Absenteeism Related to Family Events and Its Impact on the Productivity of the Company: Case of the ACHCAR Industry in the Republic of Mali

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Abstract This study highlights the benefit to implement tangible ways to reduce the absence rate of employees. The recommendations should be used as guideline for Malian firms. The quantitative and qualitative methods, primary data collected by questionnaires and interviews are used. Secondary data are gotten from articles, journals and online resources. The research framework was analyzed using multiple regression model. Hypothesis test is adopted to accept or reject the hypothesis formulated in this research. Excel software have been used to perform the t-test for individual significance and F-test for general significance, the measures of p-value, correlation coefficient, coefficient of determination. The research findings confirmed that: to reduce the absence rate of employees is a tangible ways to obtain a good productivity level. The results suggest that absenteeism has overall significant impact on productivity. Absenteeism has a positive impact on productivity is valid hypothesis. This study makes several contributions to research and theory of absenteeism and labor productivity. A greater understanding of absenteeism and labor productivity provided further investigation of the relationship between absenteeism and productivity. This model can be used by other firms to implement ways to reduce the absence rate of their employees. Through the use of this model, firm can quickly identify areas requiring urgent improvement. Malian firms need telework, teamwork, polyvalence for flexible job rotation when it is possible. The theoretical model developed in this study is applicable in practice.

Keywords: *liberal economy, competiveness, absenteeism, productivity, multiple regression models*

1. Introduction

Mali has liberal economy and its companies are competing with those of other countries. A phenomenon, which considerably reduces labor productivity, is absenteeism and consequently the competiveness. According to the Alma Consulting Group study, 1% of absenteeism would cost 1.87% of payroll. Absenteeism is the fact to be absent on the workplace where the presence is necessary.

Productivity is a measurement of the output produced using a quantity of inputs. More and more organizations are convinced of the need to implement tangible ways to reduce the absence rate of their employees. Some companies also set up "attendance bonuses" to value employees who are not absent. In Mali the causes of absenteeism are varied, but here we deal only with cases of absenteeism related to family events: paternity leave, birth leave, marriage, bereavement, relocation, and leave for sick children. It is therefore necessary to look at the reasons for absenteeism by establishing a diagnosis and putting in place measures to remedy it. In Mali the traditional families dominate, to be present at the family events of the parents, relatives parents, friends and neighbors is obligatory and represents a cardinal value. Finally, taking into account the impact of absenteeism due to family events on productivity is not an option but an imperative. Controlling the absenteeism threshold is a key element of management, since it affects, from a certain level, the health of the organization. The company therefore has interest in setting up systematic monitoring of absenteeism and analyzing the root causes of absences. Is the reduction of absenteeism level an effective way to increase the productivity of Malian companies?

The overall objective of this study is to provide sufficient guidelines to help Malian firms in the implementation of absenteeism impact on productivity. This study is focused on the current absenteeism impact of absenteeism on productivity within Malian firm ACHCAR. It has following specific objectives:

- To obtain the effects of absenteeism implementation impact on productivity within Malian firm ACHCAR;
- To obtain the absenteeism and productivity implementation model for Malian firms;
- To specify and test hypotheses from the research model of absenteeism and productivity which is derived from their theoretical foundations,
- To obtain absenteeism knowledge with specific characteristics of Malian firms generated new knowledge.

Based on the literature review, informal discussions with human resources practitioners, and research objectives, the research questions were proposed. They are listed as follows:

Question 1: What is absenteeism?

Question 2: What is productivity?

Question 3: Is the fight against absenteeism an effective way to increase the labor productivity of Malian companies?

Question 4: What kind of theoretical model for implementing absenteeism should be developed to guide Malian companies in implementing absenteeism and productivity?

Question 5: What is the extent of the relationship between absenteeism and productivity?

Question 6: How can this model of absenteeism and productivity implementation be demonstrated in practice?

2. Literature Review

The first, second and third research questions – "What is absenteeism?", "What is productivity?" and "Is the reduction of absenteeism level an effective way to increase the productivity of Malian companies? are descriptive in nature.

When reviewing the relevant literature on absenteeism and labor productivity, it was found that different researchers had different definitions of absenteeism and labor productivity frameworks based on their own understanding of absenteeism, productivity and research objectives. As a result, there are fewer consensuses on what constitutes absenteeism and labor productivity. Absenteeism is the idea of evading a duty, of abandoning one's task. If this term has a pejorative connotation, it is the index of a pathological situation for the company [2]. Absenteeism expresses a judgment of value, a moral opinion: it is easy to assess - just calculate the number of days of absence from work .

Labor productivity is the amount of goods and services that a laborer produces in a given amount of time. It is one of several types of productivity that economists measure. Labor productivity can be measured for an individual, a firm, a process or a country [4].

Absenteeism and its impacts no longer have any secrets for the vast majority of companies. The costs and impacts of human resource management have been the subject of much scrutiny over the past decade, and this globally. Few companies today are not worried or at least sensitized on the importance of having indicators for measuring absenteeism. The social and economic analyzes have demonstrated beyond any doubt that there are solutions

and that an investment in concerted, structured and sustained preventive practices produces its positive effects in the medium term [1].

3. Theoretical Model

Research Question 4: "What kind of theoretical model for implementing absenteeism and productivity should be developed to guide Malian companies?" will be answered. This model is based on the assumptions that the absenteeism implementation constructs have positive effects on productivity. Those absenteeism constructs are: Paternity leave, Birth leave, Marriage, Mourning, Relocation, Leave for sick children.

These assumptions must be confirmed by questionnaire survey data in the Malian company ACHCAR. Based on these assumptions, a theoretical model for implementing absenteeism and productivity has been developed. In this study, the absenteeism constructs are the independent variables (causes) and productivity is the dependent variable (effect).
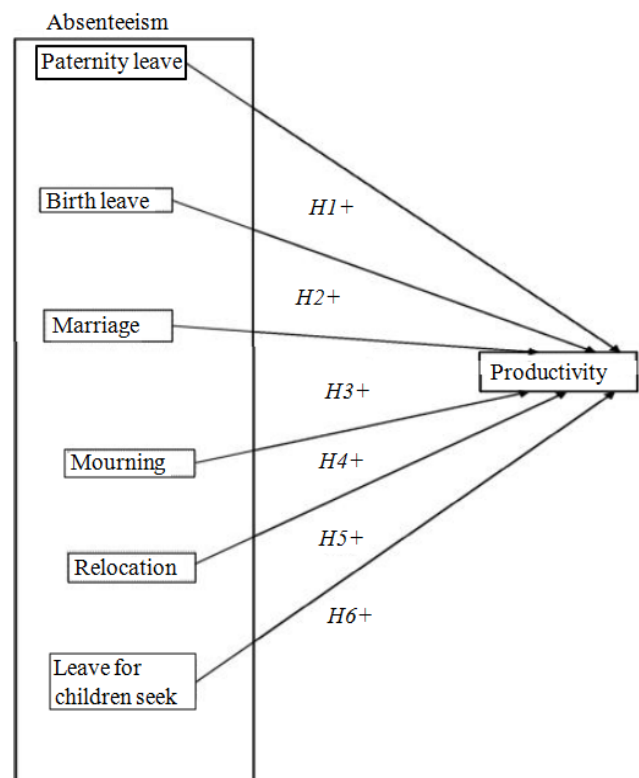

Figure 1. Theoretical model of the absenteeism and productivity (**Source: primary data**)

Six (6) hypotheses were proposed. They are listed as follows:

H1: Paternity leave has positive impact on labor productivity

H2: Birth leave has positive impact on labor productivity

H3: Marriage has positive impact on labor productivity

H4: Mourning has positive impact on labor productivity

H5: Relocation has positive impact on labor productivity

H6: Leave for sick children has positive impact on labor productivity.

4. Methodology of Case Study

The sixth research question is "How can this model of absenteeism and productivity implementation be demonstrated in practice?"

In fact, the model was developed to find out how in a Malian company the absenteeism impacts on firms productivity. According to [5], case studies are the preferred strategy when "how" or "why" are questions asked. The Malian company ACHCAR puts this model of absenteeism and productivity implementation into practice and can also provide a better understanding of the model.

4.1. A Brief Introduction of Firm Achcar

The case study was conducted in a ACHKAR Small-sized food industry. It is located in the industrial zone of Bamako in Mali, produces and processes wheat flour, sweets, chewing gum and other food products. The industry has a functional organizational structure.

4.2. Data Collection

Primary and secondary data sources are used.

4.2.1. Primary Data Sources

Primary data are information's collected directly by the researcher, when secondary data are not available or are unable to contribute to the achievement of research objectives [3].

a) Interviews and observations

Interviews were conducted with senior managers, production managers and human resources managers.

b) Questionnaire survey

• **Absenteeism Survey** (independent variable)

The research question "What is the extent of the relationship between Absenteeism and labor productivity?" has been answered. Absenteeism constructs are used for following statement: "Our organization collects detailed information on Absenteeism due to: Paternity leave (PL)," Birth leave (BL)," Wedding (WD), Mourning (MN), Relocation (RL), Leave for sick children (SC).

Could you please take a minute to tell us how satisfied are you satisfy with the level of Absenteeism constructs related to family events? We will use this information to help the enterprise ACHCAR to improve its ability to deliver projects in the future. Respondents to these items were used five-point Likert format ranging from 1 to 5. The rating scale is as follows: 1 to 2 Very satisfied, 2 to 3 satisfied, 3 to 4 Dissatisfied, 4 to 5 Very dissatisfied.

• **Labor productivity survey** (dependent variable)

Could you please take a minute to tell us how satisfied are you with the level of labor productivity of your employees? We will use this information to help the enterprise ACHCAR to improve its ability to deliver projects in the future. The rating scale is as follows: 1 to 2 Very dissatisfied, 2 to 3 Dissatisfied, 3 to 4 Satisfied, 4 to 5 Very satisfied.

4.2.2. Secondary Data Sources

Textbooks, academic articles and journals related to Absenteeism and labor productivity has been used. In addition a number of online resources have been used to obtain information for the literature review.

4.3. Case Study Questions

Only one company, ACHCAR has been selected to lead this case study. Three questions are addressed in this study, which are listed as follows: *Question 1: What are the strengths of the current implementation of fight against absenteeism related to family events?* This is a descriptive question on the strength of the absenteeism and labor approach compared to the absenteeism and labor productivity Model of this study. After the comparison, the strengths of the implementation of absenteeism related to family events and labor productivity of the company could be identified. Question 2: What are the weaknesses of the implementation of absenteeism related to family events and labor productivity of the company? Current practices implementation of absenteeism related to family events and labor productivity of the company were compared to the Model of this study. Thus, weak areas could be identified. Weaknesses could be used by the company as opportunities to seek improvement actions and develop an improvement plan. Question 3: What type of improvement can the company implement in its entirety?

4.4. Data Analysis

The research framework of this study was analyzed using multiple regression model. Hypothesis tests have been adopted to accept or reject the hypotheses formulated in this research. Excel software have been used to perform the tests, the p-value analysis for individual coefficients, and the F-test for the overall importance of the model. Data are collected for 10 months from September 2017 to June 2018.

Table 1. Data: depend and independent variables for Excel input

Y	X1	X2	X3	X4	X5	X6
LP	PL	BL	WD	MN	RL	SC
5	2	3	2	2	2	2
4	3	3	3	2	3	3
5	2	2	2	2	2	2
3	4	4	5	4	4	4
3	4	4	4	4	4	4
2	5	5	5	5	5	4
4	3	2	2	3	3	3
3	5	4	4	4	4	5
5	3	1	2	2	3	1
4	3	3	2	4	1	2

Source: primary data collected by questionnaire survey.

4.4.1. Multiple Regression Equation

Labor productivity LP = b0 + b1 (PL) + b2 (BL) + b3 (WD) + b4 (MN) + b5 (RL) + b6 (SC) + b7 (PL).

a) Estimation of a multiple linear regression equation:

Excel will be used to generate coefficients and measures of absenteeism of fit for multiple regression: Tools / Data Analysis ... / Regression

Table 2. Data for multiple regression equation

Intercept	PL	BL	WD	MN	RL	SC
6,89451	-0,0524	-0,1639	-0,0173	-0,4229	-0,227	-0,0993

Source: Excel output, multiple regression results .

b) Multiple regression equation

LP= 6,89451-0,0524 **(PL)** -0,1639 **(BL)** -0,0556 **(WD)** -0,0173 **(MN)** -0,227 **(RL)**-0,0993 **(SC).**

Table 3. Means scores of absenteeism constructs

Absenteeism constructs	PL	BL	WD	MN	RL	SC
Means scores	3 ,4	3,1	3,1	3,2	3,1	3,0

Source: primary data, found using data of table Table 1.

LP will decrease, on average, 0, 0524 per month for each increase to 1point (**PL)** score, net of the effects of changes due to the other absenteeism implementation constructs (high satisfaction score of absenteeism means small labor productivity).

LP will decrease, on average, by 0,1639 per month for each increase to 1point **BL** score, net of the effects of changes due to the other absenteeism implementation constructs.

LP will decrease, on average, by 0,0556 per month for each increase to 1point **WD** score, net of the effects of changes due to the other absenteeism implementation constructs.

LP will decrease, on average, by 0,0173 per month for each increase to 1point **MN** score, net of the effects of changes due to the other absenteeism implementation constructs.

LP will decrease, on average, by 0,227 per month for each decrease to 1point **RL** score, net of the effects of changes due to the other absenteeism implementation constructs.

LP will decrease, on average, by 0,0993 per month for each increase to 1point **SC** score, net of the effects of changes due to the other absenteeism implementation constructs.

The predictive value of labor productivity (LP): 6,89451-0,0524 (3 ,4) -0,1639 (3,1) -0,0556 (3,1) -0,0173 (3,2) -0,227 (3,1)-0,0993 (3,0) =**4,4607**

Mean score of LP is 3, 8 less than the predictive score 4, 4607.

4.5. Hypothesis Testing

Accept or reject your hypothesis .

4.5.1. Use T-test for Individual Coefficients

T-test shows if a specific independent variable is conditionally important.

P- Value <0,05, the difference is statistically significant.

P-value >0,05 the difference is not statistically significant.

P-value <0, 01, high level of significance.

a) Hypotheses:

H0: $\beta j = 0$ (no linear relationship)

H1: $\beta j \neq 0$ (linear relationship does exist between xj and y)

Table 4. Results of t-test (Excel output)

t	18,651	-0,167	-0,703	-0,064	-1,884	-0,979	-0,546
p	0,0003	0,877	0,532	0,953	0,156	0,399	0,622

Source: Excel output, multiple regression results .

The test statistic for each variable falls out the rejection region, (p-values > 0.05) because the sample is small.

b) Decision: Reject Ho for each independent variable.

Conclusion: H1, H2, H2, H3, H4, H5, H6 (which offer a positive relationship between absenteeism and labor productivity) are valid.

4.5.2. F-test for Overall Significance of the Model

F- test shows if there is a linear relationship between all of the X variables Considered together and Y

Use F- test statistic

a) Hypotheses:

H0: $\beta 1 = \beta 2 = \ldots = \beta k = 0$ (no linear relationship)

H1: at least one $\beta i \neq 0$ (at least one independent Variable affects Y)

Table 5. ANOVA table for F- test

Source	SS	df	MS	F	F-Crit	*p-Value*
Regn.	9,32 481	6	1,5541	16,942	8,9406	0,0205
Error	0,27 519	3	0,0917	'	R^2	Adjusted R^2
Total	9,6	9	1,0667	'	0,9713	0,914

Source: Excel output, multiple regression results.

b) Explanations:

F =**16,942** with 6 and 3 degrees of freedom, P-value for F-Test (significance F) is 0,0205 strong.

The critical value of F: **Fα = 8,9406.**

c) Decision: Since F test statistic is out the rejection region (p-value <0 .05), reject H0.

d) Conclusion: We conclude that the hypotheses H1, H2, H2, H3, H4, H5, H6 (which offer a positive relationship between absenteeism and labor productivity) are valid.

R^2 Reports the proportion of total variation in y explained by all x variables taken together.

This is the ratio of the explained variability to total sample variability.

R^2 =**0,9713** means **97, 13%** of the variation in labor productivity is explained by the variation in absenteeism implementation constructs.

Adjusted $\overline{R^2}$ =**0,914** means **91,4%** of the variation in labor productivity is explained by the variation in absenteeism implementation constructs, taking into account the sample size and number of independent variables.

e) Results discussion: Absenteeism and labor productivity

The results of the regression analysis imply that the practice of absenteeism has a significantly positive relationship with labor productivity. In Malian society being present at social events is an indisputable value for a worker. Indeed reconciling family life and professional life is a way to boost the productivity of workers. Therefore, perhaps for this reason that the management literature places paramount importance on absenteeism and its impacts on labor productivity.

5. Recommendations/Suggestions

These potential opportunities for improvement borrowed from human resources and production management practitioners are listed as follows:

- Telework: telephone, internet can be used by employee when absent.
- Teamwork: A group of employees are working together; nobody is necessary.
- Polyvalence for flexible job rotation: Everybody is able to work everywhere in the organization.
- Convene the working group at regular intervals to take stock of progress made.
- Communicating from the results obtained, benefit the employees of the savings achieved due to the decrease in absenteeism.
- Notify the employee that he has a high rate of absenteeism
- Different companies should adopt different approaches to implementing absenteeism impact on labor productivity according to their own situation.

6. Contributions/limitations and Future Research Perspectives

This study makes several contributions to research and theory of absenteeism and labor productivity. The results suggest that decrease absenteeism rate can increase level of productivity. A greater understanding of absenteeism and labor productivity further investigation of the relationship between absenteeism and labor productivity is facilitated.

As limitations this study cannot give solution to absenteeism for medium and long term, Different companies have different characteristics, stories and backgrounds; adopt different technologies; have a different management of absenteeism implementation maturity and employ people of different levels of education, different sex, different ages .No universal standard for implementing absenteeism impact on labor productivity exists.

In the future it will be more interesting to study absenteeism taking in accounts not only family events but complex and various causes.

7. Conclusion

In conclusion, the main purpose of this study was to investigate the relationships between absenteeism practices and labor productivity as perceived by managers in Mali. A number of conclusions have been drawn from this research. Thus, a theory of absenteeism related to Malian companies has been developed. First, the measurement instruments of the implementation of absenteeism and labor productivity are reliable and valid and can be used by other researchers to test the effects of absenteeism implementation labor productivity. Second, several conclusions were drawn from the theoretical model test: the implementation of absenteeism has positive effects on labor productivity; Third, absenteeism implementation model developed in this study is applicable in practice. This model can be used by Malian companies to improve their efforts to implement absenteeism impact on labor productivity. Can this implementation model of absenteeism be used in other Malian companies? In fact, the case study was conducted in one company. Thus, the conclusion drawn from the case study can be generalized to other companies in Mali. Strictly speaking, generalization is limited. Through the use of this model, companies can quickly identify areas requiring urgent improvement. Thus, resources can be allocated more wisely.

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