

## WORKING CONDITIONS AND EMPLOYEES' PRODUCTIVITY IN MANUFACTURING COMPANIES IN SUB-SAHARAN AFRICAN CONTEXT: CASE OF SOMALIA

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### ABSTRACT

*In this study, the research team studied Working condition and employee productivity in manufacturing companies with the objective of investigating the effects of Working condition especially Working hours and Workload on employee's productivity and whether there is a relationship between working condition and employee's productivity in Mogadishu manufacturing industry. Using purposive sampling, the research team selected 150 respondents who are the workers of the selected manufacturing companies in Mogadishu- Somalia. Data was analyzed using SPSS.*

*Analysis found that there is a positive relationship between working condition and Employees productivity  $r$ -value=0.276 at 0.10 Thus, working hours, and Workload leads to high level of Employees productivity in other words, working hours has positive relationship on Employees productivity  $r$ =0.69 at 0.10. Moreover, The outcome from the findings of the study and linear regression model revealed that 50 percent of the variability of employees' productivity is accounted for by the variables in this model.*

**Keywords:** Employee productivity, working hours, training, motivation, working condition, manufactures

### INTRODUCTION

The numbers of micro and small enterprises and people working in the informal economy are growing rapidly around the world since 18<sup>th</sup> century, and account for the bulk of new employment and for the majority of the working poor. In assessments of working and employment conditions, including issues of occupational safety and health, maternity protection, work-family issues, homework, working time, wages and income, work organization, sexual harassment, violence at work, workload, worker's welfare facilities, housing, nutrition and environment, the millions of women and men in micro and small enterprises and the informal economy (MSE/IE) face perhaps the greatest problems among the working population (Rinehart, 2004). Conducive work environment ensures the wellbeing of employees which always was enable them exert themselves to their roles with all force that may translate to higher productivity (Akinyele, 2007).

In Africa, many research studies have conducted regarding the impact of working condition on employee productivity. Levert, Lucas and Ortlep (2000) conducted a research study on South African nurses and found high burnout on three levels: emotional exhaustion, de-personalization and low personal accomplishment. They attributed the nursing burnout to a high workload and other organizational factors with in the hospital. In addition, a study conducted in South Africa found that working condition has negative impact to the productivity. Noble (2003) states that more attention should be paid in identifying and

dealing with working condition because when employees have negative perception to their environment they sometimes suffer from chronic stress.

This study was guided by the theory of TWO-FACTOR MODEL advanced by Frederick Herzberg (1950s). This theory divided into two (motivational and maintenance factors) maintenance factor also known as (hygiene factor) such as working condition and job security. This hygiene factor is de-motivator of employee. So, working condition is related to this theory because the absence of maintenance brings high negative feeling and their presence generally brings employee on neutral state.

“working conditions are created by the interaction of employee with their organizational climate, and it includes psychological as well as physical working conditions” (Gerber *et al.*, 1998, p.44).

According to business dictionary, the term working condition refers to working environment and all existing circumstance affecting labor in the work place, including job hours, physical aspects, legal rights and responsibility organizational climate and workload.

Rolloos (1997) defined the productivity as that which people can produce with the least effort. Productivity is a ratio to measure how well an organization (or individual, industry, country) converts input resources (labor, materials, machines etc.) into goods and services.

This study adapts the definition of working conditions refers to the working environment and aspects of an employee's terms and conditions of Employment. In addition, productivity refers to effort that individuals can produce with the least effort by putting labor, material, and machines.

The working conditions are very important to the organization. If the employees have negative perception of their working conditions, they are likely to be absent, have stress-related illness, and their productivity and commitment tend to be low. On the other hand, organizations those have a friendly, trusting, and save environment, experience, Greater productivity, communication, creativity, and financial health (Kreisler, *et al.*, 1997.p.36).

Productivity s related working conditions, which in turn related to absenteeism, retention, the adoption of new methods and technologies. All of these things are related to how people are trained, encouraged are generally treated within the system (Hamilton, 2007, p.4).

Therefore, this study investigates the relationship between working conditions and employee's productivity for manufacturing companies in Mogadishu.

## STATEMENT OF THE PROBLEM

Noble (2003, p.352) states that more attention should be paid in identifying and dealing with working condition because when employee have negative perception to their environment they sometimes suffer from chronic stress.

In the world, there are international organizations who debate the rights of employee. Most people spend fifty percent of their lives within indoor environments, which greatly influence their mental status, actions, abilities and performance (Sundstrom, 1994). Better outcomes and increased productivity is assumed to be the result of better workplace environment. Better physical environment of office was boosts the employees and ultimately improve their productivity. Various literature pertain to the study of multiple offices and office buildings indicated that the factors such as dissatisfaction, cluttered workplaces and the physical environment are playing a major role in the loss of employees' productivity (Carnevale 1992, Clements- Croome 1997).

The manufacturing companies of this country have undergone many changes such as failure and distraction which have been negative effect on the lives of employees and the customers. The problem identified by the researchers is that since the establishment of many manufacturing companies in Mogadishu, the staff in the manufacturing companies has been exposed to major changes, such as high staff turnover, staff shortage and increase in workload, in their working conditions.

Based on the above information, it becomes evident that many factors exist in the working conditions in the some selected manufacturing companies in Mogadishu that may have an impact on the productivity of employees. However, the lack of confirmed knowledge on which factors relating to working conditions, as experienced by employees influence productivity, prevents the management team from taking the necessary actions to help employee cope effectively with the challenging environment.

Therefore, the problem that this study addressed is the investigation of the impact of working conditions on employees' productivity, and the evaluation of working hours affect employees' productivity for manufacturing companies in Mogadishu.

## LITERATURE AND HYPOTHESIS DEVELOPMENT

### Working Conditions and Employees Productivity

According to business dictionary "Working conditions refers to working environment and all existing circumstance affecting labor in the work place, including: job hours, physical aspects, legal rights and responsibility organizational culture work load and training".

Gerber et al (1998, p.44) Defined working condition as:

"working conditions are created by the interaction of employee with their organizational climate, and includes psychological as well as physical working conditions" Therefore, we adopt the definition of working conditions as follows: "Working conditions refers to the working environment and aspects of an employee's terms and conditions of Employment".

In other side Productivity is a concept that depends on the context in which it employed. It does not have a singular definite criterion measure or operational definition (Wasiam et. al, 1996).

These definitions suggest that productivity is the measure of economic performance, as well as resource used to produce goods and services (Bernardin & Russell, 1998, p. 9, Ross, 1981). But, Wasiam et. al, (1996) says this concept depends the context in which is employed and does not have operational definitions.

Firms that derive their productivity advantage from firm-specific knowledge may wish to provide better working conditions in the hope that this would reduce worker turnover and minimize the risk of their productivity advantage spilling over to competing firms (Fosfuri et al., 2001; Glass and Saggi, 2002).

If non-monetary working conditions are associated with higher productivity, the employer should pay more for the added productivity of employees in order to not losing the employees. In facts, "as long as more than one employer offers good working conditions for a particular category of worker, employers may be forced to bid up their wages – possibly as high as the marginal value of the worker's product. Whether such a positive wage differential exists is an empirical question. If one is found, it would represent a lower bound on the value of actual differences in productivity, bearing in mind that some offsetting compensating wage differential may also be reflected in the observations" (Gariety and Shaffer, 2001). Work environment includes some factors, which contributes either positively or negatively to

achieving maximum employees' productivity (Elywood, 1999). The factors that contribute either positively or negatively to employee productivity are temperature, humidity and air flow, noise, lighting, employee personal aspects, contaminants and hazards in the working environment, types of sub environment.

According to Yesufu (1984), the nature of the physical condition under which employees work is important to output, Offices and factories that are too hot and illventilated are debilitating to effort. There should be enough supply of good protective clothing, drinking water, rest rooms, toilets, first aids facilities etc. Both management and employees should be safety conscious at all times and minimum of requirement of the factories act must respect. This push for more productivity from public sector agencies is not a new phenomenon. These factors may be important; yet, believing that the attitudes and management styles of mid-level managers are what really influences employee productivity.

Bornstein (2007) states that in organizations where employees are exposed to stressful working conditions, productivity are negatively influenced and that there is a negative impact on the delivery of service. On the other hand if working conditions are good, productivity increase and there is a positive impact on the delivery of service. Thus:

**H1:** There is a correlation between the working conditions and productivity of employees in micro and small manufactures in Somalia.

### **Working Hours and Productivity of Employees**

A substantive cost to employers occurs when financially troubled employees use Work hours to deal with personal money matters. The use of time on the job to handle Personal issues results in productivity losses. Joo (1998) noted that previous research has not used work time to handle personal financial matters as a factor in measuring productivity. According to research conducted by a national consumer credit counseling agency, almost 60% of the people who telephone their counselors are calling from the workplace (Amsel, 1998).

This counseling agency operates services 24 hours a day, six days a week and therefore is not limited to providing assistance during traditional work hours. Although Kim (2000) categorized work time used as positive and negative, any amount of work time used to handle personal financial matters, whether positive or negative, may be an indicator of lost productivity.

Most people was not experience serious negative effects after one night of work, but problems can emerge following a series of consecutive night shifts. These include fatigue, decreased productivity and emotional exhaustion (Knauth & Hornberger, 2003). According to a number of authors (Hill et al, 1998; Igbaria et al, 1999; Kelliher & Anderson, 2010; Messenger, 2004; Golden, 2012), workers' ability to choose their working time arrangements has a positive impact on job performance and productivity. This choice turns out to be a powerful factor in determining an increase in productivity. It results in a more satisfied workforce who is more committed and productive. Conversely, ignoring this issue may lead to a situation in which employees act contrary to the organization's interests, through increased absenteeism, lateness, reduced focus on the job tasks, attention being diverted to personal matters, and ultimately searching for alternative jobs and resigning.

Visser (1989) shows that over half the private firms reduced operating hours in the early 1980s and that this working hour's reduction was mainly used to cut unproductive hours, mostly by interrupting company operations between Christmas and New Year.

According to Bosch and Lehndorff(2001) the working hour's reduction went hand in hand with improvements in relative international competitiveness because of the additional

productivity gains by the cuts in working hours. Therefore, researchers generate this hypothesis:

**H2:** There is a positive association between the availability of hours for work and productivity of employees in micro and small manufactures in Somalia.

### **Workload and Productivity of Employees**

Workload is generally defined as the extent of the processing capacity that is expended during the performance of a task and thus involves the interaction between resource supply and task demand (Young et al., 2008).

According to (DiDomenico and Nassbaum, 2008) support this definition and state that workload is determined by the relationship between task demands, the circumstances under which that task takes place and the perceptions, actions, skills and knowledge of the individual performing the task. The task demands may include physical actions, cognitive tasks and/or a variety of other factors.

These definitions suggest that workload is concerned with the relationship between the task demand and the person's resources, which include skills, knowledge, behavior and task perception (Young et al., 2008; DiDominico & Nussbaum, 2008).

Workload can also be defined the expenditure incurred by a person, given their capacities (resources), while achieving a particular level of performance on a particular task with certain demands (Hart & Staveland, 1988).

Increased workload can improve short-term productivity, but it can increase long-term costs, as stress and illness among employees lead to poor judgments and low productivity (petterson & Armets, 1998). According to the points if the workload increased short term productivity improve, but it can decrease long-term productivity. Thus:

**H3:** The workload declines the employee's productivity in micro and small manufactures in Somalia.

## **METHODOLOGY**

### **Research Design and Sampling Procedure**

This study employed correlation research design to investigate the relationship between working conditions and employee productivity on micro and small manufactures in Somalia; the Data were collected within one month (May, 2013) using questionnaire adapted from Traumata Bhaga, (2010). The survey was pilot-tested with 30 students from SIMAD University, who were selected at convenience and majority of them were researchers' friends. The pilot test helped improve the instrument and check the reliability of the constructs used. The sample size of the study consists 240 and we distributed questionnaires to the sample. However 150 respondents filled the survey correctly and within stipulated the time.

The survey consisted of three major sections. The first section intended to gather background information of the respondents such as gender, age, education, and marital status. The second section asked about company profile such as Ownership, size of company and Firm age. The third section is asked about the working conditions and employee productivity.

### **Data Analysis**

We used Statistical Package for the Social Science (SPSS, Version 16.0) as tool to analyze our data collected from the manufactures in Somalia; we utilize the following statistic techniques in order to explain the relationship between working conditions and employees'

productivity: Descriptive statistics to analyze the demographics of respondents, Pearson correlation to analyze the relationship existence and in order to test hypothesis we used Linear Regression

### Reliability of the Study Measures

Before taking place to further analysis, the reliability test was conducted by using Cronbach's Alpha. Table 1 shows the Cronbach's Alpha coefficients. The reliability of this study's scales ranged from .709 to .712. All of the variables obtained satisfactory level of reliability.

**Table 1. Cronbach's Alpha for the variables:**

No.	Variables	N	Items	Alpha
1.	Employee productivity	150	10	.709
2.	Working condition	150	10	.712

### Multicollinearity Test

Multicollinearity is defined as the existence of high correlation between two independent variables. One method of measuring Multicollinearity is known as the variance inflation factor (VIF), generally, if the  $VIF < 5$ , for a particular independent variable, Multicollinearity isn't considered a problem. However if the  $VIF > 5$ , means the correlation between the independent variables is too extreme and dealt by dropping variables from the model. On the basis of the table below, it shows that all variables have VIF value less than 5, therefore the researchers do not drop any variable and finally add the significant variables from the regression analysis.

The following are multicollinearity test table 2:

**Table2. Variance Inflationary Factor (VIF) Co linearity Statistics**

(Constant)	Tolerance	VIF
Working hours	0.997	1.003
Workload	0.997	1.003

## FINDINGS AND DISCUSSION

### Demographic Profile of Respondents

**Gender:** Findings from table 2. indicate that different categories were involved in the study 93.3 % (n=143) of the respondents were male while 6.7 % (n=7) were Female this shows the female works in manufacturing sector in Somalia are so little comparing to men because of cultural concepts.

**Age:** The ages of the respondents who were participated the questionnaire aged 25-36 frequency were 72 with percentage of 48%, 18-24 aged frequency were 46 with percentage of 30.7%, 37-43 aged frequency were 25 with percentage of 16.7%, while 41 and above aged frequency was 7 with the percentage of 4.7%. Therefore, the most respondents of the questionnaire were the age 25-36 with 48%. This implies that majority of manufacturing employees are junior, fresh and active that have the ability to produce more output if motivated positively.

**Marital status:** The frequency of the single were 91 with percentage of 60.7%, married frequency were 59 with percentage of 39.3%, This result showed that the majority of employees are single due to their being employed.

**Level of Education:** The education level of the respondents in the organizations as appeared in the table. the most and clustered area of the whole respondents were in the level of bachelor degree which shown that the number of bachelor respondents were 52 which results 34.7%, the second respondents were in the level of secondary which shown that the number of secondary level respondents were 50 which results 33.3%, the rest of the level of education was diploma which results 32%(n=48). The whole of the respondents were valid.

**Firm Age:** Most of the respondents selected into 5-10 years' and were 67 respondents with percentage of 44.7%, while some employees select 11-above years 'towards firm age and were 64 respondents with percentage of 42.7%, and also less than 5 years selectors were 19 with percentage of 12.7% so, the highest respondents of the questionnaire were 5-10 years. The whole of the respondents were valid.

**Table 3. Demographic profile**

<i>Demographics</i>	<i>Frequency(f)</i>	<i>Percentage (%)</i>	<i>Cumulative Percent</i>
<i>Gender</i>			
Male	143	95.3%	95.3%
Female	7	4.7%	100%
<i>Total</i>	<i>150</i>	<i>100%</i>	
<i>Age</i>			
18-24	46	30.7%	30.7%
25-36	72	48%	78.7%
37-43	25	16.7%	95.4%
44 and above	7	4.6%	100%
<i>Total</i>	<i>150</i>	<i>100%</i>	
<i>Level of Education</i>			
Secondary	50	33.3%	33.3%
Diploma	48	32%	65%
Bachelor	52	34.7%	100%
<i>Total</i>	<i>150</i>	<i>100%</i>	
<i>Experience</i>			
Less than five year	19	12.7%	12.7%
5-10	67	44.7%	57.4%
11 and above	64	42.7%	100%
<i>Total</i>	<i>150</i>	<i>100%</i>	
<i>Marital Status</i>			
Married	59	39.3%	39.3%
Single	91	60.7%	60.7%
<i>Total</i>	<i>150</i>	<i>100%</i>	<i>100%</i>

### Relationship between Working Condition and Employee Productivity

This relationship between working condition and employee productivity was determined by using the Pearson's Correlation in standard statistical software "Statistical Package for Social

Sciences” (SPSS). Pearson’s Correlation is a measurement of the strength of a linear or straight line relationship between two variables. The Correlation Coefficients indicate both the direction of the relationship and its magnitude (Table 4.).

**Table 4. Correlation between elements of working conditions and employee productivity**

<i>Working Condition Elements</i>	<i>Pearson Correlation (r)</i>	<i>Significance (2-tailed)</i>
Working hours	0.699	0.000
Workload	-0.153	0.062

**Table 5. Correlation between working condition and employee’s productivity**

<i>Variable correlated</i>	<i>R. Value</i>	<i>Significance</i>
Working condition	0.276	0.001
Employee productivity	0.276	0.001

The first objective of this study was to identify whether working hours is one of the factors affecting employees’ productivity depends on the table 3, the analysis of the results indicate a positive correlation between working hours and productivity ( $r = 0.699$ ) and is significant at 0.10. This shows that when working hours of the work is not appropriate and according to the ability of the employees their productivity is affected in manufacturing companies in Mogadishu Somalia.

The second objective of this study was to assess how workload effect on employees productivity in manufacturing company in Mogadishu-Somalia. Table 3 Indicates there is a negative relationship between workload and employee productivity. The correlation coefficient ( $r=-0.153$ ) is significant at 0.10. Means one unit increase in workload will decrease productivity and also a unit decrease in workload will increase employee productivity so there is indirect relationship between workload and productivity.

The third objective was to study the relationship between working conditions and employees’ productivity. The analysis of the results indicate a positive correlation between working condition and productivity ( $r = 0.276$ ) and is significant at 0.10. This shows that when the working condition of the job is not comfortable and according to the needs of the employees their productivity is affected by the bad working condition of manufacturing companies.

### Hypothesis test

**Table 6. Regression Results of Model**

<i>Model</i>	<i>R</i>	<i>R Square</i>	<i>Adjusted R Square</i>	<i>Std. Error of the Estimate</i>		
1	0.708 <sup>a</sup>	0.501	0.495	4.65119		
R= Correlation coefficient						
a. Predictors: (Constant), working hours, and workload Model		<i>Sum of Squares</i>	<i>Df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
1	Regression	3197	2	1599	73.900	.000 <sup>a</sup>
	Residual	3180	147	21.634		
	Total	6377	149			

a. Predictors: (Constant), working hours, workload. b. Dependent Variable: Productivity Source: primary data

The coefficient of determination  $R^2 = 0.501$  this gives us the ratio of explained variation to total variation. On converting the  $R^2$  value to percentage it comes to be approximately 50 Percent. From this percentage it is concluded that 50 percent of the variability of employees' productivity is accounted for by the variables in this model.

The regression co-efficient for the predictor variables; working hour and workload are 1.223, -0.332, respectively. The coefficient values show, the change in productivity with a unit change in a variable value, when all the other variables are held constant.

When we analyzed the coefficient value for the variable, 'working hours' we can say that there is an increase of 1.223 in the productivity of an employee for every unit increase in the working hours conditions of the work, keeping all the other variables constant while the coefficient value for the variable, 'workload' we can say that there is an increase of 0.332 in the productivity of an employee for every unit decrease in the workload conditions of the work, keeping all the other variables constant.

**Hypothesis 1:** There is a correlation between working condition and employee productivity in manufacturing companies. According to linear regression and correlation tables above, the researchers accepted this hypothesis since  $R$ -value (0.276) which means that there a positive relation between two variables.

**Hypothesis 2:** There is appositive relationship between working hours and employee productivity. Analysis of linear regression and correlation models indicate there is a positive relationship between working hours and employee productivity so that the researchers accepted this hypothesis since the  $R$ -value of 0.699 which means positive correlation between two variables.

**Hypothesis 3:** There is a positive relationship between workload and employee productivity. According to linear regression and correlation tables above, the researchers rejected the null hypothesis this  $R$ -value (-0.153) which means that there is a negative relationship between two variables.

## DISCUSSION

This study was basically proposed to identify the relationship between working condition and employee productivity in some selected manufacturing company in Mogadishu-Somalia. Further, the study will also test the relationship between working hours, and workload to employee productivity. To achieve these objectives, the respondents were asked to react to several items by choosing according to their perceptions. Data on these objectives was analyzed using SPSS descriptive statistics tool that indicate the means and standard deviation as following; questionnaire from employees who work the manufacturing companies.

Moreover, it revealed that the majority from the outcome of Pearson's linear coefficient shown that Employee productivity (the dependent variable, correlated with working conditions (first independent variable measured by working hours with correlation = 0.699 sig = 0.000 and (second independent measured by workload ) with correlation = -0.153 and, sig = 0.062 finally the two variable (working condition and employee productivity) have positive correlation = 0.276 with a significant of 0.001 that means the relationship is very low.

The outcome from the findings of the study and Pearson correlation has successfully confirmed that the study succeed its main objectives. Further, it is revealed that the two variables of working condition and employee productivity in manufacturing companies in Mogadishu Somalia are positively correlated. Further, the study will also explore the research hypothesis and objectives in evidence to the Pearson correlation.

Overall study shows that all indicators of job working condition in terms of working hours, and workload are significantly correlated to all indicators of employee productivity at level of significance of 0.276 with a significant of 0.001. After looking all the findings It's clear that working conditions is directly effect by employee productivity these two variables have positive relations in terms of working hours and week negative relations in terms of workload so effective working hours will ultimately increase the employee's productivity.

The outcome from the findings of the study and linear regression model revealed that 50 percent of the variability of employees' productivity is accounted for by the variables in this model. Further, the study will also explore multicollinearity test in order to make sure the statistical significance of the linear regression model to determine whether result appears reasonable. Finally all variables of the study appeared reasonable so that the researchers add in the model since their variance inflationary factor less 5 so that results was 50.1% were explaining on the employee productivity into determinants so that it has influence ups and down of the working conditions as one by one as their priority simultaneously.

To link the previous studies, a study conducted in south Africa by Thramma bhaga (2003) investigated working condition and employees' productivity and found that working conditions have both positive and negative impact on productivity, while, Bornstein (2007) states that in organizations where employees are exposed to stressful working conditions, productivity are negatively influenced and that there is a negative impact on the delivery of service. On the other hand if working conditions are good, productivity increase and there is a positive impact on the delivery of service. According to Bosch and Lehndorff (2001) the working hour's reduction went hand in hand with improvements in relative international competitiveness because of the additional productivity gains by the cuts in working hours.

## CONCLUSION

This section presents on the conclusion of the research. Employee today needs good working condition so as to become their productivity increasing when holding appropriate working hour and attainable workload in their working area.

Given the consistent interaction between the dimensions of working condition especially working hours the findings suggested that high working hours could bring employee in continually diminishing their ability to do the work and feel poor working condition that lead to ultimately to decrease employee productivity. Hence, the results suggest that working hours acts as a driver of working condition; Reacting to study second independent variable is workload may allow firms to adapt successfully to working condition which may be characterized as being the dimension of working condition the finding suggested that high workload which is the number of works make the employee in particular time, if workload is high then working condition is not good that is employee productivity is decreasing because of out of their scope .

In terms of this study working condition is found to have an impact on employee productivity the case of manufacturing firms; generally the researchers concludes working condition is significant negative relationship to Employee productivity at level of sig. 0.267. So the hypothesis of this study that was there is relationship between working conditions is significant relationship to Employee productivity was accepted, and hypothesis three which proposed that there is relationship between Workload and employees productivity was accepted.

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