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Understanding occupational stress among employees in the software industry: Causes, effects, and mitigation strategies

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Abstract

Occupational stress among employees in the software industry is a critical issue with profound implications for individual well-being, organizational productivity, and overall industry dynamics. This study aims to comprehensively explore the causes, effects, and mitigation strategies of occupational stress in the software industry. The causes of occupational stress in this context are multifaceted and include high job demands, tight deadlines, role ambiguity, lack of autonomy, technological changes, and intense competition. These factors contribute to elevated stress levels among software professionals, impacting their mental health, job satisfaction, and overall performance. The primary data were collected using questionnaire and personal interview techniques. Secondary data is second-hand data collected by other parties and already having undergone statistical analysis. The sample size collected for the study is 100 employees. The collected data were analyzed by using relevant statistical techniques like Percentage Analysis, Chi-squared test Weighted Average method. By understanding the complex interplay of causes and effects of occupational stress and implementing targeted mitigation strategies, software companies can cultivate a healthier and more resilient workforce, thereby fostering a conducive environment for innovation and sustainable growth in the industry.

Keywords: Occupational stress among employees, causes, effects, and mitigation strategies, software industry

1. Introduction

The software industry is renowned for its rapid pace of innovation and technological advancement, driving global economies and transforming everyday life. However, behind the scenes of this dynamic sector lies a significant issue: occupational stress among its employees. As professionals in the software industry push the boundaries of technology, they often find themselves grappling with intense pressures that can impact their well-being and productivity.

Understanding the causes of occupational stress in the software industry is crucial for addressing its effects and implementing effective mitigation strategies. This paper aims to delve into the multifaceted nature of this issue, examining its root causes, exploring its wide-ranging effects on individuals and organizations, and proposing strategies to alleviate and prevent stress in the workplace.

By shedding light on these aspects, we can foster a healthier and more sustainable work environment within the software industry, ultimately benefiting both employees and the industry as a whole. This introduction sets the stage for an in-depth exploration of occupational stress, offering insights into its complexities and advocating for proactive measures to support the well-being of software professionals.

Software Industry Overview

The software industry represents a cornerstone of modern economies, driving innovation across various sectors from entertainment to healthcare, finance, and beyond. This dynamic sector encompasses a broad range of activities, including software development, IT services, software as a service (SaaS), and platform development, among others.

Key characteristics of the software industry include

1. **Innovation and Rapid Change:** The industry thrives on continuous innovation, with companies constantly striving to develop new technologies, improve existing products, and stay ahead of competitors.
2. **Global Reach:** Software companies operate on a global scale, leveraging technology to connect with customers and collaborators worldwide. This global reach brings both opportunities and challenges, such as navigating diverse regulatory environments and cultural differences.
3. **Diverse Workforce:** The industry attracts a diverse workforce ranging from software engineers and developers to project managers, UX/UI designers, and data scientists. This diversity contributes to the industry's creativity and adaptability.
4. **High Pressure and Expectations:** The competitive nature of the software industry often leads to high-pressure environments where deadlines are tight, and expectations for innovation and performance are high. This pressure can contribute significantly to occupational stress among employees.

1. Statement of the Problem

Occupational stress among employees in the software industry has emerged as a significant concern impacting both individuals and organizations. This phenomenon is characterized by high levels of pressure, intense work demands, and the rapid pace of technological change, all of which contribute to the well-being and productivity challenges faced by software professionals.

2. Need of the Study

By conducting this study, we aim to fill these gaps in knowledge, provide practical insights for software companies to improve workplace conditions, and contribute to the broader discourse on occupational stress management in high-tech industries. Ultimately, the study seeks to foster a healthier and more sustainable work environment for software professionals, enhancing both individual well-being and organizational effectiveness.

3. Research Objectives

- To identify and analyze the primary causes and triggers of occupational stress among employees in the software industry, including workload, technological complexity, job insecurity, and organizational factors.
- To understand the impact of stress on employee's performance in company.
- To analyze the negative effects of stress on a person physical emotional and mental well-being.

4. Research Design

Utilize a mixed methods approach to capture both qualitative insights (through interviews, focus groups) and quantitative data (through surveys, questionnaires). This approach allows for a comprehensive exploration of occupational stress, combining in-depth understanding with statistical analysis. Here, 100 employees of Srishti Innovative Computer System, Trivandram are selected as sample. The present research study is descriptive and analytical in nature and therefore, data are collected from both primary and secondary sources. Survey is conducted while working hours of the employees. The data gathered is

analyzed using percentage analysis, Chi-Square test, Weighted Average method and ANOVA.

6.1 Gender of the Respondents

Table 1: Gender of the respondents

Gender	Respondents	Percentage
Male	46	46%
Female	54	54%
Total	100	100%

Source: Primary Data

Interpretation

The above table shows that 46% respondents are male and 54% respondents are female.

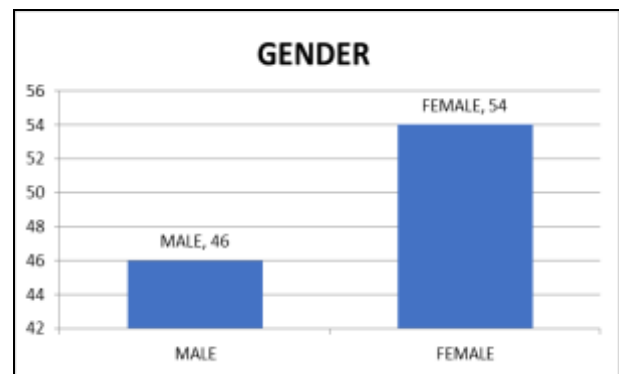


Fig 1: Gender of the Respondents

6.2 Experience of Respondents

Table 2: Experience of respondents

Experience	No. of Respondents	Percentage
0-2	64	64%
3-5	24	24%
6-8	6	6%
Above 8 years	6	6%
Total	100	100%

Source: Primary Data

Interpretation

The above table shows that 64% of the respondents have 0-2 years of experience, 24% of respondents have 3-5 years of experience, 6% of the respondents have 6-8 years of experience, 6% of respondents have above 8 years of experience.

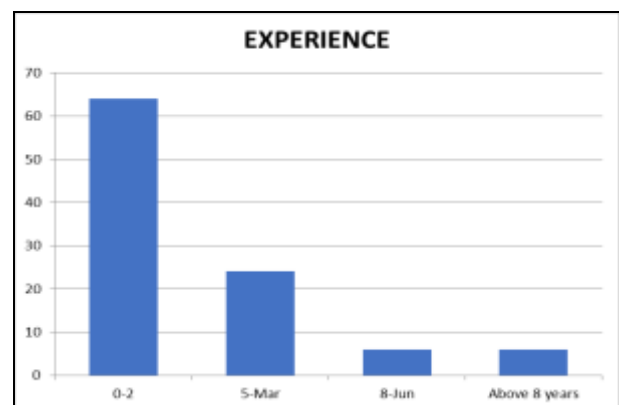


Fig 2: Experience of respondents

6.3 Classification of respondent’s opinion about feeling pressurized in work

Table 3: Classification of respondent’s opinion about feeling pressurized in work

Particulars	No. of Respondents	Percentage
Strongly Agree	6	6%
Agree	16	16%
Neutral	68	68%
Disagree	6	6%
Strongly Disagree	4	4%
Total	100	100%

Source: Primary Data

Interpretation

The above table shows that 6% of the respondents strongly agree about feeling pressurized in work, 16% of the respondents agree about feeling pressurized in work, 68% of

the respondents neutral about feeling pressurized in work, 6% of the respondents disagree of feeling pressurized in work and 4% of the respondents strongly disagree about feeling pressurized in work.

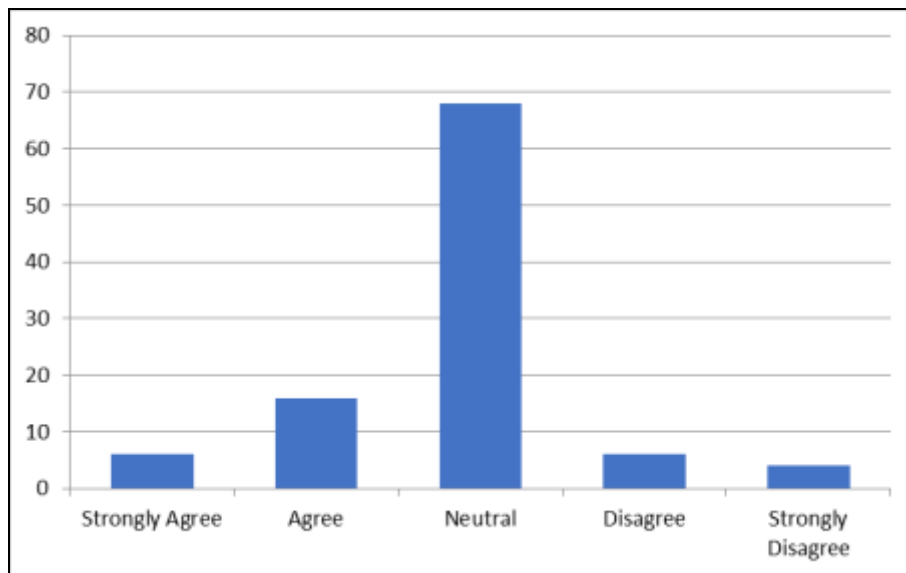


Fig 3: Classification of respondent’s opinion about feeling pressurized in work

6.4 Chi-Square Analysis

Null Hypothesis (H₀): There is no significant relationship between gender and education level.

Alternative Hypothesis (H₁)

There is significant relationship between gender and education level.

Gender category * Education level Crosstabulation								
		Education level					Total	
		0	UG	PG	ITI/Diploma	Others		
Gender category	Male	Count	2	26	12	2	4	46
		Expected Count	.9	26.7	12.0	.9	5.5	46.0
		% within Gender category	4.3%	56.5%	26.1%	4.3%	8.7%	100.0%
		% within Education level	100.0%	44.8%	46.2%	100.0%	33.3%	46.0%
		% of Total	2.0%	26.0%	12.0%	2.0%	4.0%	46.0%
	Female	Count	0	32	14	0	8	54
		Expected Count	1.1	31.3	14.0	1.1	6.5	54.0
		% within Gender category	.0%	59.3%	25.9%	.0%	14.8%	100.0%
		% within Education level	.0%	55.2%	53.8%	.0%	66.7%	54.0%
Total	Count	2	58	26	2	12	100	
	Expected Count	2.0	58.0	26.0	2.0	12.0	100.0	
	% within Gender category	2.0%	58.0%	26.0%	2.0%	12.0%	100.0%	
	% within Education level	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
	% of Total	2.0%	58.0%	26.0%	2.0%	12.0%	100.0%	

Interpretation

The output of Chi Square test reveals that the p value is 0.859 which is much larger than common significance level of 0.05. It is failed to restrict the null hypothesis. Therefore,

H₀ is accepted and we reject H₁ and shows that there is no significance relationship between gender and education level.

6.5 ANOVA Test

One-way ANOVA test to find out the relationship between years of experience and job stress

Null Hypothesis (H₀)

There is no significant difference between years of experience and job stress.

Alternative Hypothesis (H₁)

There is significant difference between years of experience and job stress.

Relationship between years of experience and job stress. One-way

Descriptive								
Job stress	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
0-2	64	2.69	.990	.124	2.44	2.93	1	5
3-5	24	2.75	.944	.193	2.35	3.15	1	4
6-8	6	2.67	.516	.211	2.12	3.21	2	3
46 & above	6	3.67	.516	.211	3.12	4.21	3	4
Total	100	2.76	.955	.095	2.57	2.95	1	5

ANOVA					
Job stress	Sum of Squares	DF	Mean Square	F	Sig.
Between Groups	5.323	3	1.774	2.006	.118
Within Groups	84.917	96	.885		
Total	90.240	99			

Interpretation: The output of Anova shows that p value 0.118 is greater than common significance level 0.05 therefore we fail to reject H₀. This shows that H₀ is accepted and H₁ is being rejected. There is no significance difference in mean job stress scores between the different groups based on years.

difference between unhealthy work condition and discouraged sick days.

6.6 Correlation Coefficient: Table showing the calculation of correlation coefficient for Unhealthy work condition and discouraged sick days.

Descriptive Statistics			
	Mean	Std. Deviation	N
Unhealthy work condition	3.24	1.074	100
Discouraged sick days	3.26	.774	100

Null Hypothesis (H₀): There is no significance difference between unhealthy work condition and discouraged sick days.

Interpretation

The output of correlation test shows that p- value for this correlation is 0.788. A p-value greater than 0.05 indicates that the correlation is not statistically significant. Therefore, we cannot conclude there is a significant linear relationship between unhealthy work conditions and discouraged sick days based on this data.

Alternative Hypothesis (H₁): There is significance

Correlations			
		Unhealthy work condition	Discouraged sick days
Unhealthy work condition	Pearson Correlation	1	-.027
	Sig. (2-tailed)		.788
	N	100	100
Discouraged sick days	Pearson Correlation	-.027	1
	Sig. (2-tailed)	.788	
	N	100	100

5. Findings

- It was noticed that 46% of the employees belong to 26-35 years of age.
- It was found 54% of the employees are female.
- It was also found that 60% of the employees are under graduate.
- It was identified that 64% of the employees have 6-8 years of experience.
- It was identified that 68% of the employees neutral about feeling pressurized in work.
- It was identified that 36% of the employees agreed that finding hard to be with their nearest.
- It was identified that 54% of the employees are neutral about target achievable.
- It was identified that 8% of the employees strongly

- agree with supervision in workplace.
- It was identified that 22% of the employees agreed about feeling overwhelmed by their workload.
- It was identified that 54% of the employees feeling neutral about views consideration by their HR.
- It was identified that 18% of the employees agreed about receiving information and communication from organization.
- It was identified that 14% of the employees disagreed about good work life balance.
- It was identified that 40% of the employees neutral about work load
- It was identified that 24% of the employees strongly agreed about feeling supported by their colleagues
- It was identified that 28% of the employees agree about

working extra hours

- It was identified that 50% of the employees neutral about feeling lonely in work place
- It was identified that 38% of the employees agree about tight deadline to finish their work
- It was identified that 50% of the employees neutral about feeling stressed of their work
- It was identified that 58% of the employees neutral about unhealthy work condition
- It was identified that 20% of the employees disagreed about sick days are discourage.

6. Suggestions

- It is suggested that the employees of male category should give more job opportunity.
- It was advised to have fun activities and games for the employees to relax between their work pressures.
- It was advised that not to give too much task at a time to handle.
- It was advised to encourage team building activities.
- It was suggested to have employee engagement programs.
- It was advised to provide better wages for the employees to maintain good work life balance.
- It was advised to provide more resources.

7. Conclusion

Occupational stress among employees in the software industry is a multifaceted issue with significant implications for both individuals and organizations. Throughout this study, we have explored the various causes, effects, and potential mitigation strategies associated with this phenomenon, aiming to shed light on its complexities and offer actionable insights for improving workplace conditions.

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