organizations mentioned above. The study was conducted in 16 IT education centres selected from four cities of Andhra Pradesh.
The rationale behind choosing these centres is; firstly, the total strength of these centres is significantly higher when compared to other training vendors, secondly, all the above centres are spread across the selected cities. Thirdly, the selected centres seem to be more popular when compared to the other training vendor in training industry and evolved new trends in extending the scope of IT education and training by innovative methods.

2.6. Selection of sample

The major focus of the study is the students. To understand organizational details data also collected from the management of the IT education centres. At time of study the enrolment in each centre varies from 150 to 160 students. Centre management refused to provide the list of total students enrolled in different courses. As a result it was difficult to get the list of students from each centre. Further, the enrolment kept changing every month. Under these circumstances I selected 15 students from each of the 16 centres on the basis of their willingness to participate in the study. This constitutes approximately 10% of the enrolled students.

The respondents for the present study were the students in 18-30 years age groups who were pursuing IT education courses at different levels. This may be called as a purposive sample. The managing officials of the centres allowed me to interact with students. The students were advised to assemble in a room to interact with me. During the interaction I asked them to respond to the questionnaire.
The total sample of the study is 240; fifteen incomplete questionnaires were not included in the analysis. Data obtained from 225 respondents were analysed. The table No.2.1 provides details pertaining to the name of cities selected; number of centres covered and the total sample have drawn for analysing the data.

Table No.2.1 selection of sample

<table>
<thead>
<tr>
<th>Name of the city</th>
<th>No of centres selected</th>
<th>Size of the sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyderabad</td>
<td>04</td>
<td>60</td>
</tr>
<tr>
<td>Vijayawada</td>
<td>04</td>
<td>60</td>
</tr>
<tr>
<td>Warangal</td>
<td>04</td>
<td>60</td>
</tr>
<tr>
<td>Tirupati</td>
<td>04</td>
<td>60</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>240</td>
</tr>
</tbody>
</table>

Primary data consist of rural-urban, caste, social class, and gender background of the student’s apart from the motivational factors and the meaning that they attached to IT-education, to mention a few, were collected from the students. The data also cover about their educational qualifications/occupational position of respondent’s parents.

2.7. Secondary Data

The data were drawn from the Government reports, on growth and development of IT industry and the spread of Information Technology, IT policies of the centre and state Governments in addition to the relevant journals, periodicals of IT organization were also collected for data.
2.8. Techniques of Data Collection

The present study employed both qualitative and quantitative techniques. In addition to the questionnaire that was used to collect data from the students, to get qualitative data the researcher used two methods; firstly, personal in-depth interviews to understand the personal profile and attitude of the respondents. Secondly, focus group discussions were conducted to get an idea of how students collectively perceive about IT education and prospects of IT education and training.

Data pertaining to their experiences with the training staff, and with their peer groups were also captured in detail. For the quantitative data the researcher used the questionnaire method, which consisted of questions relating to socio-economic background, their motivation and their expectation and experiences were identified. The data were collected over a period of 8 months i.e. during January 2002 to August 2002.

2.9. Plan of Analysis

In this study, caste background, social class, rural-urban, gender and Income level of the students are independent variables. The degree of access, perceptions and attitudes of the students are considered as dependent variables. Contingency analysis of the data was carried out to understand the relationship between social class and caste background of the respondents and degree of access to IT education.

2.10. Experiences in the field

The researcher experienced major problems in convincing the managers of IT education centres and he was stopped in entrance gate in two IT education centers.
The managers insisted that it was that the policy of the centre not to allow the 'outsiders' into their centers. They were suspicious about the researcher intention.

To establish rapport, I mentioned to the managers that my purpose was academic one and I also showed questionnaire to the managers.

The managers did not want - questions on IT courses offered by the centre, fee charged for the particular courses, infrastructure facilities like number of computers, power supply, qualifications of teachers etc to be included in the questionnaire. They were also suspicious that I may use the data for reporting to the press. The heads of the IT centres heads also objected to some of the questions, which primarily focuses on the organizational structure of the center.

The centre managers were hesitant to reveal any information pertaining to their student's socio-economic background and they were also not interested to disclose the fee structure and the salary of employees, information about the infrastructure. Moreover, since I was a student they did not take me seriously and dismissed my request to conduct my study. Even after repeated visits to the four centres I couldn't get any information, these experiences led to disappointment. To overcome the problem, I slightly changed the strategy by framing indirect questions in the questionnaire and interview schedules meant for the managers. These modifications removed their reservations and allowed me to interact with the students.

I approached the centre heads through students of the same centre. This modification helped in obtaining information from the management as well as the respondents. The new strategy worked well and the IT education centres gave
permission to conduct the study. The attitudinal change gave an opportunity to explain the objectives of the study and motive behind visiting the IT centres.
Section-II

Operationalisation of the Concepts

The present section provides a brief description of the concepts used in analyzing the thesis. The following concepts were used in understanding the relation between the social economic background of the students and access to IT education.

2.11. IT education and Training

It is a scientific process of imparting education pertaining to the IT based technologies and providing training in required skills related to electronics, computer hardware, software, computer-aided design and manufacture, software tools and their applications in various domains.

2.12. Formal and Non-formal IT education

In India IT education is broadly organized in two sectors; one is formal sector and the second is non-formal sector. The formal sector refers to government-run educational institutions such as universities, colleges that disseminate knowledge in the field of Information Technologies and allied sectors. The non-formal sector refers to private sector. IT industry, IT education and training industry are predominantly dominated by the private sector. Organizations and enterprises that provide IT education and training are also referred to as IT education and training vendors.
In India, several types of IT training vendors ranging from international to local offer courses of diverse nature and operates in a flexible mode in changing the courses in correspondence with the market demands.

The unique feature of the non-formal sector is franchise system, according to it the franchise has to pay some amount as royalty for using the brand name of particular IT education and training vendor.

2.13. Social stratification

Social stratification is a hierarchically organized structure of social inequality. It exists in all human societies. In the Indian context, the classes, caste, gender, ethnicity and age constitute social stratification systems.

2.14. Caste

In India, caste is one form of social stratification as mentioned above. According to this, caste groups are ranked as low or high on the basis of the degree of the ritual purity of occupations pursued. The Brahmin is ranked as highest, followed by Khatriyas, Vaishyas, Shudras and Untouchables.

However, caste has been undergoing significant change since independence, but it is not wiped out from Indian society. However, castes are ranked, and endowed with endogamous entity. Caste system is an ascribed entity, which determined by birth into particular community.

Although the causal relation between the caste and occupation is significantly declining, still the caste system is playing a crucial role in facilitating
access to some castes groups while simultaneously marginalizing the disadvantaged communities from access. In this study caste is used as synonymous with jati. In the study we adopted the strategy of asking the respondents to place their caste in one of the broad groupings adopted by the state- OC, BC, SC, ST etc.

2.15. Class

Class is a hierarchical distinction exists among social groups or individuals within society. In the western context it is synonymous with social stratification. Marxism views class as economically conditioned and inherently conflictual divisions of society grounded on ownership and non-ownership of property.

The class differences have begun when a particular social group claims the resources of production and denying the same to other social groups. In different historical contexts the property relations shape the social relationships. The class system is exploitative in nature where in the property owned class exploit the property less, therefore conflicts is inevitable product of class relationship.

However Weber's approach to class is significantly different from Karl Marx construction of class, according Weber class means all the persons in the ‘same class situations'. Within the situations individual and the generational mobility is smoothly takes. He considered status and prestige as a distinct source of inequality (Coser 1977).

Though he recognized the ownership and non-ownership production is the base for class inequality. He emphasized the role of markets and skill set in expanding the class system beyond two dichotomous entities. He identified
different classes, they are; the working class, the petty bourgeoisie, the property less intelligentsia and specialists, and classes privileged by property and education. However, Weber viewed that social class is tends to change more frequently. Weber emphasis on number of factors determining opportunities and rewards become influential in understanding social stratification.

Most of the modern sociologists theorized class by taking either Marx or Weber as a base point, recognized that class is fundamental and dynamics of society is remains as 'objective' class interests. However it is important to note that most of the empirical works on class and social mobility has adopted ‘occupational’ definitions rather than the criteria of property relations (Ibid).

In the present study class categorization of classes has been done based on the perceptions of the students about the social class position of their parental household in terms of higher, middle, and lower classes.

2.15 Equality of opportunity

The concept that envisages the equality of opportunities irrespective of the caste, class, gender, race, age, language, region and religion. The concept got very much importance in understanding the nature of organization and distribution of resources of diverse kind in the society. The concept has origins in educational polices of England, in the view of providing access to secondary education to all the sections particularly the disadvantaged. It promised the ‘equality of access’.

The sociological debates crystallized on two major issues related to equality of opportunity; A), the extent to which it is socially desirable, feasible, and
relevant, B) the extent to which particular educational innovations aimed in the view of achieving expanded equality of educational opportunity have been successful or unsuccessful.

The present study examines how the indicators of social differentials determining in providing equality of opportunities particularly in the case of IT education in relation to the diverse social groups which differ by virtue of the birth in particular social setting.

2.16. Motivation

As mentioned in the first chapter motivation is one of most important variable in understanding the meanings attached by the diverse social groups to education and particular streams. The present study analyzes the concept of motivational factors based on the meanings that the students, attach to IT education.

2.17. Access

The term access is used in the present study to refer to entry in the context of equality of opportunity and social justice it also refers to right to entry. A study on differential access may be carried out by following one of the research strategies mentioned below: a) by comparing two matched groups: One, a group enrolled in IT education and training courses; and second a group that is not enrolled. The second by focusing on the differences among those who are enrolled. The present study adopted the second strategy to understand the degree of access. The first