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Investigation of the Factors of Absenteeism Affecting in Production Industry

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Abstract:

Absenteeism has always been one of the persistent problems in industry. It is commonly understood as an employee or a group of employees remaining absent from work either continuously for a long period or repeatedly for short periods. The study has been conducted to understand the causes for the absenteeism in the production industry among the employees. From the study, it is found that the job dissatisfaction, family problem, poor welfare facilities, unhealthy condition, poor working condition are the causes for remaining absent for the work. Data were collected from 265 employees from a production industry in North East India, having absenteeism problem. This study has enabled us to obtain interesting conclusion about the variables that have the most influence on absenteeism providing useful managerial recommendation for decision making in reducing it.

Keywords: Absenteeism, Employees, Production Industry, Managerial Recommendation

1. Introduction

The problem of absenteeism in industry is faced by almost every country in the world. In India, its magnitude is far greater than in the western countries. Absenteeism is generally understood in different ways by different persons. It is commonly understood as an employee or group or employee remaining absent from work either continuously for a long period or repeatedly for short periods (Johns and Nicholson, 1982). But in the industrial field, absenteeism conveys a different meaning and is expressed in different ways in different countries or industries. In simple language it is the total number of employees absent expressed as a percentage of the total number of employees employed. In more technical words the same may be said to mean "a ratio of the number of production shifts lost to the total production or shifts scheduled to work (Rao, 1951).

Employee absenteeism is a worldwide phenomenon which arises due to structural or functional problems in an industry or organization, which is an important subject on the international agenda. Employee absenteeism is a costly, yet poorly understood organizational phenomenon (Johns and Nicholson, 1982). The consequence of employee absenteeism is widespread and consists of direct and indirect effects (Huczynski & Fitzpatrick, 1989). For instance higher cost result from absenteeism, this can be caused both directly and indirectly. Direct cost of sickness absence to employee includes statutory sick pay, expense of covering absence with temporary staff and loss of production. Indirect cost such as low morale staff, covering for those absent because of sickness and lower customer satisfaction, are difficult to measure while they also influence the overall levels of output.

Cascio (2003) defines absenteeism as "any failure of an employee to report for not remaining at work as scheduled, regardless, regardless of the reason." Milkovich and Boudreau (1994) define absenteeism from organization's perspective as "the frequency or duration of work time lost when employees do not come to work". Absenteeism therefore implies "an unplanned, disruptive incident; but more specifically, it can be seen as non attendance when an employee is scheduled for work" (Van der Merwe & Miller, 1988).

Absenteeism is however, too complex and an exclusive concept to permit exact remedial measures. There is no magic formula available to work as panacea for absenteeism in various organizations operating under different circumstances and condition of work. With so many factors affecting absence rates, it would be unrealistic to expect to find one simple answer to the problem of industrial absenteeism (Bhatia, 1984).

The negative impact of absenteeism on larger industry is loss to productivity, cost and schedule overrun. Absenteeism is not to supervisor in advance and therefore, it becomes essential to educate the employees about absenteeism (Sichani et al, 2011). Team leaders have a role to play in the assembly line where absenteeism leads to bad productivity. They have to motivate the employees and improve their morale by applying leadership techniques whereby their commitment increases and in turn, absenteeism is reduced.

Work safety plays a crucial role in absenteeism. Employees level of commitment and motivation comes down when the organization does not adhere to basic safety norms which leads to costing of life. It was that because of cut throat competition, corporate bid at a very low quote. The basic idea is to get to contract in order to survive in the market and maintain the sustainability of providing salary and fringe benefits to the employees. As a result, they compromise on basic safety norms as a cost cutting measure. Hence it is felt that organization should strictly adhere to safety norms so that organization do not

compromise on such issue. This would facilitate in creating a safe working environment and make the employees work with dedication (Hanna et al., 2005).

In industry, absenteeism affect the morale and dicipline of the whole group of workers. It affects the production schedule and leads to dislocation at various levels (Hamilton, 2003). The waste of time,energy and money is considerable. It has been generally observed that, when a worker absents himself once, may be due to some genuine reasons, he develops a temptation to be absent more frequently, sometimes even on flimsy grounds and become ultimately a chronic absentee.The absentee suffers the loss of his wages and puts his concern to a loss of its production. Losing his wages, he affects the economic status of his family; and if he indulges in chronic absenteism,he endagers the standard of living of his own and his family members. Thus, absenteeism is a serious problem,affecting industry and the individuals indlging in it.

2. Objective of the Research

To find out the main factors for absenteeism and suggest measures to reduce it.

3. Research Methodology

Quantitative method is employed in the research. The quantitative approach was adopted in order to allow the researcher to gather more precise and quantifiable information on the causes and effects of absenteeism. According to Wick and Freeman (1998), the main advantage of a quantitative method is that it allows the researcher to address research questions and hypotheses by relying on objective measures to support the results of the study. According to Bryman (2008), the advantages of quantitative methods are seen as objective observation, involving a convenient sampling where data can be analyzed quickly and the findings obtained are reliable and may be generalized beyond the participating groups. A quantitative method is based on positive facts (Galbreath and Galvin, 2004).

By using a quantitative method, this research aims to extend the quantifiable, empirical research base. It addresses the need for scientific facts in testing and in generating results that can be used in future studies for verification or replication.

3.1. Design

In order to test the hypotheses, a cross sectional field based survey was used. Kerlinger (2000) argues that field studies are non experimental scientific enquires designed to discover the relations among variables in real social structures. A cross sectional field based study has a number of advantages. It allows the researcher to gather a large amount of information. It maximizes and improves generalisability of the results (Scandura and Williams, 2000).In this study a field based survey questionnaire was prepared and responses were gathered from employees. A five point Likert scale was used for resource variables. Employees were asked to asses each variable for the relative impact of the firm's success. Fahy (2002) argues that, in a sample survey questionnaire, using Likert scales to collect data (on resources and performance) is valid in order to measure the various performance and resource variables.

3.2. Instrumentation

An important consideration of field survey is the ability to develop valid and reliable measures of the variables (Churchill, 1979; Spanos and Lioukas, 2001). For the purpose of the research a questionnaire was developed and used as an alternative approach to collect data. The questionnaire consists of three parts. The first part was about demographic profiling of the respondent, second was about their professional work and the third part was absenteeism causes and reasons. It was suggested by Frazer and Lawley (2000) that a questionnaire should be simple, unambiguous and easy to read.

3.3. Variables Identified

The variables identified in the form of Ishikawa diagram.(Figure 1) The diagram's purpose is to relate the causes(dependent variable) and effect (independent variable). Ishikawa diagrams (also called fishbone diagrams, herringbone diagrams or Fishikawa) are created by Kaoru Ishikawa in 1968 that show the causes of a specific event. Common uses of Ishikawa diagram are to identify potential factors causing an overall effect. Causes are usually grouped into major categories to identify the sources of variation. (Ishikawa, 1968).

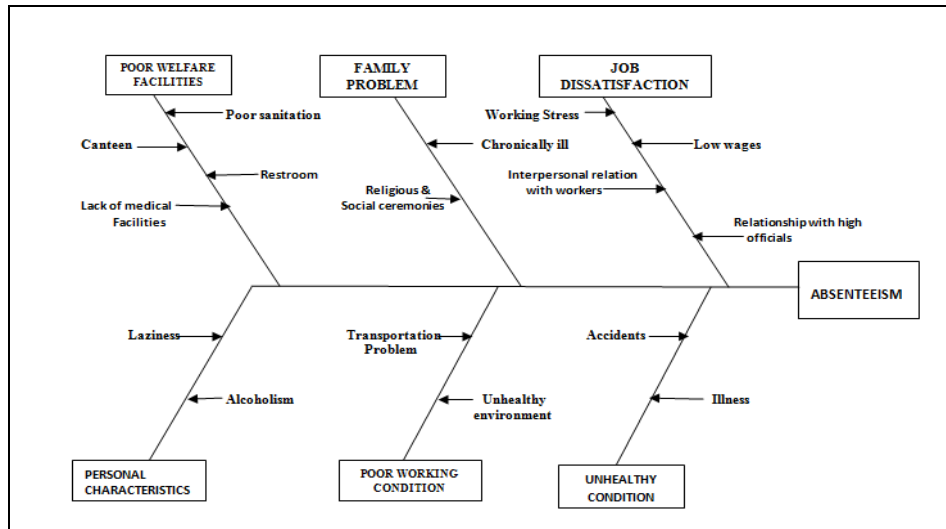


Figure 1: Cause and Effect Diagram of Absenteeism

The independent variables are job dissatisfaction, family problem, poor welfare facilities, unhealthy condition, poor working condition and personal characteristics. The dependent variable is absenteeism.

4. Data Collection and Hypothesis Development

The data were collected from 20 November to 30 December, 2013. The questionnaire was administered individually as by personal interview (India).The sampling was non probabilistic (convenience sampling).The number of were respondents 265. The survey covered the employees of a production industry in the state of Assam. The sampling procedure was non probabilistic With the aim to analyze the foreseeable influence of the identified variables, we propose the following hypotheses:

- H1: Job dissatisfaction increases absenteeism.
- H2: Family problem of the employees increase absenteeism.
- H3: Poor welfare facilities increase absenteeism.
- H4: Unhealthy condition leads to absenteeism.
- H5: Poor working condition is responsible for absenteeism.
- H6: Personal characteristics is responsible for absenteeism

5. Data analysis

5.1. Reliability Analysis

Cronbach’s alpha was used to test the internal consistency (reliability) of various constructs. Cronbach’s alpha is the most commonly used measure of a scale’s internal consistency reliability. Cronbach’s alpha corresponds approximately to the mean of all the possible spilt half coefficients resulting from a test (Nunnally, 1978). The higher the value of Cronbach’s alpha, the greater is the internal consistency of the measure. A widely acceptable minimum level of Cronbach’s alpha is 0.70 (Nunnally, 1978).In this study, all constructs reported a Cronbach’s alpha level within and above the acceptable range of 0.70 to 0.80. The scale demonstrates acceptable internal consistency with a Cronbach’s alpha of 0.832 to 0.729.Table 1 shows such variable and its associated Cronbach’s alpha coefficient.

Constructs	Cronbach alpha
Job dissatisfaction (4 items)	0.812
Family problem (2 items)	0.823
Poor welfare facilities (4 items)	0.832
Unhealthy conditions (2 items)	0.786
Poor working condition (2 items)	0.729
Personal characteristics (2 items)	0.765
For overall constructs (6 items)	0.798

Table 1: Cronbach Alpha Scores

5.2. Factor Analysis

A confirmatory factor analysis was conducted to determine whether or not the survey items load to their associated constructs and to assess convergent validity of the study’s constructs (Fahy,2002; Galbreath and Galvin, 2006).It is reported by scholars that factor analysis provides a suitable means to examine convergent validity (Fahy, 2002). According to Nunnally (1978), confirmatory factor analysis is used frequently to summaries the structure of a set of variables and to determine whether items are loading into the same construct.

Kaiser –Meyer- Olkin (KMO) test was conducted to measure the adequacy of the sample data for factor analysis. KMO “ assesses the factorability of the correlation matrix” (Nunnally, 1978).The KMO provides a value between 0 and 1(Coakes and Steed, 2007). Small values for the KMO indicate that a factor analysis of the variables may not be appropriate. In this study, the value of KMO is 0.758, which is greater than the recommended value of 0.6 (Nunnally, 1978). Thus, the sample items are suitable for factor analysis. In order to assess the strength of the relationships between items in the instrument, Bartlett’s test of sphericity was performed (Nunnally, 1978). Bartlett’s test of sphericity revealed a significance $p < 0.05$, indicating that the strength of relationships between the study items is strong enough to conduct the factor analysis. Factor loadings are presented in Table 2.

Constructs		Factor Loading
Job dissatisfaction	(4 items)	0.654
Family problem	(2 items)	0.723
Poor welfare facilities	(4 items)	0.462
Unhealthy conditions	(2 items)	0.859
Poor working condition	(2 items)	0.645
Personal characteristics	(2 items)	0.578

Table 2: Confirmatory Factor Loadings

In factor analysis, loading level is utilized to determine whether or not an item loads to its associated variable. Any item with a loading of 0.30 or higher is deemed to belong to a specific factor (Tabachnick and Fidell, 2001). In exploratory studies, a low loading level of 0.3 or 0.4 is considered adequate (Nunnally, 1978), 0.40 is considered to be more important, and a loading of 0.5 or greater is considered to be more significant. Based on the result of the factor analysis (Table 2), loading levels for the study items revealed that all the study items revealed that all of the survey items exceeded the recommended loading level, ranging from 0.462 to 0.859 (Table 2). Therefore validity of the present study is established.

5.3 Correlation Analysis

Correlation is a term that refers to the strength of a relationship between two variables. A strong or high correlation means that two or more variables have a strong relationship with each other while a weak or low correlation means that the variables are hardly related (Cohen et al., 2002). Correlation coefficients can range from -1.00 to + 1.00. The value of -1.00 represents a perfect negative correlation while a value of +1.00 represents a perfect positive correlation. A value of 0 means that there is no relationship between the variables being tested. Table 3 presents the correlation coefficients for the study variables. From the correlation matrix (Table 3) it can be seen that correlated values are 0.538 to 0.712. It shows us that there is significant inter correlations between independent and dependent variables.

	Absenteeism	Job dissatisfaction	Family problem	Poor welfare facilities	Unhealthy conditions	Working condition	Personal characteristics
Absenteeism	1	.538**	.608**	.575**	.584**	.669**	.611**
Job dissatisfaction	.538**	1	.587**	.567**	.682**	.601**	.590**
Family problem	.608**	.587**	1	.652**	.615**	.683**	.606**
Poor welfare facilities	.575**	.567**	.652**	1	.642**	.698**	.647**
Unhealthy conditions	.584**	.682**	.615**	.642**	1	.687**	.712**
Poor working condition	.669**	.601**	.683**	.698**	.687**	1	.699**
Personal characteristics	.611**	.590**	.606**	.647**	.712**	.699**	1

Table 3: Correlation Coefficients for the Variables

* $p < 0.01$; ** $p < 0.001$

5.4 Hypothesis Testing

Multiple linear regression analysis was used to test the relationships. In this study the correlation results (Table 3) revealed that variables namely job dissatisfaction, family problem, poor welfare facilities, unhealthy condition, poor working condition and personal characteristics are correlated with absenteeism. In addition, the existence of a highly significant inter correlation between

variables required further investigation to evaluate the relationship between these inter correlated variables. Therefore, to address the study question and hypothesis significantly a series of multiple regression analyses was conducted. Multiple regression analysis provides a measures of degree of the relationship (0 = no relationship, 1 = perfect relationship) between the dependent variables and the weighted combination of the predictor variables (Hair et al., 1995). Results are more easily interpreted in a regression analysis by examining the “ R squared adjusted” value. The R square value explains the percentage of variance in the dependent variable that is attributed to the weighted combination of independent variables (Galbreath and Galvin, 2006). A number of assumptions underpinning the use of regression were examined.

5.4.1. For Hypothesis H1

Hypothesis H1 is significant as indicated by the p value ($0.039 < 0.05$). Table summarizes the statistics for the variable job dissatisfaction.

Variable	R	R square	Adjusted R square	F	P Model	B	t	P variables
Regression				1.705	0.150			
R	0.342							
R square		0.122						
Adjusted R square			0.051					
Constant							2.961	0.006
Job dissatisfaction (Variable)						0.280	2.133	0.039

Table 4: Statistics for Job Dissatisfaction as the Independent Variable

Table 4 showing p value $0.03 < 0.05$ supports hypothesis H1

5.4.2. For Hypothesis H2

Hypothesis H2 is significant as indicated by the p value ($0.042 < 0.05$). Table summarizes the statistics for the variable family problem.

Variable	R	R square	Adjusted R square	F	P Model	B	t	P variables
Regression				1.925	0.178			
R	0.468							
R square		0.219						
Adjusted R square			0.046					
Constant							3.051	0.005
Family Problem (Variable)						0.318	3.133	0.042

Table 5: Statistics for Family Problem as the Independent Variable

Table 5 showing p value $0.042 < 0.05$ supports hypothesis H2

5.4.3. For Hypothesis H3

Hypothesis H3 is significant as indicated by the p value ($0.040 < 0.05$). Table summarizes the statistics for the variable Poor Welfare Facilities

Variable	R	R square	Adjusted R square	F	P Model	B	t	P variables
Regression				1.825	0.162			
R	0.367							
R square		0.134						
Adjusted R square			0.055					
Constant							2.995	0.007
Poor Welfare Facilities (Variable)						0.296	2.353	0.040

Table 6: Statistics for Poor Welfare Facilities as the Independent Variable

Table 6 showing p value $0.04 < 0.05$ supports hypothesis H3

5.4.4. For Hypothesis H4

Hypothesis H4 is significant as indicated by the p value ($0.036 < 0.05$). Table summarizes the statistics for the variable Unhealthy conditions

Variable	R	R square	Adjusted R square	F	P Model	B	t	P variables
Regression				1,976	0.174			
R	0.379							
R square		0.143						
Adjusted R square			0.067					
Constant							3.213	0.006
Unhealthy conditions (Variable)						0.312	2.765	0.036

Table 7: Statistics for Unhealthy conditions as the Independent Variable

Table 7 showing p value $0.036 < 0.05$ supports hypothesis H4

5.4.5. For Hypothesis H5

Hypothesis H5 is significant as indicated by the p value ($0.043 < 0.05$). Table summarizes the statistics for the variable Working condition

Variable	R	R square	Adjusted R square	F	P Model	B	t	P variables
Regression				1.812	0.18			
R	0.442							
R square		0.195						
Adjusted R square			0.075					
Constant							3.561	0.007
Poor Working condition (Variable)						0.321	2.839	0.043

Table 8: Statistics for Poor working Condition as the Independent Variable

Table 8 showing p value $0.043 < 0.05$ supports hypothesis H5

5.4.6. For Hypothesis H6

Hypothesis H6 is significant as indicated by the p value ($0.038 < 0.05$). Table summarizes the statistics for the variable Personal characteristics

Variable	R	R square	Adjusted R square	F	P Model	B	t	P variables
Regression				1.655	0.142			
R	0.321							
R square		0.103						
Adjusted R square			0.043					
Constant							2.961	0.005
Personal characteristics (Variable)						0.280	2.133	0.038

Table 9: Statistics for Personal Characteristics as the Independent Variable

Table 9 showing p value $0.038 < 0.05$ supports hypothesis H6

6. Limitation and results

6.1. Limitations of Study

There are some limitations for research which are as follows:

- The workers were busy with their work therefore they could not give enough time for the interview.
- The personal biases of the respondents might have entered into the response.
- Respondents were relevant to disclosure complete and correct information.
- Time assigned for data collection was less due to academic constraints. So the respondents were seen to be little unthinking while responding to the questionnaire. Therefore further elongated time span for the same is advisable for collecting data with much flexibility of time.

6.2. Results

The table below shows the summary of the hypotheses. Multiple linear regression analysis was used to test the relationships.

Hypotheses and sub hypotheses	Results
H1	Supported
H2	Supported
H3	Supported
H4	Supported
H4	Supported
H5	Supported
H6	Supported

Table 10: Summary of hypotheses

The supported hypotheses shows us that job dissatisfaction, family problem, poor welfare facilities, unhealthy condition, poor working condition and personal characteristics have an significant effect in absenteeism. These variable are responsible for absenteeism and they should be removed or try to minimize to remove absenteeism.

7. Measures to Minimize Absenteeism

Absenteeism affects the organization from multiple sides. It severely affects the production process and the business process. However, it would be difficult to completely avoid absenteeism. The management can minimize absenteeism. The following measures are useful in controlling or minimizing absenteeism.

- Providing leave facility based on the needs of the employees and organizational requirement.
- Adopting a humanistic approach in dealing with the personal problems of employees.
- Providing hygienic working conditions.
- Providing welfare measures and fringe benefits, balancing the need for the employee and the ability of the organization.
- Providing high wages and allowances based on the organizational financial positions.
- Providing safety & health measures.
- Educating the workers.
- Counseling the workers about their carrier, income & expenditure habits & culture.
- Free flow of information, exchanging of ideas problems etc. between subordinate & superior.
- Granting leave and financial assistance liberally in case of sickness of employee & his family members.
- Offering attendance bonus & inducements.
- Providing extensive training, encouragement, special allowance in cash for technological advancements.

8. Conclusion and Future Scope

Absenteeism affects the organization from multiple sides. It severely affects the production process. However it is very difficult to completely avoid absenteeism. The management can minimize absenteeism. Absenteeism affects both industries and employees. The study tries to reveal the factors influencing the absenteeism of employees. The research concluded that all of the factors were statistically significantly positively correlated with absenteeism. Absenteeism can be reduced by management by implementing various employee satisfactory changes in the organization. The study is essential for industry to effectively manage production. This study aims to obtain conclusions about the variables that have the most influence on absenteeism and to provide useful managerial recommendations in reducing it and help them in formulating business policies, and improve their industrial performance

This study used methods in determining the affects of absenteeism through interview and literature study. It is recommended that future research should examine the determinants of satisfaction using techniques to provide more in depth understanding of the key determinants of absenteeism in the industries. There still remains open a great number of questions in relationship to the questions dealt with. Hence, between the lines of future work we considered it necessary to analyze the impact that the detected factors exert on the demographic factors of the employees.

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