CHAPTER- 4
Career Progression for Female in Indian Software sector

4.1 Introduction

In Indian software sector, in spite of continuously increasing number of female employees at entry level as per NASSCOM-PWC Report (2010), number of women at middle management and top management level is stagnant at 11% and 1.5%. At entry level female labor force is increasing steadily and their proportion has reached now 45%. But this higher number at entry level doesn’t ensure equal representation at higher level which is evidenced as ‘leaky pipe line’. Unlike government employment, in software sector promotions are not linked to the service alone. Even though according to the opinions collected by Haripriya and Narasimhan(2008) virtual vertical mobility is maintained at regular time period, but real upper mobility depends on several other factors. More female’s at higher positions become essential for social reasons along with the corporate necessity. According to Indiresan (2005) more number of female engineers in leadership roles are essential to provide role models for young generation and to provide voice for their requirement on board. For companies’ more number of female at higher positions provide a brand image and female possess certain inherent qualities that increases profitability and reduces the risk as McKinsey Report (2008) clarifies. This chapter analyzes the gender based promotional status, the determinants of the promotion and constraints for female career progression in Indian software sector.

This chapter is divided into seven sections. First section is the introduction and objectives. Section two explains the hypothesis, different variables along with the
methods and tools used for the analysis. Third section provides the observations and discussion in which the status of promotional opportunities based on gender, the factors that affect the chance of promotion, the gender based variations among the significant influencing factors of promotion and the socio-cultural, organizational and personal constraints as noted by employees are discussed. Fourth section lists the important findings. Section five concludes besides offering few suggestions.

4.2 Hypothesis, Variables and Methodology

Main hypothesis tested in present chapter is, “in Indian software sector career progression conditions are gender neutral”.

The variables used for the present study are, ‘Percentage of male and female employees who were promoted’, Number of promotions received, ‘Average period of promotion’. ‘Average number of promotions received’ by male and female employees was also used along with independent samples’ test. Data relating to number of promotions and average period of promotions has been presented through bar diagrams and charts.

To discuss the significant factors influencing probability of getting promotions, the following aspects were considered:

In general, ‘education’ and ‘total years of service’ were included. As the intention is to find out gender based difference ‘gender’ is also included. ‘On-site experience’ found to be highly correlated through contingency table hence it is also added. Further possession of ‘ambition’, ‘strategy’, ‘network’, ‘role model’ were included as per NASSCOM (2008 and 2009) these are the influencing factors of the vertical mobility. These reports explained another issue of ‘work-life balance problem’ which was considered in terms of their ‘guiltiness of neglecting family’. ‘Logit model’ has been used to carry out the analysis.
After finding out the significant influencing factors, ‘χ²’ test was used to analyze whether gender based variations persist in these factors.

Finally, with the help of bar diagrams important hurdles for career progression according to employees, is presented.

4.3 Observations and Discussion

Following are the important observations of the study

4.3(i) Gender based promotion status


4.3(i) (a). According to table 4.1, promotion opportunities seem to be biased towards male.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Percentage of the employees who got promotion.</td>
<td>63.2</td>
<td>50.8</td>
</tr>
<tr>
<td>2. Mean No. of promotions received</td>
<td>1.6491* (1.99)</td>
<td>0.9688* (1.19)</td>
</tr>
</tbody>
</table>

Source: Field Survey

Note: Numbers in the parenthesis are the std. deviations and * represents significance at 5%.

Only 50.8% of female compared to 63.2% male employees received promotions. Mean number of promotions received is in tune with the expectation. On an average male employees received 1.65 promotions whereas female employees received only 0.97. This difference is significant at 5% significance level. Relatively
smaller proportion of female employees received promotion. And there is significant
difference between the number of promotions received by male and female employees.

**4.3(i)(b).** Figure 4.1 provides support to the argument of ‘lower ceiling’ for women in
the sector,

**Figure-4.1, Number of promotions received by employees.**

<table>
<thead>
<tr>
<th></th>
<th>Nil</th>
<th>Only one</th>
<th>Two</th>
<th>Three</th>
<th>Four</th>
<th>Above four</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>19.5</td>
<td>22.61</td>
<td>40.35</td>
<td>13.04</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Female</td>
<td>15.79</td>
<td>15.79</td>
<td>42.61</td>
<td>7.02</td>
<td>8.77</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: Field Survey

As per above figure 4.1, 22.61% female, against 19.30% male have not been
promoted. 21.74%, 42.61% and 13.04% female have received consequently one, two
and three promotions. Subsequently proportion of male is 15.79%, 40.35% and 8.77%.
But male hunt for promotions continued beyond 3 but female stopped at third. This
strongly supports the presence of ‘Glass ceiling’ in Indian software sector.

**4.3(i)(c).** Average promotion period shown in Figure 4-2, presents another interesting feature.
Figure 4.2. Average promotion period for male and female

Note: Field Survey

Number of female employees getting promotion within 2 years is more than male i.e. 32% against 28%. Proportion of employees getting promotion within 2-3 years is almost same. But beyond 3 years earlier trend continues as 25% female took on an average 3-4 years for their promotion against 15.63% male. It indicates a contradiction that number of female getting both early promotions and delayed promotions is greater that to males. Nearly 70% of the respondents got promoted within 3 years. Beyond 3 years proportion of females remains considerable whereas proportion of males declined.

Obviously the above table presents the persistence of ‘glass ceiling’ in the software sector. Even if females initially move faster, their progression reaches ceiling quite early. Why such lower ceiling prevails for females is a moot question.
4.3(ii) Factors influencing the probability of getting promotion

The above information justifies the gender based imbalance in the career advancement process. But how far this difference relates to the gender and due to other factors has been done through a qualitative analysis by employing logit model. The model is specified as,

\[ Y_i = \alpha + \sum_{j}^{8} \beta_{j}x_{i} + u_i \]

Where, Y the dependent variable carries binary values of ‘1’ if promoted and ‘0’ if not promoted. Among explanatory variables,

X1 represents gender and carries value 1 for ‘female’ and ‘0’ for male employee.
X2 represents education and carries ‘1’ for ‘Technical educated’ and ‘0’ for non-technically educated.
X3 stands for total years of service which has been taken as an indicator of experience.
X4 explains influence of on-site experience and gets ‘1’ if selected for on-site and ‘0’ if not selected.
X5 indicates ambition and carries ‘1’ if ambitious or else ‘0’.
X6 is the strategy and gets ‘1’ if employee follows a specific strategy or else ‘0’.
X7 shows networking capacity and carry ‘1’ for having network otherwise ‘0’.
X8 is the ‘Visibility’ and being visible in company meetings and discussions is denoted by 1, If not visible then ‘0’.
Finally ‘u’ is the error term.
Table 4.2, Logit values of the factors influencing the probability of promotion

<table>
<thead>
<tr>
<th>Variables</th>
<th>β Values</th>
<th>Exp β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent Variable (Y)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Promoted =1 if yes, 0 if not promoted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explanatory variable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-4.698(.000)</td>
<td>0.009</td>
</tr>
<tr>
<td>X1 Gender (Female=1, Male=0)</td>
<td>-0.185(.640)</td>
<td>0.831</td>
</tr>
<tr>
<td>X2 Qualification (Technically qualified=1, Non-technically qualified=0)</td>
<td>0.649(.125)</td>
<td>1.913</td>
</tr>
<tr>
<td>X3 Total Service (No. of years)</td>
<td>0.560(.000)</td>
<td>1.751</td>
</tr>
<tr>
<td>X4 Onsite experience (Yes=1, No=0)</td>
<td>0.768(.003)</td>
<td>2.155</td>
</tr>
<tr>
<td>X5 Ambition (Ambitious=1, or else 0)</td>
<td>0.845(.190)</td>
<td>2.329</td>
</tr>
<tr>
<td>X6 Strategy (If follows a strategy =1, No strategy =0)</td>
<td>0.938(.054)</td>
<td>2.554</td>
</tr>
<tr>
<td>X7 Network (Possess network =1, don’t possess=0)</td>
<td>0.234(.604)</td>
<td>1.263</td>
</tr>
<tr>
<td>X8 Visibility (Visible =1, Not visible =0)</td>
<td>0.746(.046)</td>
<td>2.108</td>
</tr>
<tr>
<td>-2 Log Likelihood</td>
<td></td>
<td>194.780</td>
</tr>
<tr>
<td>Cox &amp; Snell R Square</td>
<td></td>
<td>.335</td>
</tr>
<tr>
<td>Nagelkerke R Square</td>
<td></td>
<td>.447</td>
</tr>
</tbody>
</table>

Source: Field Survey

Note: Values in the parenthesis are the significance levels.

Gender is not a significant influencing factor for the probability of getting promotion. Qualification too is not a significant factor. Whether a person is technically qualified or non-technically qualified does not affect the chances of promotion.
Experience (Total years of service) is highly significant. One additional year of service or experience increases the odds of being promoted by 1.751. On-site experience too is highly significant. Employees with on-site experience have 2.155 times more probability of getting promotion compared those who do not possess such experience.

NASSCOM 2008 and 2009 Reports criticized female employees for being less ambitious to achieve progression hence it held female employees themselves as responsible for their lag in career. Babu(2008) found lack of interest among women in the vertical mobility in ITES-BPO segment. But contradictory to the earlier finding 84% female of the sample were ambitious and wanted to reach the top position which denotes a positive development as present female software employees are equally becoming career conscious and ambitious. But being ambitious probability of getting promotion is not going to increase significantly in spite of the prevalence of positive relationship.

‘Strategy’ is found to be significant at 5% significance level. Employees with strategy have 2.544 times more chances of getting promotion compared those who do not follow a strategy. In the present sample 84% of the females are following a well structured strategy. As a part of their strategy employees must choose the ‘stream’ of their progression i.e. whether ‘technical stream’ or ‘managerial stream’ and ‘method to keep themselves updated’. Katherine (2005) recommends ‘managerial stream in U.S. for faster vertical movement where as Wajcman and Lobb (2007), Neetha(2007) prescribe ‘technical’ stream. So far, Indian female software employees are concentrated in non-technical streams but the trend is changing according to NASSCOM reports. In present sample 40% females choose technical stream. But still female employees preference was more for managerial positions i.e. 50% against 37% with respect to
males. Even if bias exists in female’s preference towards ‘managerial’ positions, slowly number of female employees interested in ‘technical’ streams is increasing. But now such choice of stream may not be that much important issue because nowadays companies have maintained separate clear cut hierarchy for both the streams. (See Box information). Membership of the e-groups is commonly known’ method to keep themselves updated’. 44.5% women and 51.9% men in the sample have such membership. But one of the respondents ‘Nitin’ employee of ‘Wipro’ expressed that Google search engine’ is enough and any specific e-group member ship is not required”. But such group membership definitely helps to form a network.

Visibility in company group meetings, discussions also affects promotion chances significantly. Visible employees have 2.108 times more odds of being promoted compared to the invisible employees.

Among the selected variables ‘years of service’, ‘on-site experience’, ‘strategy’ and ‘visibility’ found to be the significant factors influencing the probability of getting promotion.

**4.3(iii) Gender based variations in the significant factors affecting the probability of promotion**

As per previous finding, ‘years of service’, ‘on-site experience’, ‘strategy’ and ‘network’ are the significant factors. But whether gender based difference exist with respect to these significant factors is estimated with the help of ‘χ2’ analysis. Results of the ‘χ2’ analysis are given in table 4.3.
Table 4.3 \( \chi^2 \) ‘Values of the significant factors affecting promotion

<table>
<thead>
<tr>
<th>Variables</th>
<th>( \chi^2 ) ‘Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Total Service</td>
<td>65.38 (.025)*</td>
</tr>
<tr>
<td>2. Visibility</td>
<td>1.79 (.181)</td>
</tr>
<tr>
<td>3. On-site Selection</td>
<td>8.04 (.005) *</td>
</tr>
<tr>
<td>4. Strategy</td>
<td>1.69 (.193)</td>
</tr>
</tbody>
</table>

Note: * indicates significance at 5% level

Source: Field Survey

As per table 4.3, ‘total service’ and ‘on-site selection’ are significantly different for male and female employees.

4.3.(iv) **Constraints according to employees**

NASSCOM Reports highlight more of work-life balance and personal reasons for female career lag in the sector. But in the present study, 60% of the female employees said that ‘rarely’ women themselves are responsible for their career lag. Joan and Katherine(2005) explain some of the hurdles in terms of company policies and socio-cultural constraints in Europe. Direct enquiry of such hurdles from respondents resulted in the following responses.
Figure 4.3, Career constraints according to the employees.

Source: Field Survey

As per figure 3, majority of the female employees quoted family/ socio-cultural barriers and Self weakness. 24.2% of the female employees quoted socio-cultural and Family hurdles whereas only 5.26% of male employees quoted such reasons. But more or less equal number of male and female employees i.e. 10.7% female and 10.5% male expressed company environment is not conducive for their growth. 13.28% female and 10.5% gave their own ‘self weakness’ as a restricting factor and 3.51% male and 3.9% female gave other reasons.

4.3 (iv) (a). Family and socio-cultural barriers

Socio-cultural barriers persist in both traditional and modern economies. In traditional economies severity of these barriers becomes more. Bali (2004) explained how patriarchic culture continues to control career progression of female in Indian science and technology field by making them invisible and by not recognizing their merit. Among socio-cultural reasons, problem of work-life balance, feeling guilty of neglecting family are very much highlighted. Mckinsey (2008) European studies found
women to be overloaded by double-burden of home and work. Ursula (2007) explains that the main occupational hazards are socially, not biologically, constructed.” They stem, not from bodily difference, but from gender-based power relations, from occupational segregation, and from women’s role as caregivers.” NASSCOM-Mercer (2008) found ‘sense of guilty’ among women that they can’t fulfill family duties properly. But social structure may be moving in favor of the present employees because most of the employees are getting support from their families as their earnings are relatively handsome in Indian circumstances and their due assistance may help to reduce their guilty feeling.

But a socio-cultural effect seems to penetrate in company environment i.e. Men find difficulty in working under a female boss. Considerable proportion of employees i.e. 32% accepts such phenomenon in the industry. When asked about their ‘preferred gender of boss’ paradoxically 22% female employees against 20% male employees preferred male boss. Fortunately this behavior is not significant. This non-acceptability definitely affects the work performance of women and they themselves may not accept the higher positions.

4.3(iv) (b) Company Policies

10.7% of the total sample quoted company policies as the main hurdles for their progression. Among company policies, Method of appointment for higher positions, procedure of appraisal and evaluation of the performance, structure of the evaluation committee are important.

If a company adopts direct recruitment method for higher positions then chances are bleak for female employees. Upadhya(2008) found most of the companies for higher positions directly employ candidates belonging to IIT’s and IIM’s and other reputed institutions. But number of female in such institutions is minimum as found by
Parikh and Sukhatme (2005). Hence direct entry to the higher positions is very much limited for women. Software companies follow rigorous, appraisal system based on which employee’s evaluation is done. But according to Katherine (2005) such appraisal systems formulated by men biased towards men. She criticizes companies’ appraisal systems for not recognizing some innate qualities of female for promotion whereas same qualities add up points for male. Certain qualities like team building, relationship management of women were not recognized for appraisal. May and Fall (2002) finds ‘effect of job performance evaluation’ as one of the important causes of gender segregation along with Parents, Corporate Culture, Limited Work Experience and Sociological Factors.”Although no association was found between differences in gender and job performance ratings, they found stronger correlation between recognition of job performance and gender differences. The supervisors in information technology are more likely to attribute the high performance of female employees to luck or lack of task difficulty, rather than skills and effort”. Women don’t get the chance to show their talents (women’s difficulty in demonstrating their true talents to their employees in meetings and committees due to the male domination and their conversational style, interruptions. The negative impact of interruptions on meeting participation and performance will be felt more keenly by women than men, whose subsequent advancement and promotion lie in the perception of their performance in meeting).

Several companies practice ‘performance rating on a curve’ under which individual points will not be allotted based on whole groups performance rather than individual’s. In such position even if an individual may have performed at a higher level can get lower points due to other members’ low performance. Whether such system causes more problems for women, needs to be analyzed. Structure of the
Evaluation Committees too is male dominated in most instances female member will be absent in such committees. Lastly on-site experience carries weight for promotion but company policies regarding such on-site assignments allotments seems biased towards male.

In the present study, bias in terms of ‘appraisal system’ was not significantly found. Majority of the employees 93.6% women and 87% men said that their company follows ‘performance rating’ on a curve. Analysis of its negative impact doesn’t justify any bias towards women, because 57.81% women and 61% men got effected which is more or less same and 82% of female and 72% of male rejected such bias. But 17% female and 24% of male accepted this phenomenon which justifies the presence of such bias even if to a lesser extent. Regarding presence of female member in the Evaluation committee positive response was observed. 77% female and 62.5% male said that their companies’ evaluation committees possess female member. But 23% female and 37.5% male replied negatively. But female members presence positively affected both as 28.9% of female and 36.7% male accepted that women’s presence in the Evaluation Committee worked out in their favor. Further onsite assignments are crucial in the software profession due to which they can earn more money and knowledge further it eases their career progression. But there is an argument that women are not selected for such assignment and at another side others state that women themselves are not interested in such assignments. 42.12% of the male respondents compared to 27.34% female got selected for on-site work. Some of the respondents said that there was no such opportunity in their position. Companies argue that due to the social and family bindings female employees find it difficult to attend on-site assignments. Even if there lies some truth framing policies on simple generalization of such presumption seems to lead bias. Why companies can’t put an option before female employees? if they reject
then that opportunity can be given to others. How companies policies with such
presumption becomes hurdle for some of the interested people can be understood by
‘Rithika’s experience as explained in Box-2.

4.3(iv) (c) Personal weakness

Among personal weakness the recognized elements are ‘lack of networking
ability’ and ‘lack of role models’. Bhal and Gulati(2010) explains how network
between leader and members affects career growth. But such capacity is very much
controlled by the traditional socio-cultural background. Specifically with reference to
vertical mobility women presumed to be less interested in understanding the
importance of network. Even if they understand, their network will be restricted due to
several socio-cultural and economical reasons. Notable restrictions are due to the lack
of independent mobility, practical exposure and restricted communications. 60% of the
female and 46% of male accepted that network is essential for growth. But still 40% of
women and 50% of men rejected such notion. According to them based on their merit
and appraisal points, promotions will be automatically provided. But appraisal points
can be influenced through network. But anyway symptoms are visible that female are
becoming more aware of the importance of networking. About possessing such
network, only 28.6% women and 14.3% men accepted of having network. Most of the
respondents were not interested in revealing their network. Notable point is that female
network is limited to family relatives, friends and colleagues. But men’s network is
wider and includes other company employees, suppliers, consumers, academicians etc.

In accordance with the NASSCOM-Mercer (2008) and Bali (2004) findings,
majority of the employees don’t have role models which indicate lack of awareness
among employees about the importance of having role models. Even if some have,
among women most of them kept their family members as their role models. But for
professional progression, maintaining industry related role models is very much essential. Hence women must concentrate on professional achievers.

4.4 Findings

1. Proportion of female employees receiving promotion is lesser than the proportion of male.

2. There is significant difference between the number of promotions received by male and female employees.

3. There is the presence of ‘lower ceiling’ for female vertical progression.

4. There lies a contradiction as the number of females getting both early promotions and delayed promotions is greater than male.

5. Gender is not a significant influencing factor of the promotion probability but it shows the persisting negative relationship for female.

6. Qualification too is not a significant factor. People with both technical and non-technical education employees have the equal chance of getting promotion.

7. Experience (Total service), On-site experience, Strategy and visibility are the significant factors affecting the probability of promotion.

8. Being ambitious probability of getting promotion does not increase significantly in spite of the prevalence of positive relationship.

9. Strategy is a significant determinant and female employees equally are becoming strategists.

10. Among the significant factors gender based variations was observed with respect to ‘total service’ and ‘on-site selection’.

11. Along with personal reasons socio-cultural and company environment too restricted employee’s growth.
12. As a socio-cultural effect, Males find difficulty in working under a female boss.

13. Less proportion of employees prefers a ‘female boss’.

14. Paradoxically, even if not significant, greater proportion of female employees resists working under a woman boss compared to men.

15. Among company policies, method of appointment for higher positions, procedure of appraisal and evaluation of the performance, structure of the evaluation committee are important.

16. In case of company environment bias in terms of ‘appraisal system’ was not significantly present. But considerable17% female and 24% of male accepted this phenomenon which justifies the presence of such bias even if to a lesser extent.

17. Majority of the company follows ‘performance rating’ on a curve. But there is no support for the argument that it affected female employees more.

18. Presence of female member in the Evaluation committee is increasing.

19. But female member’s presence positively affected both female and male employees.

20. Selection procedure for on-site work is more biased towards male employees.

21. Female employees are becoming aware of the importance of having network. But actually ‘possession of network’ majority of them don’t have. Among those who have network, majority of them had family members and friends whereas male network is much wider.
22. Still majority of the employees do not aware of the importance of keeping role models. Even if some of them possess, many of the female employees kept their family members as their role models.

4.6. Suggestions and conclusion

Based upon above observations and findings following are the suggestions made.

1. Promotion system needs to be transparent and it needs to be clearly made known to the employees that which are the points recognized for promotion. And how much weight individual points carry.

2. Openly display the gender based promotion chart in the company campus so as to make female employees make aware about such progression.

3. Arrange for regular meetings and talks of entry level employees with the female in the higher positions so as to boost their ambition and to make them more career conscious.

4. Software sector is a sector where more than an individual’s work performance, their team involvement and quick adaptability are important. Hence relating to the aspect in education system group activities needs to be emphasized more.

5. Further within education system, group based activities needs to be encouraged under the leadership of girls and boys equally.

6. Relatively for female benefit it seems to select from the existing employees for higher positions rather direct recruitment.

7. System of appraisal needs to be equally considerate for both male and female employees.
8. Presence of female members requires to be increased as it benefits both without any inherent bias.

9. On-site projects selection procedure needs to be gender unbiased. And at least an option should prevail for female employees.

10. Female employees are now aware of the importance of having network. But to have such network proper methods needs to be introduced to them.

11. Female employees should understand the importance of having role models, that too professional role models.

Progression in career depends upon personal qualities, policies of the organizations and socio-cultural elements. Without the ambition to grow and adopting suitable strategy and work in that direction, a person cannot move up. If company policies can’t properly recognize the potential of the employees vertical mobility will remain biased. Further socio-cultural environment influences this ambition and perception of the employees. Obviously in Indian software sector vertical career progression opportunities present male orientation. But as the number of the female employees is increasing at the base, their proportion may increase at higher level as ‘total service’ is an important significant factor for the promotion. But that along with service, female employees are also becoming ambitious, career conscious, visible and strategist. If they concentrate on on-site projects it will lead to a faster growth. So far work-life balance, family problems and socio-cultural barriers restrained their growth. Slowly families are becoming supportive and companies are coming up with the some inclusivity measures through which work-life balance problems can be eased. But our society needs to accept female at authoritative positions. Further education system should include necessary changes in its curriculum where group
activities are more emphasized and leadership of a girl is accepted by both boys and girls.

**Box 4.1- Which ladder leads to faster growth? Technical or Managerial?**

Nasscom Diversity and Inclusivity summit(2010) in a panel discussion observes, that companies are clearly maintaining a separate, independent hierarchy for both the streams. It is left to the individual which ladder he/she wants to climb.

Important opinion of the panelist was that ‘sooner the choice faster will be the growth’. Because in-between sudden shift from one stream to another even if possible, requires lot of adaptability and each stream requires different conditions. For example ‘technical’ stream requires continuous up-datedness, whereas in case of managerial stream ‘sabbatical’ will not be easy as ‘continuous communication’ is essential with the members for effective management.

**Box 4.2- Concern converted to hurdle**

Earlier an employee of ‘ABC Company’, ‘Rithika’ was on on-site assignment. When company got to know that she is pregnant even without asking her opinion company called her back due to which afterwards she left company. True that female finds lot more restrictions for on-site assignments that do not mean companies can presume that they are unfit for on-site work.
References