CHAPTER 3
Research Methodology

The study is descriptive cum explorative in nature because there aren’t studies in this topic available. The decision to conduct a descriptive cum explorative study is also prompted by the necessity to understand the general characteristic of the work environment of IT organisation in Kerala, the socio-cultural and familial background of professionals and their family issues related with work. A mixed method study (a medley of qualitative and quantitative analysis) was adopted to identify the issues and conditions among professionals working in the IT segment such as job stress, family environment, marital quality etc. The study has been conducted in three phases; phase-1 of the study was conducted on a small subset of IT workforce– the coterie of pregnant women working in the IT, while qualitative study in phase - 2 takes a deeper look into the problem, and quantitative study in phase - 3 helps evaluate the hypothesis formulated after phase - 2 and validate the inference derived from the qualitative study. Phase – 2, being qualitative, covers a broad range of issues. While Phase - 3 uses structured questionnaires and statistical analysis to evaluate the hypothesis formed after phase - 2.
3.1 General Objective
To study the socio-cultural and familial problems of the IT professionals in Kerala.

3.2 Specific Objectives

1) To study the socio-economic background of the employee
2) To understand the socio-cultural problems of IT professionals.
3) To examine the work environment.
4) To study whether there is substantial job stress in the IT industry in Kerala.
5) To find out whether the stress at work is affecting the quality of their family life.
6) To assess the marital quality
7) To examine the family environment.
8) To estimate the general health status of IT professionals in Kerala.
9) To review the HR Managers’ and other stakeholders’ awareness on the subject.
3.3 Hypothesis

1) Spending capacity of IT family is high, where both partners are working in IT.

2) IT work does not affect the general health of professionals significantly.

3) IT workers are not interested in ‘working from home’ option.

4) Concerns regarding job security are a major cause of stress among IT professionals.

5) The quality of family environment is poor where both partners are working in IT.

6) The quality of family environment is enhanced when the position of the employee in the organization is on the rise.

7) Sexual satisfaction of couples is significantly affected where both partners are working in IT.

8) Marital quality is found to be in the slump where both partners are working in IT.

9) Marital quality is found enhanced when position of the employee in the organisation is on the upswing.
3.4 Operational Definition of Major Concepts

3.4.1 Socio-Economic

In this study, socio-economic profiles of the software engineers refer to their background in terms of their age, sex, educational level, marital status, religion, caste, income level, years of experience and number of children.

3.4.2 IT Professionals

Professionals who work for commercial software development or support activities in offshore centres of companies with special reference to the Technopark, Trivandrum and the Infopark, Cochin are grouped here. The study is limited to married professionals only.

3.4.3 Offshore Centre

In this study, offshore centre refers to the facilities available for the development of software to cater to the needs of client organisation.

3.4.4 Onsite Team

The group of professionals working at the client’s premises for software development is the onsite team.
3.4.5 Clients

May be defined as the organization for which the software development or support activities are executed. Client may be a software product developer or end user in US/Europe.

3.4.6 Socio-Cultural Problems

Problems arising in the life of the IT professionals due to their inability to participate in socio-cultural activities like visiting a public place, attending cultural programs, time out for relaxation like movies and such entertainment programs, taking party memberships, spending time with peer groups and allocating time for hobbies such as reading, gardening etc.

3.4.7 Work Environment

Hofstede (1991) defines work place culture as 'the way employees have been socialised in their organisation'. Work culture incorporates the organisational customs and traditions that inform the organisation’s ethos, including standard working hours, overtime, hierarchy, self-management procedures, job security, leave, overload of work, perquisites, as well as the more informal aspects of the workplace environment. In this study, the terms ‘work environment’ and ‘work culture’ are used synonymously.
3.4.8 Stress at Work

In this study, stress at work refers to a range of problems like anger, conflict, smoking, drinking and hamstrung sexual health etc that is likely to be caused by overwork.

3.4.9 Family Environment

In this study, family environment refers to the general condition within the family that affect the interaction, relationship and development of its members which is measured in the dimensions of expressiveness, cohesion, independence, conflict, acceptance, caring and active recreational orientation.

3.4.10 Marital Quality

In this study marital quality refers to the quality of the relationship between the spouses which includes trust, understanding, affection, sexual satisfaction, rejection, despair, decision-making, discontent, dissolution potential.

3.4.11 Health Hazards

In the present study health hazards refer to the ailments such as overweight, radiation problems, life style diseases, eye
problems etc. checked for rampancy among software professionals.

![Research Design Diagram](image.png)

**Fig.3.1 Research Design Diagram**
3.5 Demands on career women in the IT Sector – Phase-1

After the review of literature the researcher decided to conduct a study on a small subset of IT work force in Kerala because, practically, no study of similar nature has been undertaken in Kerala. The subset selected for this study is the pregnant women working in IT sector in Kerala. The study to find out the merits and demerits of IT career for women was conducted during the period from October 2008 to July 2009; the inference obtaining is described in detail in the Chapter 4.

3.6 Qualitative Study – Phase - 2

After the study on the small subset comprising pregnant women the researcher decided to conduct a qualitative study to understand the environment of IT professionals in work place and family followed by a quantitative study to ascertain the findings. The qualitative study was conducted during the time period from August 2009 to September 2010. This study was conducted to answer one major question; ‘What is the work and family environment of IT professional and how do these two realms spill into each other and with what implications for the people in this job?’
3.6.1 Theoretical Perspective

The qualitative methods used in this study are based on the theoretical perspective of narrative inquiry. The narrative approach of inquiry is based on two ideas. First, the theory is based on the idea that people communicate about their lives through stories (Borden, 1992; Engel, 1995; Neimeyer and Stewart, 1996; Walsh, 1998). Second, this theoretical perspective seeks to uncover the hidden anecdotes that people want to share (Borden, 1992; Franzosi, 1998; Neimeyer and Stewart, 1996). Narrative inquiry suggests that these stories are the ones that illuminate meaning and understanding behind the experiences of people (Franzosi, 1998; Riessman, 1993). Borden (1992) argues that “research efforts should address the meaning of events and the impact of experience as appraised by the person.” Narrative approach allowed the families who participated in this study to share their own stories regarding their unique experiences. The narrative approach fits this research question that seeks to understand the experiences of IT Professionals and their spouses. They open up not only about their pains while working in IT, but their gains as well. The researcher met key informants and interviewed them at their convenience.
3.6.2 Interview with Software Professionals and HR Managers

In the phase-2 of the study, data were collected through semi structured interviews, with IT professionals and HR Managers. The qualitative study involves a purely informal narrative type of interview with 40 IT Professionals and their spouses working in Kerala, inside the government-owned technology parks. Researcher got a chance to interview a Keralite, a US citizen, who had studied and worked in India and now works with a US company in California but is on deputation with a company operating from Trivandrum. The researcher spent many sessions with him and got an opportunity to compare the work culture in America with that in Kerala, from the perspective of a Keralite. The researcher used semi structured interviews to interview and gathered information from Key informants. Semi structured interviews with 40 HR managers were also conducted. This study is presented in detail in chapter 5.

3.6.3 Key Informants

Researcher interviewed clinical psychologists, sexologists, physicians, ayurvedic doctors, family court judges and family
court counsellors at their convenience to understand whether they have clients from IT workforce in Kerala and to assess the level of significance of their perspective. The tedium of the process of getting appointment from these informants who are themselves very busy professionals makes this work a well researched and worthwhile venture. Utmost care was taken to arrange the meeting without invoking any kind of irritation from the key informants because, the researcher is aware that it may affect the quality of data they provide. The information gathered from the key informants in the qualitative study is compared with the quantitative analytical results of the study.

3.6.4 Information from Government Agencies, Departments

To understand the size of the IT work force in Kerala, enquiries were made to labour officers concerned, authorities of Technopark and Infopark, Kerala State IT Mission (The autonomous society under the government of Kerala for IT development in Kerala) and Software Technology Parks of India (STPI), Trivandrum during August 2008 to October 2008. None of these organisations provided any authentic information. The researcher derived the information regarding the size of the work force by interviewing 40 HR Managers in Technopark and
Infopark (20 from each park). To correlate these results with information available from any one or all of the aforesaid government or quasi government organisation, questions were asked under the RTI (Right to Information) act in December 2010. Kerala State IT Mission replied that they had no details with them and hence had forwarded these requests to CEO’s (Chief Executive Officers) of the parks concerned. But none of these parks were found to have any information like the total number of employees, number of women employees, number of men employees etc. The Labour commissioner of the government of Kerala was approached with the same questions. The State Public Information officer (Joint Labour Commissioner) in turn, directed all the District Labour Officers to answer these enquiries. Surprisingly the Labour officer of Trivandrum approached the Kerala State IT Mission Trivandrum and the Technopark Officers seeking answers to these questions, which was again a futile exercise. STPI officials, when asked via RTI Act about it, also replied that they were not in possession of any such information. The researcher spoke to many HR Managers, canteen operators in the park and professionals, and came to a conclusion vis-a-vis this data. Regarding the revenue through the exports, researcher got the
latest information from the STPI, Trivandrum and the STPI Delhi through question asked via the RTI act.

3.7 Quantitative Study – Phase - 3

The researcher developed hypothesis based on the qualitative analysis of the data acquired from the software professionals, HR Managers and from the key informants in Phase -2 of the study. These hypotheses were tested against the analysis of the data collected from 270 software professionals and their spouses using closed ended questionnaires (refer Appendix-B).

A pre-test was conducted to test for ambiguities and confusing terminology, to determine if response choices provided adequate item variance, and to obtain overall reactions to the questionnaire. Ambiguous, confusing items and directions for filling up the questionnaire were altered on the basis of feedbacks from test participants.

3.7.1 Establishing Validity

Prior to the pre testing, the questionnaires with couples were examined by an expert panel of three faculty members who affirmed that the questionnaires had both structural validity and content validity. Content validity was shown
through an agreement of a positive relationship between the questionnaire items and the literature reviewed. A pilot test was done before finalizing the tool. Pilot test is meant for fixing the time limit of the test and for determining the ambiguity if any in the item construction. The test was therefore pilot administered to 30 IT professionals. Sufficient instructions were given to the professional to ensure an appropriate and optimum response to the test. The investigator was able to correct the items and to find out the difficulties faced by the individual in answering the test. After the pilot test the necessary modifications were effected in consultation with the subject expert. Moreover the internal consistency of the dimensions related to family environment was determined using alpha reliability.

Table 3.1
Reliability of the Dimensions of Family Environment

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohesion</td>
<td>0.6237</td>
</tr>
<tr>
<td>Expressiveness</td>
<td>0.6821</td>
</tr>
<tr>
<td>Conflict</td>
<td>0.5906</td>
</tr>
<tr>
<td>Acceptance</td>
<td>-</td>
</tr>
<tr>
<td>Independence*</td>
<td>-</td>
</tr>
<tr>
<td>Active recreational orientation</td>
<td>0.4088</td>
</tr>
</tbody>
</table>

*Only one statement is relevant to that dimension*
Table 3.2

Reliability of the Dimensions of Marital Quality

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding</td>
<td>0.5595</td>
</tr>
<tr>
<td>Rejection</td>
<td>0.8665</td>
</tr>
<tr>
<td>Decision Making</td>
<td>0.5517</td>
</tr>
<tr>
<td>Affection</td>
<td>0.8468</td>
</tr>
<tr>
<td>Trust*</td>
<td>-</td>
</tr>
<tr>
<td>Satisfaction*</td>
<td>-</td>
</tr>
<tr>
<td>Dissolution*</td>
<td>-</td>
</tr>
</tbody>
</table>

*Only one statement each is relevant to that dimension*

Internal consistency of the statements in some of the dimensions related to family environment and marital quality were done using alpha reliability and are given in the above table. Worked out Alpha reliability is found to be greater than 0.5 for all except active recreational orientation which indicates, the statements are a reliable measure to gauge that dimensions. Content validity of the tool is checked against careful examination of related factors objectives and the judgment of subject matter experts.

The expert panel and pre test group of IT professionals and their spouses responded to the questionnaire, indicating
unclear, ambiguous items leading to confusions. Fuzzy areas were reviewed and necessary changes effected.

3.7.2 Universe of the study

All Software engineers working at US/ European based companies at Infopark Cochin and Technopark Trivandrum, and their spouses.

3.7.3 Sample

The snowball technique was deemed an appropriate sampling technique for this specialized population because of the difficulty of locating professionals working on a very busy schedule using random sampling methods. This process continued until the list of participants expanded to 279 couples. The data requirement was stratified as follows.

1) Both the partners are working in IT Sector

2) One of the partners is working in IT Sector and the other in Non IT Sector

3) One of the partners is working in IT Sector and the other is a Home Manager

Care was taken to include equal number of couples from each group.
3.7.4 Theoretical Perspective

The theoretical model for the third part of the research study is developed on the basis of ‘Total Design Method’ developed by Don A. Dolman in Social and Economic Sciences Research Centre and Departments of Sociology and Rural Sociology in Washington State University, which improves the response rate of the quality and quantity in mail surveys by applying the principle of social exchange (Dillman, 1978). He argues that the response rate can be increased by creating a positive social exchange situation. Social exchange theory\(^1\) posits the formation of human relationships by the use of a subjective cost-benefit analysis and comparison of alternatives. For example, when a person perceives the costs of relationship to outweigh the perceived benefits, the theory predicts, the person will choose to opt out of the relationship. Rational choice theory is a way of looking at deliberations between a number of potential courses of action, in which "rationality" of one form or another is used either to decide which course of action would be the best to take, or to predict which course of action actually will be taken. Social exchange theory deals with

\(^1\) Source [www.wordiq.com](http://www.wordiq.com)
the notion of reciprocity\(^2\), that is, what you do for me may entice me to do something for you. When designing surveys, it has to be kept in mind how social exchange theory can play a role in increasing survey response rates.

Tell survey participants how they will benefit from completing the survey (e.g. how will the survey form be used so that they will be providing advice or receiving benefits)

- Provide information about the survey in advance
- Include a cover letter with mail questionnaires
- Follow-up to thank people for participating and/or provide additional opportunities to give feedback.
- Minimize the effort required for survey participation like using easily understandable language, minimizing the number of questions, avoiding redundancies.
- Create a sense of trust; a sense of personal interaction within the survey’s design can encourage people to participate in surveys and to provide more thoughtful answers.

\(^2\) Source: [http://survey.cvent.com](http://survey.cvent.com). CVENT is a US Based enterprise conducting online surveys which has business operations across the globe.
The researcher contacted the professionals who co-operated with the researcher in the unstructured interview and whose cases are listed in this thesis to get the information about their married friends working in the same profession. This modification of the snowball technique of selection (Smith, 1981), in which a small number of potential participants identify other potential participants, who in turn identify other participants (Stanfield, 1998), was used to obtain names, e-mail ids and cell numbers of IT professionals satisfying the criteria of selection.

Request mail was designed according to the Total Design Method (Dillman, 1978) and sent to the professionals asking the candidate’s and spouse’s willingness to participate in the survey. Any clue to the identity of the particular professional is deliberately avoided to keep the confidentiality of the process. The candidates who conveyed their willingness to participate were contacted over phone; their spouses’ telephone numbers collected and were interviewed. The candidates whose spouses were not interested in this survey were excluded. Then questionnaires were sent to husband and wife separately to their respective email ids. The objective of the study is highlighted as an innovative effort to develop a new model in
work culture to improve work-life balance in IT segment. The professionals were promised that the suggestion will be submitted to the government without any delay. This was included deliberately as a motivation factor as suggested in Dillman’s Total Design Method.

3.7.5 Criteria for Inclusion and Exclusion

- Professionals working for clients either in US or in Europe were included
- Professionals working either in Technopark, Trivandrum or in Infopark, Kochi were included
- Professionals whose spouses are not ready to co-operate were excluded
Contact through E-mail/phone explaining the process and asking his/her willingness

Is willing?

Yes: Contact spouse through Email/phone explaining the process & asking his/her willingness

Is willing?

No: Back to Start

Yes: Send questionnaire to professional and spouse

A

B

Fig 3.2 Data Collection Process – Flow Chart
Received filled up questionnaire from both partners after a week

Send reminder mail

Received filled up questionnaire from both partners within 15 days

Make reminder call

Received filled up questionnaires from both partners within 2 days

Fig 3.1 Contd.
Make reminder call

Received filled up questionnaire from both partners within 2 days

Make reminder mail

Received filled up questionnaire from both partners within 2 days

Yes

Send thanks mail

No

Discard

End the process
3.7.6 Response Rate

Out of 558 interviewees (279 professionals and their spouses), 76 interviewees sent the filled up questionnaires within 7 days time without any further call. The researcher sent ‘a thank you mail’ to all the people who responded and gentle reminders to those who had not responded within a week’s time. After the first reminder 284 people responded, and 15 days later, the researcher made a follow-up call and requested those who failed to turn in the filled in questionnaire to do so as early as possible. The researcher tried to convince them that since IT is growing in Kerala, their response would be helpful in formulating policies similar to the ones found in western countries. After the said call 119 interviewees responded. The researcher made yet another call after 2 days and 39 people responded after that call. A third reminder mail was sent after 2 days and 27 people responded to that. The answers of 5 respondents’ were not included in this study, either because they were incomplete or because the number of families representing each group is to be kept the same for statistical parity (90 each in each of the groups). The response rate in this study is above 96% and a response rate of 93% and
above was considered good and reliable according to the Dillman Total Design Method (Dillman, 1978).

3.7.7 Limitations of the Study

Although before sending the questionnaire the researcher tried to educate the respondents regarding the importance of filling in the questionnaire all by themselves, a margin of error may occur due to the spouses’ response being filled by the professional or vice versa. Since this study seeks to look into a number of issues that are having a bearing on work-life balance, the clinical type study methodology focussed on intensive measurement of a single factor was found inappropriate. In other words only selective components from standard measurement frameworks such as marital quality, family environment, etc were incorporated in this study.