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Working Condition And Its Effect On Productivity

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Abstract

Productivity took a new dimension with the industrial revolution where productivity transcended mere subsistence. High productivity in industries is highly important as a result of the fact that it is a necessary condition for organizational sustenance and continuity in addition to improved standard of living. Working in the Indian industrial environment has not been that easy in recent time. So many things come into play which affect workers in the process of their daily activities as far as working conditions are concerned. These challenges often force industrial workers to feel concerned about some important working conditions such as the pay, the physical environment, safety, participation in decision making, career development /progression, health etc.

Keywords— Productivity, T-test, hypothesis.

Introduction

Productivity is a vital and major concept to every industrial organization. As a matter of fact, no organization would be able to achieve its goals if the matter of productivity is neglected. It has also been argued that labour aspect is the most vital without which the organization would be far from reaching the desired goals. It is worthy of mention that industrialization is an advancement of work. Work itself is seen as an effort or activity carried out for personal or organizational sustenance. Much expectation is attached with the concept of work, in addition to the provision of economic security. Work makes life meaningful and gives the feeling of self actualization and acceptance to the worker in an industrial environment. So many things come into play which affect workers in the process of their daily activities as far as working conditions are concerned. These challenges often force industrial workers to feel concerned about some important working conditions such as the pay, the physical environment, safety, participation in decision making, career development /progression, health etc.

Research Hypothesis

Productivity refers to efficient utilization of the resources. The resources utilized for production are:
Land and building: land is convenient location on which the building and other facilities necessary for the operation of manufacturing are erected.

Materials: materials that can be converted into products to be sold. They include fuel, chemicals for use in the process of manufacture, packing, and other indirect materials etc.

Machines: plant, equipments, and tool necessary to carry out operation of manufacture and the transport of material, heating ventilation and power plant.

Manpower: men and women to perform the manufacturing operation; to plan and control, to do clerical work, to design and research, to buy and sell. The use of all these resources combined together determined the productivity of the enterprises. Since, higher productivity means more output from same resources, it also means more output from the same resources, and it also means lower money costs and higher net money return per unit of output.

Analysis Of Hypothesis

Thirty (30) participants for the study were randomly selected from the two companies thus:

They were made up of 24 (86.66 %) males and 4 (13.33%) females. The age range was between 21 and 59 years.

Osuala (1987) defines a hypothesis as a conjectural statement which shows the relationship between two or more variables. The hypothesis is usually in a declarative sentence form. A hypothesis could either be null (H_0) hypothesis for this study is as stated below:-

- H₀¹: That there is significant relationship between employees working conditions and their level of productivity.
- H_i¹: That there is no significant relationship between employees working condition and their level of productivity.
- H₀²: That there is significant relationship between incentive system and the employee productivity.
- H_i²: That there is no significant relationship between incentive system and the level of productivity.
- H₀³: That there is significant relationship between communication and the level of productivity.
- H_i³: That there is no significant relationship between communication and the level of productivity.
- H₀⁴: That there is significant relationship between employees job satisfaction and their productivity.
- H_i⁴: That there is no significant relationship between employee job satisfaction and their productivity.
- H₀⁵: That is significant relationship between employee participation in decision making and their productivity level.
- H_i⁵: That there is no significant relationship between employee participation in decision making and their productivity level.

The t-distribution (named after W.S Gosset, it discover who wrote under the name student) was used to statistically test the hypothesis. The formula for finding t-test is as follows.

$$\text{Test Statistics} = t^* \frac{X-\mu}{\Theta}$$

$$\bar{X} = \frac{\sum FX}{\sum F}$$

$$\mu = \bar{X} + 2.045(\Theta)$$

$$\Theta = \frac{SD}{\sqrt{\sum F}}$$

Where:

- \bar{X} = Sample mean
- μ = Assumed population mean
- θ = Standard error
- f = Frequency
- X = Assumed value
- SD=Standard deviation
- t*= Calculated t

The analytical techniques adopted in T-test.

TABLE 1: GENDER OF THE RESPONDENT (SURVEY)

	Number	Percentage
Male	26	86

Female	4	13.33
Total	30	100

The data shown in table one (1) reveals that 26(86%)of the respondents are male while 4(13.33%) are female, this means that the number of male workers is greater than that of the female, considering the nature of work in the organization.

TABLE 2: AGES OF THE RESPONDENT (SURVEY)

	Frequency	Percentage
Valid: 18-30	4	13.33
31-40	8	26.66
41-50	12	40.00
51-60	6	20.00
Total	30	100.0

From the table, one can see that about 66.66% of the respondents are between ages of 31-50 years which is the active work force.

TABLE 3: RESPONDENT PERCEPTION OF SALARY (SURVEY)

	Frequency	Percentage
Very satisfactory	4	13.33
Satisfactory	7	23.33
Very unsatisfactory	9	30.00
Unsatisfactory	8	26.66
Just fair	2	6.00
Total	30	100.

The data from table 3 in appendix reveals that 9(30%) view perceive their salary as very unsatisfactory, 8(26.66%) of the respondent view their income as unsatisfactory, while only 4(13.33%) of the respondents are very satisfactory with their income. As earlier said, the high percentage of dissatisfaction with income by the respondent could have been occasioned by the high cost of living in the country which has really encumbered workers with heavy burden of survival.

TABLE 4: WHETHER DISSATISFACTION WITH SALARY AFFECTS RESPONDENTS PERFORMANCE (SURVEY)

	Frequency	Percentage
Valid: Yes	11	36.66
No	19	63.33
Total	30	100.

The data from table 4 shows that 11(36.66%) of respondents agree that lack of satisfaction with income after their performance while 19(63.33%) say it does not affect their performance. The larger percentage of respondents in the latter category could

still perform because of lack of job opportunities elsewhere and the fear of losing their job if they don't perform.

TABLE 5: RESPONDENTS SATISFACTION WITH THE WORKING CONDITIONS (SURVEY)

	Frequency	Percentage
Valid: Yes	10	33.33
No	20	66.66
Total	30	100

From the table 5, in appendix 20(66.66%) of the respondents are not satisfied with the working conditions in their company while 10(33.33%) are satisfied.

TABLE 6: RESPONDENTS INVOLVEMENT IN DECISION MAKING

	Frequency	Percentage
Valid: Yes	14	46.66
No	16	53.33
Total	30	100

From the table the data reveals that a larger percentage of the respondents (53.33%) say they are not involved in the decision making of the company while (46.66%) agree that they are involved.

TABLE 7: WHETHER PARTICIPATION DECISION MAKING ENHANCES PERFORMANCE (SURVEY 2012)

	Frequency	Percentage
Valid: Yes	15	50.00
No	15	50.00
Total	30	100

From table 15(50%) of the respondents agree that participation in decision making enhances performance while 15(50%) do not agree.

TABLE 8: WHETHER COMMUNICATION AFFECTS RESPONDENT PERFORMANCE (SURVEY)

	Frequency	Percentage
Valid: Yes	17	56.66
No	13	43.33
Total	30	100

From table 8, 17(56.66%) of the respondent agree that communication enhances their performance while 13(43.33) say no. This reveals that communication between management and employees is vital in an organization.

TABLE 9: WHETHER RESPONDENTS LEVEL OF JOB SATISFACTION AFFECT THEIR PERFORMANCE (SURVEY)

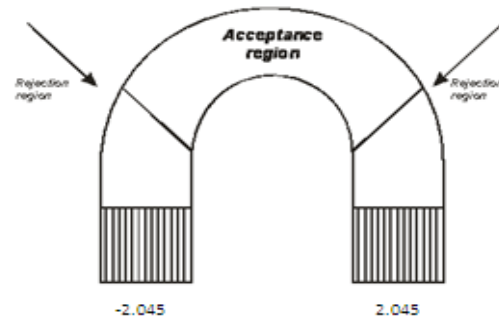
	Frequency	Percentage
Valid: Yes	16	53.33
No	14	46.66
Total	30	100

From table 9, a larger percentage of the respondents 53.33% argue that their level of job satisfaction affects their performance in their company. This shows a direct correlation between the satisfaction and performance in their company.

TESTING OF T-TEST OF HYPOTHESIS

The hypothesis is tested statistically through the Student (T-Test) is employed. The T-Test is tested under the level of 95% confidence and a significant level of 5%.

The hypothesis is two tailed-positive and negative sides. Thus, the acceptance region and rejected region is as shown in the diagram below.



$$\text{Test Statistics} = t^* \frac{X - \mu}{\sigma}$$

t* to its value at the 5% level of significance which is 2.045. If t* obtained is less than or equal to 2.045 then we accept null hypothesis (Ho), If t* obtained greater than 2.045 then we reject null hypothesis (Ho) and accept alternative hypothesis (Hi).

TEST OF HYPOTHESIS BASED ON EMPLOYEE JOB SATISFACTION AND THEIR PRODUCTIVITY

No.	X	F	FX	X-X	(X-X)	F(X-X)
Strongly Agreed	5	9	45	1.4	1.96	17.64
Agree	4	10	40	0.4	0.16	1.6
Undecided	3	4	12	-0.6	0.36	1.44
Disagree	2	4	8	-1.6	2.56	10.24

Strongly Disagree	1	3	3	-2.6	6.76	20.28
Total		30	108			51.2

$$\bar{X} = \frac{\sum FX}{\sum F} = \frac{108}{30} = 3.6$$

Calculated Value t. Hypothesis 1

$$t^* = \frac{\bar{X} - \mu}{\Theta}$$

\bar{X} = Sample mean

μ = Assumed population mean

Θ = Standard Error

SD = Standard Deviation

t^* = Calculated t

$$\bar{X} = \frac{\sum FX}{\sum F}$$

$$\mu = \bar{X} + 2.045(\Theta)$$

$$\Theta = \frac{SD}{\sqrt{\sum F}}$$

$$SD = \sqrt{\frac{\sum F(X - \bar{X})^2}{\sum F}}$$

$$SD = \sqrt{\frac{51.2}{30}}$$

$$SD = 1.306$$

$$\Theta = \frac{SD}{\sqrt{\sum F}}$$

$$\Theta = \frac{1.306}{\sqrt{30}}$$

$$\Theta = 0.238$$

$$\mu = \bar{X} \pm 2.045(\Theta)$$

$$\mu = 3.6 + 2.045(0.238)$$

$$3.6 + 0.4867$$

$$= 4.0867$$

$$3.6 - 2.045(0.238)$$

$$3.6 - 0.4867$$

$$= 3.1133$$

$$t^* = \frac{\bar{X} - \mu}{\Theta}$$

$$t^* = \frac{3.6 - 4.0867}{0.238}$$

$$t^* = \frac{-2.045}{0.238}$$

Or

$$= \frac{3.6 - 3.11329}{0.238}$$

$$= 2.045$$

Result: T-Test is equal to 2.045 on both sides. Based on our decisions that, we accept H_0 when it is less than or equal to 2.045 and H_1 when it is greater than 2.045. Therefore, the null hypothesis (H_0) is accepted. Thus, the statement of (H_0^1) is factual. There is significant relationship between employees job satisfaction and their productivity.

Conclusion

The hypothesis based on job satisfaction and their productivity is satisfied with working condition in organization at 63%. This is because the availability of factors such as a conducive working environment, adequate incentive likes promotion, good pay, and employee participation in decision making.

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