Examining Obstacles to Women's Advancement in Technical Careers

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Abstract

The insufficient number of women in technical occupations has gotten a lot of attention because of the consequences for diversity of genders and creativity in the workplace. The purpose of this research is to critically explore the barriers that prevent women from advancing in technical occupations and to provide ideas for creating a more equitable and welcoming workplace. This study finds important constraints such as gender prejudice, a lack of mentoring, work-life balance issues, and restricted access to leadership chances via a thorough literature analysis. This research looks into the diverse experiences that contribute to these challenges by analysing and interviews with women in technical jobs. Finally, the goal of this study is to equip organisations, governments, and industry stakeholders with practical ideas for implementing evidence-based practices that promote women in technical jobs. By eliminating identified barriers and adopting gender-inclusive initiatives, the tech sector may not only access a larger pool of talent, but also promote an atmosphere favourable to creativity, cooperation, and long-term success.

Keywords: Occupation, Leadership, Gender Inclusive, Organisations and Work Life Balance

Received on 21 May 2023, accepted on 28 August 2023, published on 6 September 2023

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doi: 10.4108/eetsis.3851

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1. Introduction

Technology is a dynamic and significant area in the ever-changing environment of the contemporary workforce, impacting industries, economies, and societies globally. The persisting gender inequality in this domain continues to throw a shadow on the possibilities for variety and innovation. Despite advances in gender equality in numerous areas, women continue to be underrepresented in technical jobs. This lack of inclusion not only raises questions about justice and inclusion, but it also inhibits the industry's capacity to attract the broad range of talent and viewpoints required for sustained development and improvement. Women's underrepresentation in technical jobs is a complicated issue that has piqued the interest of scholars, legislators, and industry executives alike. While attempts have been established to address this problem, there is an urgent need to investigate the fundamental barriers that prevent women from advancing in technical disciplines. This research delves into these barriers, analysing their complicated interaction and providing methods to create a fairer playing field. In the past, the computing sector has been dominated by males, with women facing various obstacles as they pursue jobs in technical areas. These hurdles, which are often founded in institutional prejudices and social standards, appear at different phases of professional advancement. Women face obstacles that prevent them from pursuing, excelling, and
progressing in technical occupations, from colleges and universities to corporate workplaces. Understanding these issues in detail is critical for developing successful solutions that break down current barriers and foster a gender-equitable workplace. This study begins an in-depth investigation of the barriers to women's development in technical occupations. This research tries to find patterns, trends, and personal narratives that explain the diverse experiences of women navigating the digital world by studying both quantitative data and qualitative insights. We want to reveal the intricate web of variables influencing women's professional growth by using an integrated lens that includes social psychology, organisational behaviour, and gender studies. In the following parts, we will look at the numerous barriers that women face in technical occupations, including their causes, effects, and possible remedies. This study aims to shed light on the complicated path that women take as they seek for progress in the tech sector via an in-depth review of current literary works, case studies from the real world, and conversations with women professionals in technical disciplines.

**Objectives of the Study**

1. To analyse the demographic profiles of the respondents
2. To examine the impact of gender discrimination on demographic determinants of the respondents
3. To find the impact of sexual harassment on respondents based on marital status

**2. Research Methodology**

A judgemental sampling approach was used to acquire 100 samples for this study. This research report includes both primary and secondary sources of information. However, the bulk of the primary data utilised in this study was gathered via questionnaires sent to a number of IT Women Employees in Chennai area. The data analysis programme utilised was SPSS 2026. As research approaches, Correlation, Chi - Square, Independent sample T Test and percentage analysis were all used in this study.

**Review of Literature**

In the cultural context, the most socially acceptable profession is one in software. According to [1], the IT industry offers women a high wage, more worldwide mobility, gender-neutral policies, flexible work schedules, maternity leave, transportation, etc. The percentage of women working in the IT industry is 34%. The majority of them are younger than 30 [2]. Compared to software jobs, networking jobs employ less women. This is because women find it too difficult to do the physical components of the task. Many women have eschewed the long, irregular hours and travel that go along with network maintenance duties [3]. Male and female have long had different social duties, according to the notion of gender roles [4]. Men are often given the task of generating money, while women are in charge of handling household duties. This trait for males was often associated with professional advancement at work, such as spending more time on corporate chores and putting off personal obligations. Women are characterised as being sociable, pleasant, and helpful, in contrast [5]. Work, family, and professional advancement are all priorities for women today. Men are actively participating in family chores as well. The study gives a summary of the different statistics and measurements pertaining to gender equality. The action plan to cope with the gender equality policies was the main goal. If the European Union wanted to achieve its goals and meet those of Europe 2020, the study's pace had to pick up [6]. In light of this, different aspects of gender disparity between men and women are explored. The research's key results included the fact that, in addition to the female pay gap, there are several additional problems, including unequal family labour distribution, a gender disparity in pensions, wealth, and other areas. Conventional methods have limitations that restrict the options for comparing men and women [7]. It has decreased gender disparity in the field of education while giving women the largest opportunity in the public realm. Women are still primarily relegated to the private sphere, and discrimination based on gender in educational material is also a problem [8].

**Statement of the Problem**

The following might be the issue statement for the title "Examining Obstacles to Women's Advancement in Technical Careers": "Despite advances in gender equality, women's underrepresentation and limited advancement in technical careers is a persistent issue." This study aims to look into the broad challenges and barriers that impede women's professional advancement in technical fields, thus contributing to a better understanding of the factors preventing gender diversity, sexual harassment, and equality in these industries.

**Scope of the Study**

1. The research tool adopted in this study were frequency analysis, chi-square test and paired t test
3. The women IT employees only have been focused in this study
4. Factors such as sexual harassment, gender discrimination only have been primarily focused in this research.

Limitation of the Study
1. This research is confined to Chennai district only
2. This research only focused on selected IT firms in Chennai such as Zoho, Cognizant, Tata Consulting Service.

<table>
<thead>
<tr>
<th>Reliability Statistics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbach’s Alpha</td>
<td>.814</td>
</tr>
<tr>
<td>N of Items</td>
<td>4</td>
</tr>
</tbody>
</table>

3. Result

The reliability test is used to determine the reliability of the questionnaire and the internal consistency of the items. The Cronbach’s alpha should be more than 0.05, based to the criteria. The Cronbach’s alpha score of 0.814 for this survey confirms its validity and accuracy. As a consequence, further analysis of the collected data is feasible.

Hypothesis Testing (Chi - Square)

H₀: There is no association between Age and Sexual Harassment
H₁: There is an association between Age and Sexual Harassment

<table>
<thead>
<tr>
<th>Crosstab</th>
<th>SexualHarassment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>20 – 30</td>
<td>0</td>
</tr>
<tr>
<td>31 – 40</td>
<td>0</td>
</tr>
<tr>
<td>41 – 50</td>
<td>1</td>
</tr>
<tr>
<td>50 Above</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chi-Square Tests</th>
<th>Value</th>
<th>df</th>
<th>Asymptotic Significance (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>21.121*</td>
<td>12</td>
<td>.049</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>22.635</td>
<td>12</td>
<td>.031</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. 11 cells (55.0%) have expected count less than 5. The minimum expected count is .15.

Interpretation

At the 5% level, the significant value of 0.049 is less than 0.05. It implies H₀ is rejected and H₁ is approved. There is a link between ageing and sexual harassment. Furthermore, it may be deduced from the above-mentioned cross tab that women aged 31 to 40 have a substantial association with the sexual harassment component.

Hypothesis Testing (Independent Sample T Test)

H₀: There is no relationship between Marital Status and Sexual harassment
H₁: There is a relationship between Marital Status and Sexual harassment

<table>
<thead>
<tr>
<th>Group Statistics</th>
<th>Maritalstatus</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexualharras</td>
<td>Unmarried</td>
<td>47</td>
<td>3.47</td>
<td>1.530</td>
<td>.223</td>
</tr>
<tr>
<td></td>
<td>Married</td>
<td>45</td>
<td>2.60</td>
<td>1.195</td>
<td>.178</td>
</tr>
</tbody>
</table>

Independent Samples Test
Levene’s Test for Equality of Variances

<table>
<thead>
<tr>
<th></th>
<th>F</th>
<th>Sig.</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>Std. Error Difference</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal variances assumed</td>
<td>8.870</td>
<td>.004</td>
<td>3.024</td>
<td>90</td>
<td>.003</td>
<td>.868</td>
<td>.287</td>
<td>.298 - 1.438</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>3.04086.545</td>
<td>.003</td>
<td>.868</td>
<td>.286</td>
<td>.301</td>
<td>1.436</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Interpretation**

The significant value of 0.004 is less than 0.05 which is significant at 5% level. It infers that the $H_0$ is rejected and the $H_1$ is accepted. There is a relationship between marital status of the respondents and sexual harassment in organisation. Moreover, the mean value of Unmarried is 3.47 which indicates that the Unmarried Women employees are indulged in sexual harassment in IT sectors in Chennai.

Hypothesis Testing (Correlation)

$H_0$: There is no relationship between WLB and Career Development
$H_1$: There is a relationship between WLB and Career Development

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Worklifebalance</th>
<th>Careerdevelopment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worklifebalance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Careerdevelopment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>.519**</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).**

**Interpretation**

At the 5% level, the significant value of 0.000 is less than 0.05. It implies that $H_0$ is rejected and $H_1$ is approved. Work Life Balance and career advancement of women IT personnel in Chennai are linked. Furthermore, the thickness of the association between these two variables is 0.519 (positive). As a result, changes in these two variables go in the same direction.

2. Conclusion

Finally, the assessment of barriers to women's development in technical occupations shows a varied and nuanced terrain that requires careful consideration and deliberate action. The current corpus of research highlights the persisting gender gaps in technical professions, as well as the obstacles to women's advancement. A variety of variables, ranging from structural prejudices and workplace cultures to social expectations and personal decisions, contribute to women's underrepresentation in leadership and high-ranking positions. According to research, attempts to overcome these challenges should include a variety of tactics. Fostering inclusive organisational environments that promote equity and inclusion, implementing guidance and sponsorship programmes that offer assistance and direction, difficult biases and presumptions through awareness campaigns, and reconsidering recruitment and promotion practices to ensure fairness are some of these initiatives. Collaboration among academics, business, government, and advocacy organisations is critical for creating an environment that nourishes women's goals and allows them to prosper in technical fields. This study emphasises the need of eliminating current restraints and encouraging women's growth by diving into the subtleties of these obstacles. As society recognises the enormous potential and distinctive viewpoints that women bring to technical occupations, it becomes increasingly important to work together to create a future in which women have equal chances to succeed.
conquer challenges, and rise to positions of leadership with confidence and competence.

3. Reference


1(02), 14–18. https://doi.org/10.55529/jaimlnn.12.14.18


