

Stress And Behavioral Analysis Of Employees Using Statistical And Correlation Methods

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Abstract: *This paper presents a study report on employee stress and behavioural analysis based on statistical and correlational approaches used by employees. A day in the office these days is a difficult one. The origins, causes, and stress reduction strategies used by employees in many sectors are explained in this study. The major goal of this study was to determine stress levels, as well as stress prevention and management strategies in the company. To obtain samples, we employ a basic random sampling procedure. The sample size is 126 employees, with a population of 300. Chi-square test, co-effective correlation, and Anova are some of the statistical tools used in data analysis.*

Key terms: *Stress, Behavior, Statistics, Correlation, Testing*

1. INTRODUCTION

Anxiety and depression are two mental diseases that can be brought on by stress. Stress can also induce physical illness; stress can result in more workplace injuries and illnesses. While it is true that there are sources of stress in the workplace, this does not imply that tension is an accident or the result of the employee's inaction. Changing the nature of employment raises the danger of workplace stress. According to Pepton et al, everyone requires modest pressure to stay attentive and operate efficiently in the workplace. The concept of creation is fraught with anxiety. Stress, a lack of training and a sense of direction, and multiple needs at the same time are all causes of stress.

There are both beneficial and terrible sorts of stress. Most individuals believe that stress is always beneficial. Nothing could be further from the truth. We need a little pressure to survive in this very competitive environment. As a result, stress can be separated into two categories: good stress, also known as "stress," and negative stress, also known as "suffering." Any technology has been invented to assist anyone in dealing with the physical and psychological repercussions of everyday life stress or learning a lesson. In the job, stress

management is important. Workplace stress is a prevalent and costly problem that affects just a small percentage of employees [2].

1. According to a recent study published in the Journal of Occupational and Environmental Medicine, those who work 12 hours a day are 37% more likely to become ill or injured than those who work fewer hours.
2. According to a Northwestern National Life study, one of the employees considers his or her job to be the foremost source of stress in their lives.

2. RELATED WORKS

New Delhi is the headquarters of the Government of India Telecommunication Company. On September 15, 2000, it combined and acquired the telecom services and network management business. As of October 1, 2000, Telecom Services (DTS) and Telecom Operations (DTO) had expressed concerns. Become India's premier telecom service provider with a worldwide footprint [3]. Create a customer-focused company that excels at customer service, sales, and marketing. Become India's leading telecom service company with a worldwide footprint. Employees, stockholders, sellers, and company associates all benefit from this. Increase existing asset returns while maintaining a continuous profit emphasis [4].

Under the Cell One brand, Mobile GSM is a significant provider of cellular mobile services. It offers enterprise customers a complete telecom service package, including MPLS, P2P, and Internet Leasing. It uses CDMA technology and its own unique optical fibre network to deliver fixed line and landline services. Prepaid dial-up connections, Net One postpaid, and Data One broadband are all options for internet access. Employees are more aware of their work as a result of it. It investigates whether or if employees in an organisation are stressed, as well as the elements that contribute to stress [5].

It also details the company's efforts to manage employees' work stress, and it can be used as a future reference for decision-making and policy-making related to employees. This research will aid in identifying the sources of organisational stress and reducing staff stress. This research should determine how much better assistance can be used to minimise employee stress levels in the workplace. This research will assist you in determining how to reduce stress and what initiatives your firm can take to do so. To determine the amount of stress in the company. To determine the present degree of employee stress. Identifying the stressor that is creating the anxiety. Identifying the psychological, physical, and psychological consequences of work-related stress. Examine several stress management techniques. Providing suggestions for reducing staff stress [6].

3. STATISTICAL TOOLS USED FOR ANALYSIS

For any research study, a brief summary of the relevant literature is provided. It is concerned with a literary review of the current volume of connected or similar topics. A review of previous work can assist reduce duplication and sometimes provide useful predictions because effective research is founded on existing knowledge. According to Wheaton (1986), any event or interaction with the environment that jeopardises our well-being or puts our adaptive talents to the test is stressful.

A research method is a process for finding useful information about a topic that is scientific and systematic. In any branch of knowledge, it is the careful search for or investigation of new facts. Researchers can get information from both primary and secondary sources. Basic information is gathered through the use of well-crafted questions that elicit facts and choices from respondents. Secondary data was gathered from a variety of sources, including books,

the Internet, magazines, and corporate records. In the data form, researchers can acquire both primary and secondary data. Basic information is gathered through the use of well-crafted questions that elicit facts and choices from respondents. Secondary data was gathered from a variety of books, including Internet, magazines and company records.

The following statistical data are used to classify, tabulate, and evaluate the data collected from the sources.

- Calculation of percentages
- Correlation coefficient
- Chi-square test
- ANOVA

A. Square Test (Chi)

Chi-Square Testing Between Age And Organization Takes Appropriate Stress Management Measures

The null hypothesis is:

H0: There is no association between age and how well an organisation manages stress.

Hypothesis number two:

H1: There is a link between age and whether or not a company employs appropriate stress management measures.

Frequency observed:

Age	Organization takes steps to manage stress					Total
	Strongly Agree	Agree	Neutral	Strongly disagree	Disagree	
Below 20	1	1	0	1	0	3
21-30	3	4	2	5	0	14
31-35	9	10	5	6	2	32
36-40	12	15	7	5	0	39
Above 40	7	9	6	16	0	38
Total	32	39	20	33	2	126
Level of significance = 0.05						
Degrees of freedom = (r-1)*(c-1)						
Table value = 26.296						
Calculated value =17.39						

Table 1:Set of questionnaires and feedback results

$TV > CV$ Accept (H_0)

Because the table value (26.296) exceeds the computed value (17.39) of the chi square distribution for 16 degrees of freedom, a 5% level of significance is applied. As a result, (H_0) is accepted. As a result, it was determined that there is no significant association between age and the organization's ability to manage stress.

B. Coefficient of Correlation

The following graph shows the relationship between income and workplace comfort:
 H0: There is a positive relationship between income and the comfort of one's workplace.

H1: There is a negative relationship between money and the comfort of one's workplace.

Income	14	26	32	40	14
Workplace and Its comfortable	70	10	10	16	20

1. Stress can be defined as:

- a. pressures and demands placed on an individual;
- b. maladaptive responses of individuals—for example, anxiety, irritability, and aches and pains;
- c. an interaction between situational demands and the individual's resources to cope with them;
- d. a reaction that can be positive or negative, depending on the person and the situation;
- e. a transactional process in which the ability to cope with them is exchanged;
- f. a transaction

2. Karasek's model of job strain has the following major dimensions:

- a. job expectations
- b. person–environment fit
- c. choice latitude
- d. role ambiguity
- e. social support

3. Here are some examples of active coping:

- a. problem fixing
- b. diverting one's attention away from the problem
- c. self-assuredness
- d. resting
- e. effective time management

4. Individual stress management strategies strive to:

- a. assist the individual in changing their circumstances
 - b. develop talents
 - c. alter the source of the stress
 - d. assist in the development of people's self-assurance
 - e. assist people in adjusting to a stressful situation
5. Organizational stress management strategies:
- a. are comparable to applying a bandage to a wound
 - b. think about stress in terms of dangers
 - c. rely on education

- d. are appropriate in a blame and criticism culture
- e. incorporate activities aimed at increasing decision-making participation

$$\sum X = 126, \sum Y = 126, \sum XY = 2480, \sum X^2 = 3692, \sum Y^2 = 5756$$

$$r = \frac{n(\sum xy) - \sum x \sum y}{\sqrt{(n\sum x^2 - (\sum x)^2) * (n\sum y^2 - (\sum y)^2)}}$$

$$r = \frac{5*(2480) - (126*126)}{\sqrt{[(5*3692) - (126)^2] [(5*5756) - (126)^2]}}$$

$$= \frac{12400 - 15876}{\sqrt{(18460-15876)(28780- 15876)}}$$

$$= \frac{-3476}{\sqrt{2584 * 12904}}$$

$$= \frac{-3476}{\sqrt{33343936}}$$

$$= \frac{-3476}{5774.42}$$

$$r = -0.60$$

Let $r < 1$

It has been discovered that there is a negative relationship between income and comfort.

Table 2: Income and workplace comparison results

c. ANOVA

H0: There is no substantial difference in employees' stress levels based on their work experience.

H1: Work experience has a major impact on employee stress levels.

N=25

T= 126

i) Correlation Factor $CF = T^2/N$
 $CF = 126^2/25$
 $CF = 635$

ii) Total sum of square TSS = (Square and add all numbers) – CF
 $= 1452-635$
 $TSS = 817$

iii) Sum of square of row $SSR = [\sum \text{row}^2 / \text{No.of row}] - CF$
 $= [(18^2 + 45^2 + 32^2 + 24^2 + 7^2) / 5] - 635$

$$= [3998/5] - 635$$

$$SSR = 164$$

$$\begin{aligned} \text{iv) Sum of square of error } SSE &= TSS - SSR \\ &= 817 - 164 \\ SSE &= 653 \end{aligned}$$

Levels of significance : 0.05

Degrees of freedom = (4,20)

Table value = 2.87

Calculated value = 1.24

TV > CV

Accept H₀

Because the estimated value (1.43) of the analysis of variance for (4,20) degrees of freedom is less than the table value (2.87), the 5 percent level of significance is used. As a result, H₀ is approved. As a result, there is no discernible difference in the impact of job experience on employee stress levels.

Table 3: Anova results based on experiences

4. Analysis Report:

- According to the percentage study, 55 percent of respondents gave their employment a high satisfaction rating.
- Based on the percentage analysis, it appears that 66 percent of respondents enjoy their work.
- According to the percentage study, 40 percent of respondents were affected by a high level of stress.
- Based on the percentage study, 60 percent of respondents were allowed to apply their expertise to their current job.
- According to the percentage study, 13 percent of respondents were dissatisfied with their workplace.
- Based on the percentage study, it's estimated that 29% of respondents worked overtime.

Employees that are stressed make up a small percentage of the workforce, and the organisation should give frequent counselling to help them overcome their stress. The goal of counselling should be to improve interactions between employees and their bosses. Workload and frequent rest are two measures that the organisation needs to make to alleviate workplace stress. Employees should be given one work at a time and given enough time to complete goals, according to the organisation, so that they can perform better without being stressed. Overtime work hours put employees under a lot of stress. The business should take initiatives to lessen employee stress.

5. CONCLUSION

Employees from diverse organisations participated in the current study. Stress is unavoidable because it is a natural component of life. However, every effort should be taken to bring it down. The purpose is to determine the stress levels and personality types of employees. A thorough questionnaire was used to do this. Only a small fraction of people in the low-stress section have a high residue and need to be somewhat organised, according to the study. We may infer at the conclusion of the study that employees have stress symptoms, that this stress influences their behaviour, and that this stress can be controlled and efficiently eliminated. This can be accomplished by offering counselling and implementing the suggestions made here on a regular basis.

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