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**ST. MARY’S UNIVERSITY**

**SCHOOL OF GRADUATE STUDIES**

**MBA PROGRAM**

**FACTORS AFFECTING EMPLOYEES’ PRODUCTIVITY: THE CASE OF SELECTED FACTORIES OF MOHA SOFT DRINKS INDUSTRY SHARED COMPANY**

**BY**

**SIMACHEW SHIBESHI (ID: SGS/0124/2006C)**

**JANUARY 2016**

**ADDIS ABABA, ETHIOPIA**

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**SIMACHEW SHIBESHI (ID: SGS/0124/2006C)**

**A THESIS SUBMITTED TO ST.MARY’S UNIVERSITY, SCHOOL OF GRADUATE STUDIES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION.**

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# DECLARATION

I, the undersigned, declare that this thesis is my original work; prepared under the guidance of \_Shoa Jemal (Asst.Professor.).All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

Simachew Shibeshi ­­­­­­­­­­­­­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name Signature& Date

# ENDORSEMENT

This thesis has been submitted to St. Mary’s University, School of Graduate Studies for examination with my approval as a university advisor.

Shoa Jemal (Asst. Professor) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Advisor Signature& Date

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# ACRONYMS AND ABRIVATIONS

GM - General Manager

NSP - Nefas Silk Plant

HR - Human Resource

SPSS - Statistical Package for Social Science

ANOVA - Analysis of Variance

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# *ABSTRACT*

*The purpose of this research paper is to find out the effect of different factors on the productivity of employees in selected factories of Moha Soft Drinks Industry Shared Company. The study considered factors which are System of compensation, Company’s commitment and Loyalty, Working environment, Work –life balance, Supervisory and Leadership competency, and Workforce factors, to measure employees’ productivity in selected factories of Moha Soft Drinks Industry SC. The researcher used descriptive and inferential statistics to explain relationship between the outcome and the predictor variable in his quantitative design. Out of the six factories of Moha, the three were selected based on the nature of their operations and the total population sizes. Considering high responding rate, 350 employees were included in the survey. Simple random and convenient sampling techniques were employed in admitting the questionnaires. The data collection instrument contains 37 items. Validity and reliability tests were conducted to check consistency and dependability of the instrument and all included factors were proven to be reliable, scoring Alpha value greater than 0.70. The Pearson correlation test conducted between employees’ productivity and factors showed that, there is significant positive relation between them and the researcher proved that the entire hypotheses were accepted. The regression result confirmed that the linear combinations of all factors of productivity considered under the present study were significantly contributed to the positive variation in employees’ productivity. From the Beta coefficient results, the researcher found that, Supervisory and Leadership Competency contributed the highest variation for the current employees’ productivity while System of compensation contributed the least variation. The ANOVA test result also confirmed that the prediction power of the factors of productivity is found to be statistically significant. Finally, the researcher concluded that in the case of selected factories of Moha Soft Drinks Industry SC, the different factors of productivity have significant positive impact on employees’ productivity.*

***Keywords: Productivity, system of Compensation, Commitment, Loyalty, Working environment, Work–life balance, Supervisory competency, Leadership and Workforce factors,***

# **CHAPTER**ONE

# INTRODUCTION

This chapter deals with background of the study, profile of the company, terms definition, statement of the problem, basic research questions, objective of the study, significance of the study, scope and limitations of the study. And finally it highlights the organization of the paper.

## Background of the study

The study is conducted mainly to find out the factors that affect the employee productivity in selected factories of Moha Soft Drinks Industry Shared Company. Productivity is a common measure of how well a country, industry or business unit is using its resources or production factors. Production measurement is fundamental to understanding performances related to operation. It may be expressed as partial measures, multifactor measures, or total measures (Chase, Jacobs and Aquilan, 2006). Productivity is generally, is the ratio of output to the input used (Chary, 2009).

As stated by Kumar and Suresh “the modern dynamic concept of productivity considers productivity as productivity “flywheel”. Where productivity form a cycle relating to design and products to satisfy customer needs, leading to improved quality of life,higher competition, higher share of market, thereby leading to better designs (Kumar and Suresh 2009).

Key performance indicators of productivity are used to help the decision of managers in terms of economic performance and to indicate the need for changes in operations measuring metrics includes financial measures and non-financial (Chary 2009).

People are the most valuable resources of an organization and hence the management of people brings difference in company performance (Sekar, 2011).In manufacturing and service rendering organizations, productivity or optimal utilization of resources is a desired objective that could be measured with key performance indicator. Modern organizations have to satisfy their target customers and as well as people working within in order to stay in the competitive business environment (Chary, 2009).

Human resources are so important in the modern business arena because new business ideas for products, new processes and continuous improvement initiatives come from harnessing human creativity. Hence human resource is closely linked with core competency of an organization since to be competent a motivated, trained and skilled workforce is important (Brown, Blackmon, Cousins, and Maylor 2001). As professor Jeffery Pfeffer said “It’s possible to achieve sustainable competitive advantage by how you manage people” (Heizer et al, 2004, p. 370).

Quality of products from manufacturing firms is highly related to the human input more than anything else. To be preferred employer, that attracts and keeps best talent employees, helps to enhance productivity, quality and flexibility. And true manufacturing company creates coherence between the people’s attitudes and the organization’s objective and strategy (Chary, 2009).

Labor productivity is the amount of goods and service that a worker or group of workers produce/sell in a given amount of time. It can be measured in two ways, in physical terms or in price terms (Chary, 2009).

As stated by Heizer and Render enhanced labor productivity is the result of healthier, better educated, better nourished labor force and shorter work week (Heizer and Render, 2004).

The first action that should be followed in determining opportunities for improvement in labor productivity is to identify what factors are affecting the performances of the human input. After identifying the factors, managers can effectively take the necessary actions to lower costs, enhance scheduling, and eventually obtain a more accurate productivity prediction when estimating the total output and the related costs (Rivas, Borcheding, Gonzalez, and Alarcon, 2011). The quality of labor is very important to improve productivity (Heizer, 1990).

The factors influencing the productivity of the employees of the company might be related to the internal realities of the organization or the overall realities of the society in general. The purpose of this research paper is to find out the factors (internal and external) which contributed to increase or decrease the productivity of employees in the selected three factories of Moha that are located in Addis Ababa and Hawassa.

## Background of the Company

Moha Soft Drinks Industry Share Company is one of private companies established in 1985 E.C. as business organization in beverage industry more specifically in the nonalcoholic beverages sector. Currently it has six existing factories and one new factory that bottle five types of soft drinks for domestic market by franchised agreement with Pepsi Cola International. In relation to its business scope the company employed skilled manpower from different areas of specialization and ordinary labor from the community.

Among the six factories of Moha, the three are located at different sub-cities of Addis Ababa. Two of them are included in the study. The first factory is Nefas Silk Plant which is the biggest of all Moha factories in its capacity (50000 bottles/hours) and more than one third of the total employees of Moha are working in this particular plant. It is characterized by its labor intensive operation. Summit is the second factory which is found in Bole Sub-city and has glass bottles line with 25000 bottles/hour capacity for. Additionally, this plant has a separate plastic bottling line that fills Pepsi Cola products for the whole domestic market. In terms of employees’ number it stands third from the whole Moha plants. The third factory is located in Hawassa and in relative terms it was the youngest Pepsi plant before the establishment of Mekelle Pepsi Cola factory. It is capital intensive and fully automated with 36000 bottles/hour filling capacity. The remaining three factories which contain less than 30% of employees are Teklehaimanot plant, found in Addis Ababa, Gondar Pepsi Cola plant found in Gondar city and Bure Pepsi Cola Plant located in Bure (western Gojam).

## Statement of the Problem

Different factors can contribute to the level of productivity of employees in manufacturing and service rendering business organizations. These factors vary from industry to industry, from one business sector to another, from manufacturing to service rendering businesses, from one factory to another regardless of operation similarities, and from one functional department to another (Vendermbse and White, 2005)

As discussed on the annual reports and formal management meetings, one of the critical issues that should get solution for betterment of the company is the productivity of its employees (Moha Annual Management Report, 2013/14). The following points reveal the summary of these reports.

The case per man hour results of the plants ranged from 5 to 26 throughout its six factories (Moha Annual Management Report, 2013/14). But as stated on the policy the expected case per man hour has to range from 18 to 30. The most automated plant is expected to produce 30 cases per each man hour while the labor intensive plant has to score about 18 cases per each man hour minimum (Moha, Production Policy and Procedure, 2002). That means some of its factories are operating below the expected labor productivity target (Moha, Production Policy and Procedure, 2002).

Additionally the following points which are related to employees’ performances and taken from monthly reports of Nefas Silk plant reveal the degree of its importance. The recorded down time expressed in terms of the total lost products and total revenue due to high rate of absenteeism and under performance were:

* 42,053 cases (24bottles each) that is 5,046,360 birr total revenue for January, 2015.(NSP, Production Report, January 2015)
* 11,453 cases of soft drinks or 1,374,360 birr total revenue for December, 2014. (NSP, Production Report, December 2014)
* 16484 cases of soft drinks or 1,978,080 birr total revenue for November, 2014. (NSP, Production Report, November 2014)
* 8627 cases that equal to 1,035,240 birr total revenue for October, 2014. (NSP, Production Report, October 2014)
* The employees turn over in operation departments exhibited increasing trend (NSP, Human Resource Report, January 2015).

Other productivity measuring parameters like Time Utilizations, Mechanical Efficiency, Line Utilization and Total Produced Quantity are below their anticipated targets for some of its factories (Moha Annual Management Report, 2013/14).

To minimize the exhibited productivity variations the top management of Moha Soft Drinks Industry Shared Company has took many efforts. Despite the efforts made such as salary increments, creating conducive working environments, bonuses, incentives, sales volume based commission and other schematics productivity of its employees declined.

The researcher was interested in this particular issue because he is one the members of the management group who know the problem in detail and expected to give a plausible solution for the problem related to employees’ productivity.

Hence in this study the researcher tried to answer “what are the factors that influenced the productivity of employees and to what extent is each of these factors affecting the employees’ productivity in selected factories of Moha Soft Drinks Industries Share Company?”

## Basic Research Questions

* To what extent does the system of compensation affect the productivity of employees of selected factories of Moha Soft Drinks Industry Shared Company?
* How does the working environment influence the productivity of employees in selected factories of Moha Soft Drinks Industry Shared Company?
* What is the impact of work-life balance in the productivity of employees in the selected factories of Moha Soft Drinks Industry Shared Company?
* What is the impact of company’s commitment and loyalty on productivity of employees in selected factories of Moha Soft Drinks Industry Shared Company?
* How does the supervisory and leadership competency affect the productivity of employees in selected factories of Moha Soft Drinks Industry Share Company?
* To what level does the workforce competency in selected factories of Moha Soft Drinks Industry Shared Company affect the productivity of employees?

## Objectives of the Study

### General Objective

The general objective of the study is to investigate the impacts of system of compensation, working environment, work-life balance, company’s commitment and loyalty, supervisory and leadership competency, workforce competency on employees’ productivity in operational departments of selected factories of Moha Soft Drinks Industry Share Company.

### Specific Objectives

The specific objectives of the study are:

* To investigate the impact of System of Compensation on productivity of employees in operational departments of selected factories of Moha Soft Drinks Industry SC.
* To find out the impact of Working Environment on productivity of employees in operational departments of selected factories of Moha Soft Drinks Industry SC.
* To assess the impact of work-life balance on productivity of employees in operational departments of selected factories of Moha Soft Drinks Industry SC.
* To investigate the impact of Company’s commitment and loyalty on productivity of employees in operational departments of selected factories of Moha Soft Drinks Industry SC.
* To identify the impact of Supervisory and leadership competency on productivity of employees in operational departments of selected factories of Moha Soft Drinks Industry SC.
* To show the impact of Workforce factors on productivity of employees in operational departments of selected factories of Moha Soft Drinks Industry SC.

## Definition of Terms

The operational definition of terms in this paper is given as follows.

* Partial Productivity: measures the ratio of output to a single input (Chary, 2009).
* Labor productivity: measure the ratio of output to the labor input of a given process (Chary, 2009).
* Multifactor productivity: measures the ratio of output to a group of inputs(Chase, Jacobs and Aquilan, 2006).
* Total factor productivity: measures the overall productivity of an entire organization or nation with regard to the total in puts(Chase, et al 2006).
* Key performance indicators: are set of measurable parameters that are used to evaluate the overall direction of operations in order to help the decision of managers in terms of economic performances and to indicate the need for changes in operations (Chary, 2009).
* Bonus: A monetary reward, usually in cash or stock options given to employees(John 2006).
* Profit sharing: a system providing some portion of any profit for distribution to the employees (John 2006).
* Gain sharing: a system of rewards to employees for organizational improvements (John 2006).
* Incentive system: an employee award system based on individual or group productivity (John 2006).
* Work life: means that a job is reasonably safe, has equitable pay and appropriate level of both physical and psychological requirements.
* Labor standards: the amount of time required to perform a job or part of a job (Heizer and Render, 2004).
* Workload :is 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(Yassin 2013).
* Working Conditions*:* refers to working environment and all existing circumstances affecting labor in the work place, including job hours, physical aspects, legal rights and responsibility organizational culture, work load and training (Yassin, 2013 p. 68).

## Significance of the Study

Since in the current business environment, one of the areas for competitive advantage is issues related with employees handling and managing their performances. This particular research paper will help the manufacturing industries to identify and understand how to deal with the factors related to employees productivity so that to remain in competitive business environment.

Some of the specific significances of the study include:

* It helps the management of Moha Soft Drinks Industry Share Company to avoid the factors that contribute for the decrease in employees’ productivity.
* It helps the management of Moha Soft Drinks Industry Share Company to favor the factors that contribute for employees’ productivity increment.
* It provides a tool for the management of the company how to evaluate the effect of some factors on productivity through quantitative evaluations.
* It shows the method how to understand and evaluate productivity improving factors for different functional departments of the company.
* It contributes to the theoretical discussions on factors affecting productivity of employees.
* It paves the way for further studies on factors that affect productivity of employees more specifically, in manufacturing industries of the beverage sector.

## Scope and Limitations of the Study

### Scope of the Study

Although there are many factors that affect the productivity of employees in the real business context but six main factors that are expressed in 37 items are included in this study. Due to time, financial resource, geographical locations and limited communications means out of the six factories of Moha only three are included in the study. This narrows the scope related to the factors of employee productivity. Other supporting functional departments like Human Resources, Accounting and Finance, Procurement and Store, Market Development, and Vehicle Maintenance are not included in the study. Employees of the corporate office are also out of the sampling population. The discussions and results of this particular study may reveal the effects of some factors related to the employees’ productivity in the beverage industries more specifically in the soft drinks sector. Hence the conclusions and the findings of this particular study have to be complemented with other relevant studies.

### Limitations of the Study

Some of the specific limitations regarding this study include:

* Since the study is confined only in two areas (Addis Ababa and Hawassa), regional factors associated with remaining parts of the country that are contributing for low and high performances of employees might not be considered in the study.
* Financial performance data and information are not disclosed to external body due to the policy of the company. This limits the scope of the study not to present the effect of the factors in terms of financial results and/or leverages.
* Due to skilled human resource shortage and financial limitation, the data collection and entry tasks were performed by the researcher himself. This brought time resource scarcity.
* The knowledge and manipulating skill limitations of the researcher may hide some realities or bring misinterpretations to the overall research results.
* Reliability and validity of the data collection instruments including the langue and understanding of the individual respondent may affect the descriptive and inferential power of the discussion.

## Organization of the Study

This study has five independent chapters. The first chapter deals with introductory concepts which contain statement of the problem, objectives of the study, significance of the study, scope and limitations of the study. The second chapter is dealt with review of related literature where exhaustive theoretical concepts related to the productivity in general and employees’ productivity in particular are discussed. Different factors that impact productivity of employees are raised from various angles, from classical concept to modern views and based on these discussions conceptual model of the study including the hypotheses are developed. The third chapter describes the research design and methodology employed in order to conduct the study which includes the research design, types of data and data collection instruments, sample size and sampling techniques, procedure of data collection, data analysis techniques and tests of reliability of the data sources. Chapter four dealt with data presentation and analysis, where the results of the primary data collection instruments (questionnaire and interview) and the secondary data instrument are presented. Finally chapter five is dealt with summary, conclusion and recommendations of the study.

# CHAPTER TWO

# REVIEW OF RELATED LITRATURE

## 2.1. Introduction

Under this chapter the researcher tried to present theoretical discussions that support the study and serve as knowledge background to answer the research questions. Past studies under the given topics are included in the discussion as empirical evidences. The scope of the theoretical discussion varies from the general ideas of productivity to specific ideas of labor productivity including drawings and mathematical presentations. The scope includes classical understandings of labor productivity and factors affecting labor productivity on one hand and modern concepts of labor productivity influencing issues on the other side. The researcher tried not to narrow the wide concept of the factors affecting labor productivity because directly or indirectly most of the theoretical discussions help to interpret the data obtained from all types of sources so as to answer the research questions. Then finally the researcher availed some related studies from different industries as empirical evidences and developed conceptual model adopting these studies.

## Productivity

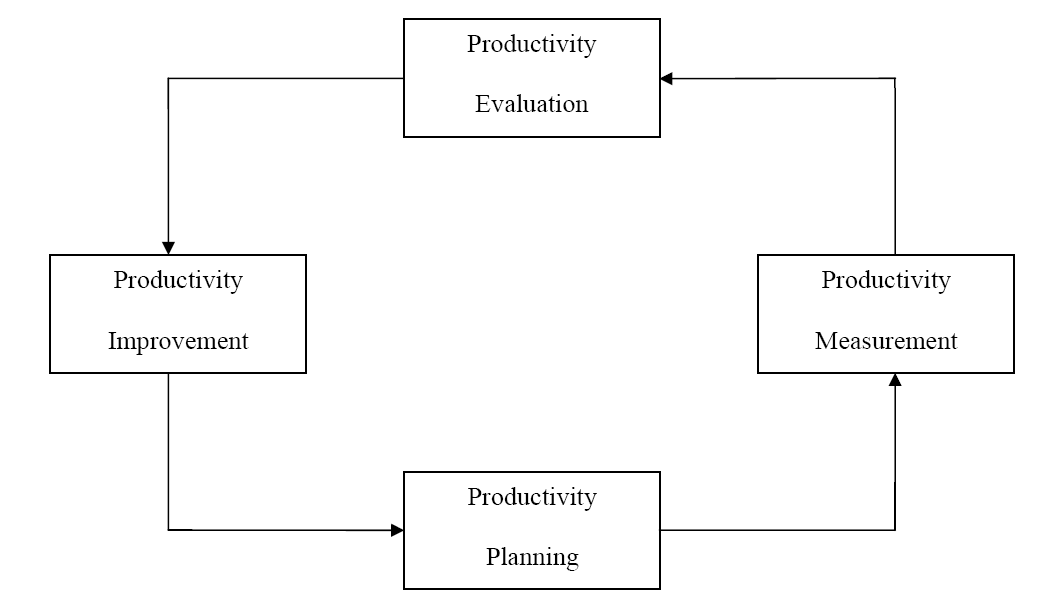
From the economic point of view the inputs of productivity are labor, capital and materials. The importance of these input factors widely varies from company to company based on producing different products. And output of productivity is difficult to define and measure. The two issues that are important in defining productivity are:

1. How can multiple inputs with different economic values be included?
2. How can multiple outputs with different economic values be included (Vondermbse and White, 2005)?

Improving productivity is a major concern of any profit oriented organization as representing the effective and efficient conversion of resources into marketable products and determining business profitability (Wilcox 1993).

Production in any productive work denotes the outputs only without any reference to inputs. But productivity is concerned with the effective and efficient utilization of resources (inputs) in producing goods or services (outputs) (Gupta, 2000)

Productivity cycle has four stages: productivity measurement, productivity evolution, productivity planning, and productivity improvement

 **Figure.2.1.** Productivity cycle (Ahmed 2003).

Productivity may be expressed as partial measures, multifactor measures or total measures.

The equation can be modified for different inputs depending on their relation with the output. For labor (human resource) productivity the input could be man-hours spent on producing the out-put and given by;

The partial productivity of labor alternatively may be given by

Or

(Chary, 2009).

Productivity can be improved by controlling inputs, improving process so that the same input yields higher output and by improvement of technology.

### Factors Affecting Productivity

1. Capital/labor ratio: measures the investment made in plant, machinery, and tools to make effective use of labor hours.
2. Scarcity of some resources: such as energy, water and numbers of metals create productivity problems.
3. Work force change: labor turn over considerably affects productivity.
4. Innovation and technology: measure cause of increasing productivity.
5. Regulatory effects.
6. Bargaining power: bargaining power of organized labor to command wage increase excess of output increases has a detrimental effect on productivity.
7. Managerial factors: managerial factors are the ways an organization benefits from the unique planning and managerial skills of its manager (Vondermbse and White, 2005).

An increase in productivity can be caused by five different relationships of input and output:-

* Output and input increases, but the increase in input is proportionally less than increase in output;-
* Output increases while input stays the same;-
* Output increases while input is reduced;-
* Output stays the same while input decreases;-
* Output decreases while input decreases even more (Shekari, 2012).

## Labor Productivity

Labor is the most obvious input in the productivity equation and easy to calculate. In pure service operations labor is often 70% and more of total costs. In manufacturing firms direct labor usually accounts for a small percent, 10% or less of the total input costs (Vondermbse and White, 2005).

Employees’ performance or productivity is one of the critical concerns of business organizations which could possibly affect the profit and the overall business financial performances. For the manufacturing divisions employees’ productivity can be interpreted as units of output per used direct labor whereas for the marketing division it is the number of units sold per employed sales force. Enhanced employees performance means lower unit cost of manufacturing and selling which provides better profit for the business organization. This gives confident on the financial structure of the organization which is the interests of the owners and creditors (Chase, et. al. 2006).

The indirect labor (management cost and outside service) are added to direct costs the total is usually below 50% of the cost of all inputs (Vondermbse and White, 2005).

There is trade-off between capital and labor that focus primarily on automating activities that can be performed by people. The result is high capital costs and lower labor costs and greater overall outputs means enhanced overall productivity (Vondermbse and White, 2005).

### Human Resource Productivity as Strategic Target of an Organization

The objective of human resource strategy is to manage labor and design jobs so people are effectively and efficiently utilized. It ensures that employees:

1. Are efficiently utilized within the constraints of other operations decisions.

2. Have a reasonable quality of work life in an atmosphere of mutual commitment and trust. (Heizer and Render, 2004)

The benefits of strategic human resource management considers people as part of the solution rather than as the problem for an organization to exploit the commitment and expertise (Brown, Blackmon, Cousins and Mayor, 2001).

The constraints on human resource management center the labor input of an organization which are:

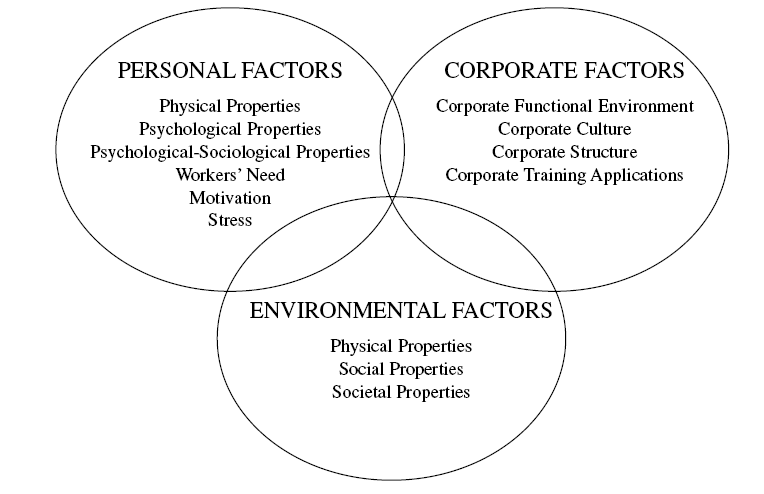
1. Labor Planning (employment-stability policies, work scheduling, job classification and work rules)
2. Job Design (labor specialization, job expansion, psychological components of job design, self-directed teams, motivation and incentives systems and ergonomics and work methods) and
3. Labor standards (Heizer and Render, 2004)

The historical development of management made by Fredric W. Taylor, Frank Gilbert and his wife Lillian Gilbreth centered the productivity of the employees in the work place in manufacturing industries (Chary 2009).

The scope of production and operations management widened from a focus on employees efficiency to improvement in management systems and technological advance to human relationships to social issues (Chary 2009).

### Common Factors Affecting Productivity of Employees

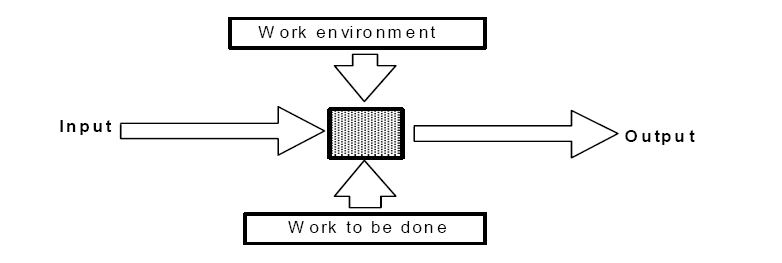
Employee productivity influencing factors can be categorized into three based on their nature, which are employee related factors, corporate or working environment related factors and external society or living environment related factors as given below.

 **Figure 2.2.** Factors Affecting Performance (Cascio, 1992).

The efficiency, Utilization and effectiveness of the workforce within an operation can be improved with sound planning, motivation, innovative new work methods and raising people awareness through effective training and empowerment (Rowbotham, Galloway and Azhashemi, 2007).

Holbeche and Mc Cartney found that employees were experiencing anxiety, work overload, loss of control, pressure, long hours and insufficient personal time. Such experiences are likely to encourage a reassessment of value of stress in workers, and there is also evidence that younger people entering the labor market are much less willing to sacrifice their personal lives for total commitment to work. Values and expectations appear to be changed (Tarrington, Hally and Taylor, 2008 p. 332).

A United Nations (1965) (cited in Lema, 1995) report stated that, in ordinary situations, there are two major factors affecting site labor-productivity requirements: organizational continuity and executional continuity. Organizational continuity encompasses physical components of work, specification requirements, design details, and so forth. Executional continuity relates to work environment and how well a job is organized and managed. Management aspects include weather, material and equipment availability, congestion, and out-of-sequence work



**Figure 2.3.** Conceptual Representation of the Major Factors and UN report (Lema, 1995 as cited by Ahmed, 2003,).

In addition to payment, motivation packages, the nature of the work and type of supervision, the culture, norm and working environment, current issues like work life balance practices are affecting the need and productivity of employees. Some of the factors are discussed below.

### Productivity and Wage Rate

Generally, wage rate and productivity are directly related. High productivity can be obtained by better payment since the workers produce more output. Investment in equipment and training increases productivity considerably since it enables to pay much higher wages and achieve lower costs (Vonderembse and White, 2005).

### Performance and Pay

Pay system should be geared to reflect the level of performance. Employee pay at all level is contingent it has an element that varies depending on the success of the outcome. For example

* Bonus schemes for production employees and call center staff
* Performance related to pay for managers and administrative staff
* Incentive system for sales and service staff
* Executive bonus for directors

Commitment should be encouraged by aligning the pay of employees with original performance, through share options, profit sharing and gain sharing (John 2006).

### Motivation and Performance

In motivational works the instrumentality, expectancy and valiancy of the reward should be considered to bring the required motivated employees of better performance (John 2006).

* Relationships with employees is highly affected by the performance of individual and teams
* Reward systems, communication systems, organizational environment original structure and leadership influence (McShane 2008).

The level of employee performance on the job is proportional to the size of the employee’s compensation package. It is extrinsic motivation toll that has a limited short term effect on employee performance (Leblebici, 2012)

### Productivity and Working Environments

Both the Physical and the overall social structure of an organization highly affect the performance of employees. Generally employees that work in conducive work environment (equipped with temperature, air and pressure regulating facilities, adequate space for movement) show better initiations for work. People working in relatively high social and managerial pressures are less productive (Rowbotham, Galloway and Azhashemi, 2007).

According to study conducted in South Africa, working condition has negative impact to the productivity. As discussed by Yassin referring the study conducted by Noble, more attention should be given in identifying and dealing with working condition because when employees have negative perception to their environment they sometimes suffer from chronic stress (Yassin, 2013). As Yassin further discussed quoting the work of Geber “working conditions are created by interaction of employees with their organizational climate, and it includes psychological as well as physical working conditions” (Yassin, 2013 p. 68).

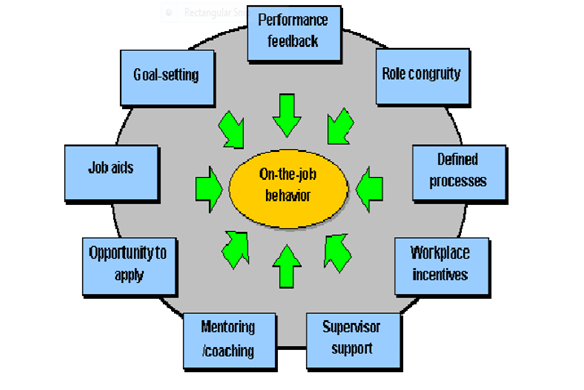
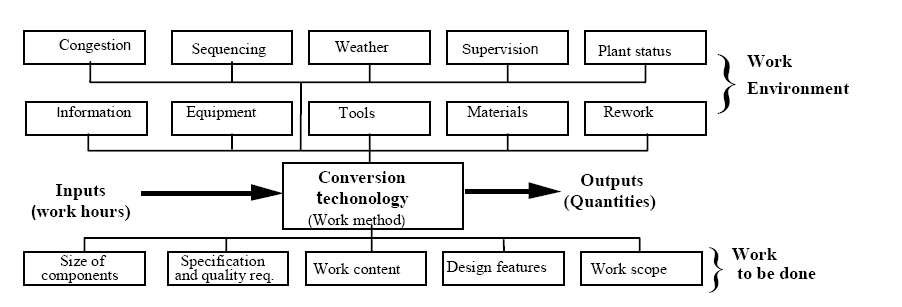


Figure 2.4. Workplace Factors Affecting Employee Performance (Leblebici, 2012 p. 39).

As stated by Leblebici one of the physical components of environment is comfort level that includes ventilation, heating, natural lighting, artificial lighting, décor, cleanliness, overall comfort, phtsical security (Leblebici, 2012).

Behavoral componenets of environment includelevel of interaction and distraction which are social interaction, work interaction, creatve physical environment, overall atmosphere, position relative to colleagues, position relative to equipment, overall office layout and refreshments (Leblebici, 2012)

If the overall organizational working environment creates a climate of trust and teamwork, value employee input as well as output, and support employees as internal customers with diverse needs, the organization achieve consistent quality and productivity (Steinberg and MeCartney 2002).



**Figure 2.5.** Factors Model (Thomas, 1995cited in Ahmed, 2003)

### Productivity and Working Time

Following a series of consecutive night shifts, most people experience series negative effects which include fatigue, decreased productivity and emotional exhaustion (Yassin, 2013).

According to different studies workers ability to choose their working time arrangements has a positive impact on job performance and productivity. This choice results more satisfied work force who is more committed and productive (Yassin, 2013).

Over half the private firms reduced working hours in order to cut unproductive hours mostly by interrupting company operations between Christmas and New Year. Strengthening his discussion Yassin tried to mention the foundation of Bosch and Lehndorff (2003) stating that the working hours reduction went hand in hand with improvements in relative international competitiveness because of the additional productivity gains by the cuts in working hours (Yassin, 2013).

### Productivity and Workload

As Didomenico and Nassbaum found and discussed by Yassin, 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 include physical actions, cognitive tasks and/or a variety of other factors (Yassin 2013).

Increasing workload improves only short term productivity. But it increase long term costs as stress and illness among employees lead to poor judgments and low productivity (Yassin, 20013).

### Productivity and the Nature of Work

When we say the nature of the work it is to mean the different tasks associated with manufacturing, sales, managing, designing, planning, controlling, teaching, mining, different service rendering activities etc. Productivity of labor is applicable to all types of work irrespective of its nature. And also the productivity of each work type is important since it impacts the living standards of the society. The degree of importance, means of measurement, and motivational system of each labor productivity enhancement technique varies from one work type to the other (Vonderembse and White, 2005).

Work, the workplace and the tools of work are highly integrated and to maximize employee productivity. Personal motivation and the infrastructure of the work environment are center of focus (Sekar, 2011).

## Behavioral Science Considerations of Productivity

From behavioral science point of view the productivity of individuals may be affected due to different internal qualities. Such behavioral qualities include Emotional stability, Agreeableness, Extraversion, Consciousness, openness, Locus of Control, Emotional stability, Work related attitudes, etc. (Hiriyappa 2009).

As stated by Hellriegel and Slocum employees have attitudes about their manager, pay, working conditions, promotion, where they park, coworkers and the like. Some of these attitudes are more closely linked to performance. Especially important to job performance are attitudes of hope, job satisfaction, and organizational commitment (Hellriegel and Slocum 2011, p. 86).

### Hope and Productivity

Hopeful employees tend to be creative and resourceful. Low hope individuals are apprehensive about what is to come (Hellriegel and Slocum 2011).

### Job Satisfaction and Productivity

Job satisfaction reflects the extent to which individuals find fulfillment in their work and linked to employees staying on the job and low job turnover. Employees with high job satisfaction attend their work regularly and exhibited less sick leaves. A satisfied employee is a happy, effective and good performer. An individual’s locus of control and big five personality characteristics affect the relationship between job satisfaction and job performance (Hellriegel and Slocum 2011).

### Emotion and Productivity

Emotions are the complex patterns of feeling toward an object or perform. Positive emotions such as joy, affection, and happiness, serve many purposes. Employees with positive emotions tend to think more creatively, seek out new information and experience, behave more flexibly, have greater confidence in their competencies and more persistent (Hellriegel and Slocum 2011).

## Organizational Commitment and Productivity

Organizational commitment is the strength of an employee’s involvement in the organization and identification with it. Committed employee stay longer on his/her work (Hellriegel and Slocum 2011).

## Emerging Issues of Employees that could possibly affect their Productivities

Since the human input of an organization is the most complex and difficult to predict its behavior, the high profit margin organizations are trying to give special attention for work forces to win business competition (Torrington, Hally and Taylor, 2008). The following are some of the considerations:

### Productivity and Leisure

Productivity increases as increasing less work time and more leisure time. If people want to work fewer hours, there is less for them to consume, unless they can find ways to increase productivity even more. Hence the productivity of workers is believed to be higher if they have relatively adequate leisure time or vacations (Vonderembse and White, 2005).

### Productivity and Work Life Balance

One of the current issues that are believed to affect performance and employment of people in a given organization is the work life balance that is granted by the hiring company. Work life balance will mean different things to different people depending on their age, life circumstances, values, interests, personality and so on. The different work life balance options focus on three different types of work flexibility (Boehm and Taylor2004).

1. First flexibility in terms of the number of hours worked.
2. Secondly the exact time of those hours
3. Thirdly the location at which the work is carried out.

Quality of work life: it is a term that describes the original culture and the extent to which it motivates and satisfies employees (Kumar and Suresh 2009).

Options for achieving work life balance include Part time, Flexible time, Compressed week, Annual hours, Term time working, Job scale, Self-roistering, Shift swapping, Unpaid leave, Unpaid sabbaticals, Work from home, Informal flexibility. Work life options focus on work flexibility in terms of the number hours worked, the exact time of those hours, and the location at which the work is carried out (Torrington, Hally and Taylor, 2008).

Much of the pressure for work life balance policies originates from the changing demographic make-up of our potential work force, changing social roles, the changing responsibilities of organizations and legislative pressure (Boehm and Taylor, 2004).

Other emerging issues that are directly and indirectly associated with different laws and rights of employees include; family-friendly law, maternity leave, maternity pay, time off for dependents.

These and other related issues are considered as some of the major factors that possibly affect the performance of employees in the modern organizational environments (Boehm and Taylor2004).

### The Right to Request Flexible Working Hours

The desire to work different or more flexible hours is a significant determinant of employees’ productivity as well as moving jobs either within or between employers. It goes some way to meeting the demanding of campaigners that parents with child rearing or caring responsibilities should be able to work part time as a right, but it falls short of this position by some margin (Boehm and Taylor2004).

## Productivity in Manufacturing Verses Service Firms

A shift from an economy dependent on manual work to an economy dependent upon intellectual work means a change from a manufacturing to service based economy. Productivity gain in service sector has lagged behind gains in the manufacturing sectors. One reason is that in the service sector ineffective measurement for labor productivity. But in manufacturing business there are

* Effective measuring tools for labor productivity
* Relatively fear of job loss by workers and this motivates them to work hard and smarter

Macroeconomic factors such as low saving rate (Vonderembse and White, 2005).

## Empirical Evidences

Under the title “Analysis of crafts workers’ and foremen’s perceptions of the factors affecting construction labor productivity”, the different factors associated to influence labor productivity were dealt and these factors were listed in their degree of affecting labor productivity. The method employed was data analysis of the focus group survey based on questionnaire. The result obtained from the survey was similar to previous studies conducted in the construction industry. Accordingly the primary factors in their order of influence were construction equipment, engineering drawing, materials, tools, and consumables. The age and experience differences were not affecting in ranking these factors of labor productivity (Abdulaziz M.Jarkas, 2010).

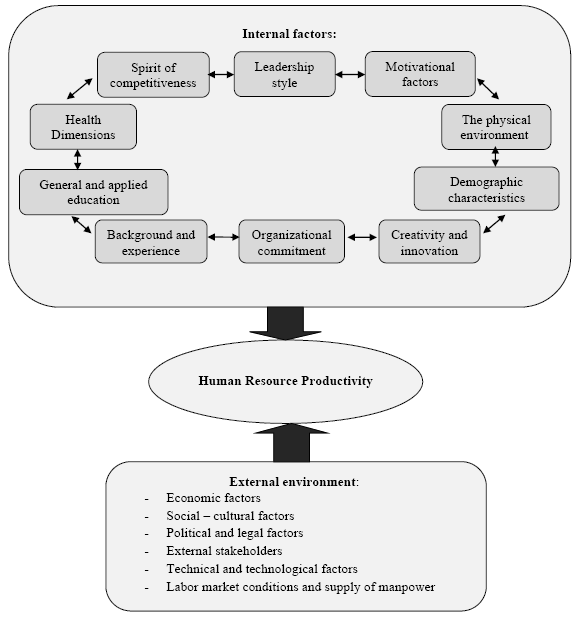
Another study by group of authors uncovered the differential effects of quota-based bonuses and commission from natural field based experiment featuring 14,000 monthly observations over three years from 458 sales territories of pharmaceutical firm on longitudinal data considerations. Their studies were quasi-experiment that was done by data collecting. The results showed that first the commission plan increases sales force productivity by approximately 24% over the bonus plan. Secondly sales people “push sales into the future” if they are unlikely to meet quota and “pull sales in from the future” if they are nearly quota. And thirdly after meeting quota, bonus scheme is much better than commission to undertake tasks that are not directly compensated (Sunil Kishare, Raghunath Singh Roa, OM Narasimhan and Gearge John, 2013).

From the summary of studies conducted in construction area five major categories of unproductive or less productive time which are characterized by labor productivity losses are waiting or idle, traveling, working slowly, doing ineffective work, and doing rework. Accordingly several categories of factors and sub-factors affecting productivity have been suggested by Borcherding and Alarcón (Rivas, Borcheding, Gonzalez, and Alarcon, 2011)

Although the economic theories provide no clear prediction on the total impact of employment protection on firm productivity, studies investigated the empirical effect of employment protection legislation on productivity which revealed that strict employment protection significantly reduces the growth rate both labor productivity and total factor productivity. That is changing stringency of employment protection can lead to extensive consequences outside labor market by offering workers’ commitment levels (Okudaira, Takizawa and Tsuru, 2013).

According to the studies performed in Asian countries labor productivity in manufacturing sector grew much faster than the growth in the agricultural sector due to increase in investment in physical capital such as machines in production process which allow each worker to produce more output in given time and additionally due to greater exposure to trade and foreign direct investment which contributed to improvements in manufacturing productivity (Faruq and Telaroli, 2011).

Labor productivity brought increasing growth patterns in Asian’s economic performances. There are significant differences in labor productivity across different sectors. Productivity growth in manufacturing compared to service and agriculture is highest for all of the countries reviewed except India where deregulation and liberalization helped the service sector to exhibit rapid growth (Faruq et al. 2011). Employees with better past performance set more difficult goals and prior performance and difficult are positively associated with current performance (Webb, Jeffery and Schulz, 2010).



**Figure2.6.** Proposed Model for Ranking Factors Affecting Human Resource Productivity for Kharasan Razavi Gas Company (Shekari, khayat, Hakimzahed, Salah, Shour and Keifi, 2012).

A study by Nuray Tezcan under the title “Analysis of the Factors Affecting Productivity Using Non Parametric Regression Method” was conducted on 500 companies of Turkey to find out the relation of labor productivity that was defined as the ratio of gross value added to the number of employees. In this non parametrical regression analysis using Ordinary Least Square regression, labor productivity was treated as dependent variable whereas financial performance indicators were considered as independent variables. In his conclusion ROA and Sales which shows capital intensity of the company are effective factors on productivity consistent with the theory. Sales indicator of firm’s size has been affecting productivity of firms’ positively (Nuray, 2010).

A study reviewed by Ryan Doran which was conducted on workers on Life Care Inc. to rank different factors on the productivities of workers revealed that 39% of workers were less productive due to overloading tasks, 12% because of unclear job expectation. The other factors in their order of affecting labor productivity were inequalities between pay and reward, child care issues, personal or political conflicts, elders care issues, lack of the proper tools or equipment to work efficiently. 15% of the remaining factors cited other factors including personal health issues, personal relationships issues, general stress, a long commuting time, and inadequate training (Ryan, 2008). Additionally issues of work-life balance of employees were further explained by child care issues, personal and political conflicts, elderly care, relationship issues, and long commuting time all are general issues of employees that are strongly affected by their work related stress (Ryan, 2008).

A survey study on employees revealed that 70% of employees reported that if their employers do not allow them to balance their work with their personal life, such feelings are the driving force for younger generation performances. And it is believed that work-life balance has to be part of employees’ performance enhancement schematics. Expressing the work-life balance of employees, 48% of US employees indicated that work related stress is affecting their performances due to long working hours. As the work stress increase (decrease in work life balance) employees’ performance decreases (Rose, 2010).

A study tried to rank factors affecting the productivity of human resources on Khorasan Razavi Gas Company using Multi Attribute Decision Making Model (MADM) for ranking the factors affecting the productivity of human resources. The factors were collected through Delphi method. The research used applied statistical with sample size of 120 where the data collection method and the conclusion were descriptive survey. The result of the survey gave the following ranking in the order of affecting human productivity, Health aspects, Leadership style, Motivational factors, Organizational commitment, Work experience, General and applied education, Demographic characteristics, Physical environment within the organization, external environment and competitive environment and Competitive spirit (Shekariet al, 2012).

Similar study was conducted as a case study on Chilean construction industry in mining sector. The main objective of the research was to explore the factors in Chilean construction projects that decrease labor productivity or prevent the labor productivity improvement. Questionnaires administered to craftsmen were used to capture perception of project personnel regarding productivity issues because a good understanding of the factors influencing productivity can be obtained from workforce’s view point (Rivas et al, 2011).

Borcherding and Alarcon (1991) as cited by Rivas (2011) have suggested several categories of factors and sub-factors affecting productivity.

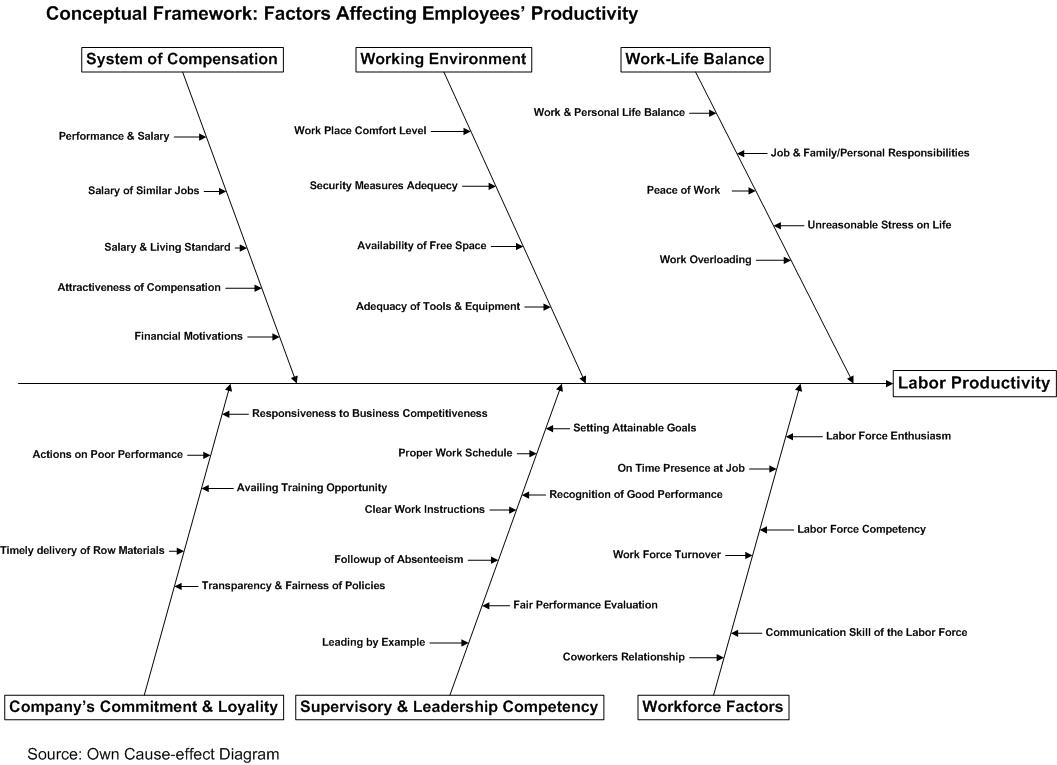
|  |  |
| --- | --- |
| **Table 2.1 Main Factor and Sub-factors Affecting Labor Productivity** | |
| Main factors | Sub-factors |
| Schedule acceleration | Over-crowding and/or over-manning |
| Scheduled overtime |
| Peak craft level and single craft population |
| Poor Coordination | Stacking of trades |
| Concurrent operation |
| Resources and Site management | Site conditions and organization |
| Material and tools availability |
| Material handling space |
| Site access |
| Interference |
| Poor lighting and housekeeping |
| The size and dispersion of tasks |
| Methods and equipment |
| Size of a crew |
| Management Characteristics | management control on project team |
| Dilution of supervision |
| Work type |
| Work type |
| Work size |
| Labor and Morale | Quality of craft-manship |
| Absenteeism |
| Craft turnover |
| Fatigue |
| Morale |
| Wages |
| (Boecherding and Alarcon(1991) cited in Rivas et al, 2011) | |

## Conceptual Framework and Research Hypothesis

### Conceptual Framework

Based on the above theoretical discussions and adopting categorizing the factors, the researcher developed the following fish-bone diagram for studying the relationships of factors and sub-factors affecting employees’ productivity of Moha Soft Drinks Industry Shared Company.

Figure 2.7 Conceptual Frame Work for the Study



### Research Hypotheses

From the above theoretical discussions on different problems and hypothetical backgrounds related to employees’ performances, to answer the research problem the following hypothetical statements have been developed. The hypotheses referred directly the main factors stated conceptual frame work and in the questionnaire each main factor is further explained in terms of the sub-factor.

**H1:** There is a significant positive relationship between salary and compensation and employees’ productivity.

**H2:** There is a significant positive relationship between supervisory and leadership competency of the management and employees’ productivity.

**H3:** There is a significant positive relationship between work-life balance of employees and employees’ productivity.

**H4**: There is a significant positive relationship between workforce factors and employees’ productivity.

**H5**: There is a significant positive relationship between working environment and employees’ productivity.

**H6:** There is a significant positive relationship between commitment and loyalty of the company and employees’ productivity.

**H7:** There is a significant positive relationship between the six stated factors and employees’ productivity.

# CHAPTER THREE

# RESEARCH DESIGN AND METHODOLOGY

In the chapter the researcher tried to explain the type of research he tried to conduct in approaching the basic research question. The sampling size, the population, demographic distribution and sampling techniques are all explained. Both the primary and secondary data sources and their reliability have been discussed. Instrumentality qualities of the questionnaire and the details of data collection procedure of all sources are discussed.

In the data analysis section, Chronbach’s Alphas for all factors are presented in tabular form. At the end of the chapter the ethical considerations in the process of data collection instruments are discussed.

## 3.1. Research Design

The basic research category the researcher used is explanatory research since he has developed hypotheses to answer the research questions through analyzing the relationship between the independent variables (factors) and the dependent variable (employees’ productivity). In research design, the researcher used mostly quantitative research approaches for that numbered data are analyzed using statistical procedures to answer the research questions and made generalizations on the findings. That is quantitative survey orientation where cause and effect relations of factors and employees’ productivity are measured, analyzed and statistically interpreted to answer the research questions and hypotheses (Sekaran, 2006).

The researcher also employed qualitative research design to substantiate his findings and to investigate the factors that brought productivity variations among different divisions through semi-structured interview made with management groups.

## Sample and Sampling Techniques

### Sampling

The sample population was employees of Moha Soft Drinks Industry Shared Company operation divisional departments (Production, Maintenance, Quality Control & Food Safety, Sales & Marketing). The locations of the sample population were Addis Ababa (East and South West Addis Ababa) and Hawassa where the factories are located. They are selected based on the technology employed in the production processes and based on the productivity differences of their employees as reported (Moha Annual Management Report, 2013/2014). The sample population has both gender distributions, different educational backgrounds and varying work experiences. The age distribution includes from 18 minimum up to 60 maximum.

The population strata of our sampling have direct and indirect effects on the manufacturing and sales processes as summarized in the table below.

* Population: Employees of operational divisions, Production, Technical, Quality Control, and Sales & Marketing departments. Total population size estimated to be more than 1237 employees.
* Sample units: The different job positions in the four departments
* Sample elements: Individuals, employees
* Sample size: 339
* Sample ratio: 339/1237, 0.2741 or 27.41%.
* Sample frame: List of employee by department and job positions

The sample size is determined by the following relation (Yemane, 1967).

Where **n** is the sample size, **N** total population and **e** the error factor. For 95% accuracy the error factor **e**is 0.05. Replacing this into the equation we get

Hencen= 302.08approximately n = 302

To consider non responding rate and unfilled questionnaires extra questionnaires (350) were distributed. The over sampling rate was:

= 15.89%

Fortunately only 11 questionnaires were rejected for different reasons (table 3.3) and 339 questionnaires were analyzed to test the relationship between the dependent and independent variables. The non responding rate was 3.14% which means the responding rate was 96.86%.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 3. 1. Sample population, size, per factories and per departments** | | | | | | | |
| S. No. | Factory | Description | Department | | | | Sub Total |
| Production | Sales and  Marketing | Maintenance | QC and FS |
| 1 | Nefas Silk | Total Population | 369 | 222 | 49 | 40 | **680** |
| Sample  Size | 110 | 53 | 20 | 11 | **194** |
| 2 | Summit | Total Population | 155 | 133 | 33 | 34 | **355** |
| Sample  Size | 37 | 28 | 10 | 9 | **84** |
| 3 | Hawassa | Total Population | 29 | 87 | 44 | 42 | **202** |
| Sample  Size | 8 | 26 | 15 | 12 | **61** |
| **Total Population per Category** | | | **553** | **442** | **126** | **116** | **1237** |
| **Total Sample size** | | | **155** | **107** | **45** | **32** | **339** |

### Sampling Technique

The sample technique employed was stratified random sampling to obtain proper representative of each department under each job position. Since the population is heterogeneous with respect to departments, profession, income, gender, and age, stratified sampling technique was used. Due to the objectivity and the nature of the sample population, other methods like cluster sampling and non-probability sampling techniques were found to be less appropriate in this descriptive survey.

The researcher obtained the lists of employees from their respective departments and respondents were randomly selected from each department and job position using their list so as to have equal and appropriate representative. The following simple and clear procedural guide line was followed during the random sampling process.

1. List of employees were obtained from each department.
2. The total number of respondents from each department, shift and job position was determined based on the sampling proportion from the list.
3. A random sampling technique with regular intervals (assigning numbers) was used to select the respondent employees from the list.
4. Appropriate room and time schedule was arranged for each respondent employee to fill the questionnaire.
5. In cases where the randomly selected employee was not able to fill the questionnaire for different reasons including absenteeism, another employee was picked up from the list with similar or equivalent job position.

In case of Hawassa Millennium Plant unfortunately only employees from the day shift were included in the sampling process for the three manufacturing departments. That means purposive sampling was used in such case.

## Sources of Data

The data sources were two types,

1. As primary data collection source the study employed questionnaire and semi-structured interview. The data from questionnaire were collected from the employees’ response directly through questionnaires. And the other primary data have been obtained from first line managers and department heads interview.
2. Secondary data were collected from the periodical reports that were generated on daily and monthly frequencies. They primarily included production and sales reports under the review periods.

## Data Collection Instruments

The researcher used personally administered questionnaires as the most appropriate data collecting means for this particular study. Because first, it is the efficient data collection mechanism when the researcher knows exactly what is required and how to measure the variable of interest. Here the aim is to measure the effects of different factors on employees’ performance. Secondly, the employees are confined to a local area, at their work place and it is simple and less time requiring to use questionnaire (Adam & Ebert, 2001). And as remarked good understanding of the factors influencing productivity can be obtained from the workforce’s view point (Rivas et al, 2011).

To increase the measuring instrumentality nature of the questionnaire, different rating scales were used. Such rating scales used include:

* Dichotomous scale: to help employees in making choices or categories with respect to the required information stated in the particular questions.
* Category scale: to help the respondents identify the category of their relevant information as per the different stated questions.
* A five point Likert scales: to indicate the employees agreement and disagreement on different issues related to the factors and their performances.
* Ranking order: to enable the management to rank the different factors in terms of their influence on employees’ productivity.

The other primary data source, which is interview, was used to collect data from managers to find out different operational factors that are contributing for variations in employees’ productivity of the stated departments. The interview followed structured format where complementary and verification ideas were included.

## Procedure of Data Collection

After getting permission from the General Managers of respective factories, department heads were communicated to arrange formal meetings with respondents. The days of questionnaire admission were arranged so as to get appropriate representatives from all job positions and working hour categories including shift workers. Then introducing the purpose of the study and explaining the questionnaire for respondents followed. As far as possible informal environment were created to minimize unnecessary stress and formal relationships while admitting the questionnaires since most of the respondents knew that the researcher himself is the member of the management group.

Then the questionnaires for primary data collection were administered personally as per the designed method and sample size. The particular employee falling in the sampling population was selected based on the daily attendance list. The willingness and free time of the employees’ has been considered in administering the questionnaire in order not to interrupt the normal operational tasks.

The interview addresses first line managers and department heads. During interview admission, formal introduction on the purpose of the study and confidentiality of the findings were explained. The raw data of the interview was taken with hand writing during the admission. Presented and interpreted into meaningful information to answer the research question.

The secondary data was collected from the periodical reports of Production and Sales & Marketing departments. Only relevant data to the study were reviewed and collected as per the required date manipulation technique from each plant. The only data found to be relevant to the study from the availed reports was monthly incentive and production quantity. In case of sales and marketing department the financial.

## Validity and Reliability Test

### Validity

Employees’ performance affecting factors were suggested based on literature and consultations of some managers from the company and from literature. Then before distributing the questionnaire to the respondents, the validity of the instrument was checked by the advisor as to whether it measures what it purported to measure. Accordingly, based on the approval obtained from the advisor, the questionnaire was considered as valid data collection tool.

For the secondary data both the internal validity which is issue of the authenticity of the cause and effect relationship of factors and employees’ productivity and external validity which shows the generalizability of the relation of the dependent variable (employees’ productivity) and independent variable (factors) for the operating factories is justified.

### Reliability

To test for the reliability the questionnaire was distributed for selected employees of the company before the actual data collection. This was done on 50 employees of the three Addis Ababa Plants. According to the results obtained, the data collection instrument was consistent and dependable in measuring what it intends to measure. From the result of the 50 distributed and evaluated questionnaires the following result was obtained using Cronbach’s Alpha on SPSS.

**Table 3.2: Cronbach's Alphas of Factors**

|  |  |  |  |
| --- | --- | --- | --- |
| **Construct** | **Items** | **Cronbach's a** | **Internal consistency** |
| Employees’ Productivity | 5 | 0.918 | Excellent |
| Company’s Commitment and Loyalty | 5 | 0.791 | Acceptable |
| Supervisory and Leadership Competency | 7 | 0.799 | Acceptable |
| System of Compensation | 5 | 0.863 | Good |
| Working Environment | 4 | 0.857 | Good |
| Workforce Factors | 6 | 0.755 | Acceptable |
| Work life balance | 5 | 0.761 | Acceptable |
| Questionnaire | 37 | 0.909 | Excellent |

***Source: Researcher’s own Survey, 2015***

Cronbach’s alpha reliability coefficient normally ranges between 0 and 1. The closer the alpha coefficient to 1 implies the greater the internal consistency. The closer the value of alpha coefficient to 0, the internal consistency is unacceptable. In this study, the researcher used the rule of thumb developed by (George and Mallery 2003), where an alpha value > 0.90 is excellent, > 0.80 is good, > 0.70 is acceptable, > 0.60 is questionable, > 0.50 is poor, <0.50 is unacceptable.

Since the value of Cronbach’s alpha of all the constructs was at least acceptable as shown on table-3.2 we can conclude that the data collection instruments were consistent and reliable through the stated measurements.

## Methods of Data Analysis

Generally as basic analysis methods the researcher used descriptive statistics, regression analysis and multiple regression analysis for the quantitative data to find out the relation between the dependent and independent variables. The correlation analysis between each factor and productivity of employees has been analyzed based on measures of associations and descriptive adjectives using SPSS. Facts of the study have been presented in tables. The relative influencing degree of each factor and hypothesis test acceptance or rejection has been tested. Multiple regression analysis is used to discuss and express the effect of the whole factors in one equation. Assumptions of normality, linear relationships, homoscedasticity, independence of errors and multicollinearity are analyzed using SPSS. To find out all the necessary relationships between employee productivity (dependent variable) and factors (independent variables), model summary of regression results, the ANOVA, standardized and unstandardized beta coefficient are used

The primary data from the interview of department heads and supervisors were analyzed to identify the unity and differences in factors affecting productivities of employees in the manufacturing and marketing operations. And the secondary data after summarized in tables, the relationships of employees’ performance and incentive paid is dealt through regression equation.

Basically, three main tasks which are data preparation, data presentation, and data interpretation were done before and during the data analysis. Under data preparation, data editing, data coding and data insertion and tabulation in SPSS were performed. Data were checked for incompleteness and inconsistency. The blank response check-up, doubly filled and/or any unanswered questions were identified. Those questionnaires that have 20% and above unanswered questions (at least 8 unanswered questions) were considered to be blank and they were totally rejected. If 2 or more doubly answered questions found under any of the seven categories, that particular questionnaire was rejected totally. The following summary table was generated after editing process.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 3.3 Data Editing Review** |  |  |  |  |
| Category question | Totally Unfilled | Blank | Doubly Filled | Total |
| Productivity | 0 | 0 | 1 | 1 |
| Company's Commitment and Loyalty | 1 | 2 | 0 | 3 |
| System of Compensation | 0 | 1 | 0 | 1 |
| Supervisory and Leadership Competency | 1 | 1 | 0 | 2 |
| Workforce Factors | 1 | 1 | 1 | 3 |
| Working Environment | 0 | 0 | 0 | 0 |
| Work-Life Balance | 0 | 1 | 0 | 1 |
| **Total** | 3 | 6 | 2 | **11** |

Source–Researcher’s own source, 2015

In categorization, items measuring the same concept were grouped together. Negatively worded questions have been reversed to bring all answers in the same direction. The goodness, the reliability and validity of the collected data and information were revised through the help of SPSS.

In data preparation, frequency table, graphical presentations and scattered graphs were developed.

## Ethical Considerations

The present study was conducted based on the permission obtained from Moha Soft Drinks Industry SC. Employees of the respective company were clearly instructed on top of the questionnaire that, the study is conducted to explore the impact of different factors on employees’ productivity of Moha Soft Drinks Industry SC and it is truly used for academic purposes only. For the sake of protecting the privacy of the respondents, clear instructions were put on the first page stating that, employees were not forced to fill the questionnaire, or they were not required to write their names and addresses on the questionnaire. Finally, the researcher did not mention his name on the questionnaire as many of them knew that he is one of the members of the management and they may not feel comfortable to give their genuine answers regarding some of the items in the questionnaire.

In case of the structured interview admission, the managers and supervisors are communicated for the interview questions at least two days before the meeting. The researcher intention was to give adequate time for preparation to avail the required data for the interview. And before the interview session the researcher confirmed again the willingness of each interviewee.

The secondary data were collected from officially approved incentive payment documents and production reports. The researcher tried to obtain only the required information through a simple and clear form in collaboration with production department head of each factory. Although the researcher has an official access to get all the filled data, he did not want to go through the details of the documents by himself to be more ethical.

# CHAPTER FOUR

# DATA PRESENTATION AND ANALYSIS

The chapter contains descriptive analysis, regression analysis and multiple regression analysis. Relevant demographics characteristics of the respondents are also discussed. The remaining discussions of correlation analysis & hypothesis testing, discussion from interview questions and secondary data analysis are part of the major topics of the chapter. Following the discussion of regression analysis each hypothesis is tested for acceptance or rejection. And the relative influencing degree of each factor under the current existing realities of the company has been rated.

Other facts obtained from the interview which are considered as relevant to the discussion of employee productivity have been discussed in the chapter. Data from secondary sources have been presented in tabular form and a regression equation is developed using statistical relations.

## Demographic Characteristics of Respondents

Demographic characteristics of the respondents such as age, gender, marital status, educational background, work experience, department, and working factory were analyzed and presented through the SPSS descriptive statistic application. The detailed results of the descriptive statistics analysis are presented on the following tables.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Table -4.1 Gender, Age and Marital status of the respondents | | | | | | |
| Gender of the respondents | | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | | Female | 108 | 31.9 | 31.9 | 31.9 |
| Male | 231 | 68.1 | 68.1 | 100.0 |
| Total | 339 | 100.0 | 100.0 |  |
|  | | | | | | |
| Age of the respondents | | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | | 18-24 | 38 | 11.2 | 11.2 | 11.2 |
| 25-30 | 101 | 29.9 | 29.9 | 41.1 |
| 31-40 | 147 | 43.5 | 43.5 | 84.5 |
| 41-50 | 46 | 13.6 | 13.6 | 98.2 |
| 51-60 | 6 | 1.8 | 1.8 | 100.0 |
| Total | 338 | 99.7 | 100.0 |  |
| Missing | | | 1 | .3 |  |  |
| Total | | | 339 | 100.0 |  |  |
|  | | | | | | |
| Marriage status of the respondents | | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | single | | 119 | 35.1 | 35.1 | 35.1 |
| married | | 198 | 58.4 | 58.6 | 93.8 |
| separated | | 21 | 6.2 | 6.2 | 100.0 |
| Total | | 338 | 99.7 | 100.0 |  |
| Missing | | | 1 | .3 |  |  |
| Total | | | 339 | 100.0 |  |  |

Source: Researcher’s own survey, 2015

#### Gender of the Respondents

Out of the total 339 sampled employees of the three factories, 108 respondents (31.9%) are female and the remaining 231 employees (68.1%) are male respondents.

#### Age of the Respondents

From the total, 147 respondents belong to the age group of 31 – 40 (43.4%). The second higher score was for the age group of 26 – 30 that has 101 respondents. Totally 84.5% of the respondents are under age 40. The remaining 15.5% of the respondents (52 of the sampled employees) are above 40. The age category result demonstrates that most of the respondents are from the productive age. That is 84.5% of the sample population.

#### Marital Status of the Respondents

Out of the total sample population, 119 (35.1%) are single, 198 (58.4%) are married, and 21 (6.2%) faced separation in their marriage.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table -4.2 Education, Number of Children and Work Experience of the respondents | | | | | |
| Educational background of the respondents | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 1-8 | 4 | 1.2 | 1.2 | 1.2 |
| 9-12 | 110 | 32.4 | 32.4 | 33.6 |
| College Diploma | 139 | 41.0 | 41.0 | 74.6 |
| Degree | 81 | 23.9 | 23.9 | 98.5 |
| Master’s Degree | 5 | 1.5 | 1.5 | 100.0 |
| Total | | 339 | 100.0 | 100.0 |  |
|  | | | | | |
|  | | | | | |
| Work experiences of the respondents | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 1-5 | 94 | 27.7 | 27.8 | 27.8 |
| 6-15 | 154 | 45.4 | 45.6 | 73.4 |
| 16-25 | 65 | 19.2 | 19.2 | 92.6 |
| 26-35 | 24 | 7.1 | 7.1 | 99.7 |
| 36-46 | 1 | .3 | .3 | 100.0 |
| Total | 338 | 99.7 | 100.0 |  |
| Missing | | 1 | .3 |  |  |
| Total | | 339 | 100.0 |  |  |

Source: Researcher’s own survey, 2015

#### Educational Status of the Respondents

From the descriptive statistics result it can be concluded that, 4 (1.2%) of the respondents have attended primary school, 110 (32.4%) of the respondents have secondary school educational background, 139 (41%) have college diploma, 81 (23.9%) joined higher institution for degree programs, and 5 (1.5%) accepted post graduate degree. Totally 225 (66.4%) of the respondent are at least college diploma holders.

#### Work Experience of Respondents

From the total respondents, 94 (27.7) have work experience of five and less than five years, 154 respondents (45.4%) have from 6 to 15 years of experience, 65 respondents (19.2%) have from 16 to 25 years of experience, 24 respondents (7.1%) have from 26 to 35 years of experience, and only 1 respondent (0.24%) has from 36 to 46 years of work experience. That is 72.2% of the respondents have more than five years of work experience in the company.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table -4.3. Department and Factory of the respondents | | | | | |
| Department of the Respondents | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Production | 155 | 45.7 | 45.7 | 45.7 |
| Technical | 45 | 13.3 | 13.3 | 59.0 |
| QC and Food Safety | 32 | 9.4 | 9.4 | 68.4 |
| Sales and Marketing | 107 | 31.6 | 31.6 | 100.0 |
| Total | | 339 | 100.0 | 100.0 |  |
|  | | | | | |
| Factory of the Respondents | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Hawassa millennium factory | 61 | 18.0 | 18.0 | 18.0 |
| Nifas Silk factory | 194 | 57.2 | 57.2 | 75.2 |
| Summit factory | 84 | 24.8 | 24.8 | 100.0 |
| Total | | 339 | 100.0 | 100.0 |  |

Source” Researchers’ own survey, 2015

#### Department of the Respondents

Out of the total 155 respondents (45.7%) belongs to Production department, 45 respondents (13.3%) are from technical department, 32 respondents (9.4%) are from Quality Control and Food Safety department and 107 respondents (31.6%) are from Sales and Marketing department. That is 232 (68.4%) are from the manufacturing operational departments and the remaining 107 respondents (31.6%) are from the outbound operation department. The total respondent ratio is as per the pre- planned percentage.

#### Working Factory of the Respondents

With regard to the factories, 61 respondents (18%) are from Hawassa Millennium Plant, 194 respondents (57.2%) are from Nifas Silk plant and 84 respondents (24.8%) are from Summit plant. All percentages are as per the total population sizes of the plants.

## Data Analysis Pertinent to the Study

This particular study tries to deal with “the factors that affect productivity of employees in operational departments of selected factories of “Moha Soft Drinks Industry Shared Company”. Correlation and multiple regressions were applied for finding and analyzing the relationships between the dependent variable productivity and the different factors. In the process of analysis the data were fed to SPSS version 20 in order to find out the relations as well as to test all statistical requirements of the data before analysis and generalization.

The data from the employees were collected using a five point Likert scale questionnaire measuring at an ordinal level and it is usually non parametric in nature. In analyzing, correlation and multiple regressions, between the response variable (employees’ productivity) and the predictor variables (the factors), the averages of the responses were calculated since this conversion helps the data to be changed into continuous form and hence took the nature of parametric data for statistical manipulation (Creech, 2009).

### Descriptive Analysis

Under this discussion the researcher tried to analyze the respondents answer regarding the factors that are believed to affect employee productivity. All the necessary steps like bringing the ratings in similar direction have been followed in order to help and simplify the discussion.

#### System of Compensation

As presented in table 4.4, regarding the payments employees believe that they are low paid compared to the tasks they are performing, and compared to similar jobs in the industry. According to the evaluation of the employees their salary is not sufficient enough to improve their living standards and to satisfy adequately their basic needs. As per the evaluation of the employees the company has less attractive compensation policy. The financial motivational system of the company slightly appreciates productivity. The average mean of the employees’ rating on the company’s system of compensation was 3.42. This reveals that the system of compensation of the company is not encouraging employees’ productivity.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 4.4 Frequency of Responses on System of Compensation** | | | | | | | | | | | | | | |
| Statements | | Responses | | | | | | | | | | | | |
| Far too low (1) | | Too low (2) | | Just low (3) | Too high (4) | | Far too high (5) | | Total | | Mean | |
| Compared to the tasks you are performing, your salary is | | 10 | | 56 | | 118 | 92 | | 63 | | 339 | | **3.42** | |
| Your salary compared to similar jobs you might find else where | | 5 | | 54 | | 143 | 78 | | 57 | | 337 | | **3.38** | |
| The contribution of your salary in improving your living standards and satisfying basic needs | | 24 | | 63 | | 114 | 77 | | 61 | | 339 | | **3.26** | |
| The attractiveness of the compensation policy of the company | | 20 | | 31 | | 120 | 102 | | 66 | | 339 | | **3.48** | |
| The financial motivation system of the company in appreciation of productivity | | 12 | | 54 | | 93 | 98 | | 81 | | 338 | | **3.54** | |
| Source: Researcher’s own survey, 2015 | |  | |  | |  |  | | **Average** | | | | **3.42** | |
| Working Environment **Table 4.5 Frequency of Responses on Working Environments** | | | | | | | | | | | | | | | | |
| Statements | | Responses | | | | | | | | | | | | | | |
| Very dissatisfied (1) | | Dissatisfied (2) | | Neither (3) | | | Satisfied (4) | | Very Satisfied (5) | | Total | | Mean | |
| Your work place satisfaction with its comfort level (heat, light, noise, ventilation) | | 7 | | 53 | | 125 | | | 136 | | 18 | | 339 | | **3.31** | |
| Adequacy of working tools and safety equipment to do your job well. | | 2 | | 16 | | 69 | | | 176 | | 76 | | 339 | | **3.91** | |
| The free space available to encourage better performance. | | 4 | | 28 | | 60 | | | 171 | | 76 | | 339 | | **3.85** | |
| Your satisfaction level on the security measures taken by your company. | | 1 | | 12 | | 65 | | | 141 | | 120 | | 339 | | **4.08** | |
| Source: Own survey, 2015 | |  | |  | |  | | |  | | **Average** | | | | **3.79** | |

From table 4.5 the following remarks regarding working environments of employees can be generalized. The employees are neither satisfied nor dissatisfied with the comfort level of their working environments. With regard to the availability of working tools and safety equipment the employees are satisfied. In the working area there is adequate free space that encourages productivity according to the evaluation of employees. And the company takes adequate security measures and the employees are satisfied in this regard. Since the average mean of the employees rating regarding their working environment is 3.79, the working environment of the company encourages productivity and the employees are satisfied in this respect.

#### Work-Life Balance

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 4.6 Frequency of Responses on Work-Life Balance** | | | | | | | |
| Statements | Responses | | | | | | |
| Never (1) | Rarely (2) | Sometimes (3) | Often (4) | Always (5) | Total | Mean |
| The organization provides a supportive balance between work and personal life. | 16 | 34 | 111 | 107 | 71 | 339 | **3.54** |
| How often you are able to satisfy both your job and family/personal responsibilities? | 6 | 31 | 88 | 115 | 98 | 338 | **3.79** |
| Your job causes unreasonable amount of stress on your life. | 26 | 32 | 98 | 100 | 82 | 338 | **3.53** |
| The amount of work you are asked to do is reasonable. | 15 | 24 | 80 | 138 | 82 | 339 | **3.73** |
| The pace of the work in the company enables you to do a good job. | 0 | 15 | 53 | 119 | 152 | 339 | **4.20** |
| Source: Own survey, 2015 |  |  |  |  | **Average** | | **3.76** |

#### Table 4.6 discussions reveal that, the company often provides a support between work and personal life. Mostly the employees are able to satisfy their personal or family responsibilities parallel with their job. Repeatedly the job creates unreasonable stress on employees. As per the responses of the employees mostly they are asked to do reasonable tasks and the pace of work does not affect their productivity. Hence in conclusive remark it can be said that in overall the employees are able to satisfy their personal life issues although they are stressed. In long run it may affect their productivity.

#### Company’s Commitment and Loyalty

From table 4.7, the company is rated as “good” in poor performances follow up, transparent fair promotional and advancement policies, on time delivery of raw materials and responsive to business competitive environments. From the average mean (3.79) in overall, regarding to its commitment and loyalty, the company is in “good” stand on promoting employees’ productivity.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 4.7 Frequency of Responses on Company's Commitment and Loyalty** | | | | | | | |
| Statements | Responses | | | | | | |
| Very poor (1) | Poor (2) | Average (3) | Good (4) | Excellent (5) | Total | Mean |
| The follow up and action taking of the company on poor performance. | 2 | 6 | 71 | 144 | 116 | 339 | **4.08** |
| The training opportunity you are provided. | 34 | 65 | 76 | 94 | 69 | 338 | **3.29** |
| The transparency and fairness of the company's policies for promotion and advancement. | 14 | 31 | 87 | 134 | 73 | 339 | **3.65** |
| The company’s responsiveness to external competitive business environments. | 1 | 25 | 66 | 132 | 114 | 338 | **3.99** |
| On time delivery of raw materials. | 5 | 22 | 83 | 106 | 123 | 339 | **3.94** |
| Source: Own survey, 2015 |  |  |  |  | **Average** | | **3.79** |

#### Supervisory and Leadership Competency

From table 4.8 discussions it can be said that, in setting attainable goals, proper work schedules, providing clear work instructions, recognizing good performances and absenteeism follow up, the management exerted much effort. From the average mean (3.99) also it can be concluded that the supervisory and leadership competency of the management rated as “much” supportive in enhancing employee productivity.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 4.8 Frequency of Responses on Supervisory and Leadership Competency** | | | | | | | |
| Statements | Responses | | | | | | |
| Not at all (1) | Not much (2) | Average (3) | Much (4) | very much (5) | Total | Mean |
| The management is setting attainable goals to enhance productivity. | 2 | 19 | 84 | 127 | 107 | 339 | **3.94** |
| The management is supportive in setting proper work schedule. | 0 | 12 | 73 | 130 | 123 | 338 | **4.08** |
| The management provides clear work instructions. | 0 | 17 | 75 | 148 | 99 | 339 | **3.97** |
| The management recognizes good performances. | 5 | 30 | 83 | 145 | 76 | 339 | **3.76** |
| The management strictly supervises and follow absenteeism. | 2 | 14 | 46 | 135 | 142 | 339 | **4.18** |
| Source: Own survey, 2015 |  |  |  |  | **Average** | | **3.99** |

#### Workforce Factors

From table 4.9 below factors related with the work force such as overall enthusiasm, work competency, on time presence at work, communication skills, and coworkers relations are rate as good. The turnover rate of employees has been rated as average. Hence from the average mean of the rating (3.83), it can be concluded that the employees’ competency is in support of productivity.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 4.9 Frequency of Responses on Workforce Factors** | | | | | | | |
| Statements | Responses | | | | | | |
| Very poor (1) | Poor (2) | Average (3) | Good (4) | Excellent (5) | Total | Mean |
| The overall labor force enthusiasm. | 6 | 17 | 96 | 132 | 88 | 339 | 3.82 |
| The competency of the labor force. | 0 | 12 | 88 | 160 | 79 | 339 | 3.90 |
| On time presence at the work place. | 0 | 1 | 46 | 183 | 109 | 339 | 4.18 |
| Effective communication skill of the labor force. | 10 | 18 | 116 | 130 | 65 | 339 | 3.65 |
| The overall turnover rate of workforce. | 15 | 28 | 153 | 86 | 53 | 335 | 3.40 |
| Your work relationship with coworkers | 5 | 8 | 59 | 176 | 91 | 339 | 4.00 |
| Source: Own survey, 2015 |  |  |  |  | **Average** | | **3.83** |

### Correlation Analysis

Pearson correlation test was conducted to check the magnitude of correlation between the dependent variable(Employees’ productivity) and independent variables, factor affecting employees’ productivity (System of Compensation, Working Environments, Supervisory and Leadership Competency, Work-Life Balance, Organization Loyalty and Commitment, and Work Force Factors).The dependent variable tested against each independent variable. The researcher also used the same test to prove or disprove thehypotheses.To check the magnitude of correlation between the dependent and independent variables the following measure of association developed by MacEachron (1982) was used as a reference.

**Table-4.10 the measures of associations and descriptive adjectives**

|  |  |
| --- | --- |
| Measure of Association | Descriptive Adjective |
| > 0.00 to 0.20 ; < -0.00 to –0.20 | Very weak or very low |
| > 0.20 to 0.40; < -0.20 to –0.40 | Weak or low |
| > 0.40 to 0.60; < -0.40 to –0.60 | Moderate |
| > 0.60 to 0.80; < -0.60 to –0.80 | Strong or high |
| > 0.80 to 1.0; < -0.80 to –1.0 | Very high or very strong |

Source: This table is from MacEachron, (1982) *Basic Statistics in the Human Services: an Applied Approach*, page 132.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Correlations** | | | | | | | |
|  | Production | Commitment Loyalty | Salary Compensation | Supervision Leadership | Work Life Balance | Workforce Factors | Working Environment |
| Production | 1 |  |  |  |  |  |  |
|
| Company’s Commitment and Loyalty | **.469\*\*** | 1 |  |  |  |  |  |
|
| System of Compensation | **.332\*\*** | .212\*\* | 1 |  |  |  |  |
|
| Supervisory Leadership competency | **.611\*\*** | .414\*\* | .236\*\* | 1 |  |  |  |
|
| Work Life Balance | **.404\*\*** | .224\*\* | .129\* | .248\*\* | 1 |  |  |
|
| Workforce Factors | **.470\*\*** | .388\*\* | .265\*\* | .456\*\* | .195\*\* | 1 |  |
|
| Working Environment | **.547\*\*** | .393\*\* | .287\*\* | .515\*\* | .282\*\* | .282\*\* | 1 |
|
| \*\*. Correlation is significant at the 0.01 level (2-tailed). | | | | | | | |
| \*. Correlation is significant at the 0.05 level (2-tailed). | | | | | | | |
| c. Listwise N=339 | | | | | | | |

**Table –4.11 Correlation Matrix between Employees’ Productivity and Factors**

Source: Researcher’s own survey, 2015

From the above correlation matrix, the researcher found the following results under each constructs, supported with their related empirical evidences:

#### Correlation Analysis between System of Compensation and Employee Productivity

The result of Pearson correlation test between the dependent variable Employees’ Productivity and the independent variable System of Compensation showed that, there is a positive relationship between the two variables at the significance level of (R=0.332\*\*), (P<0.01). According to MacEachron (1982) measure of association, the magnitude of relationship between the two variables is weak or low. Compared to other relationship dimensions considered in this study, salary and compensation is ranked sixth in its magnitude of correlation.

**H1: There is a significant positive relationship between system of compensation and employees’ productivity.**

Based on the result obtained from Pearson correlation, there is a positive relation between the dependent variable “employees’ productivity” and independent variable “system of compensation”. Hence, we accept the first hypothesis **H1**.

**Evidences from previous Studies**

The researcher tried to evidence the positive relationship of employees’ productivity and system of compensation from previous studies. Since the method employed by the researcher is different from the previous studies, it was not possible to compare relations directly using the R values. He tried to show only, what was the relation between the outcome and predicting variable in previous researches.

* From a study by the title “Analysis of the factors affecting productivity using Non-Parametric Regression Method, it was found that labor productivity was a function of financial inputs and showed that financial performances and sales are positively related to labor productivity. That is as the financial support and sales increase the labor productivity of firms also increase (Nuray, 2010).
* From another study on Khorasan Razavi Gas Company using Multi Attributed Decision Making Model (MADM) for ranking the factors affecting the productivity of human resources, it has been shown that inequity between pay rewards and motivational factors affect the performances of human resources. Motivational factors, Pay, and rewards are directly related to employees’ productivity (Shekari et al, 2012).
* A study on Chilean construction industry in the mining sector showed that labor productivity is influenced by financial motivational dynamics and salary expectations. As these decreased or less than expectations of workers, the performance level decreased and turnover increased (Rivas et al, 2011).

#### Correlation Analysis between Supervisory and Leadership Competency and Employees’ Productivity

#### Pearson correlation test was conducted to know the degree of association between the dependent variable employees’ productivity and the independent variable supervisory and leadership competency. Hence, the result of the study showed that, both variables are positively correlated to one another at a significant level of (**R=0.611\*\*), (P<0.01).** Based on MacEachron, (1982), measure of association, the magnitudes of relationship between the dependent and independent variables are strong.

**H2: There is a significant positive relationship between supervisory and leadership competency’s and employees’ productivity.**

The result of the study showed that, the dependent variable “employees’ productivity” and the independent variable “supervisory and leadership competency” have a positive association and hence we accept the secondhypothesis**H2**.

**Evidences from Previous Studies**

Similarly the researcher tried to substantiate the result of this study by previously conducted researches.

* A survey in business organizations showed that as the quality of leadership increases as perceived by employees, their productivity increases. This phrasing is in line with what is found in this study (Rose, 2010).
* A study by Watson Wyatt found that if senior management failed to identify and properly lead their employee the efficiency and overall performances of employees will be affected (Rose, 2010).
* The study previously mentioned that was study on the Khorasan Razavi Gas company using Multi Attributed decision Making Model in ranking the factors affecting the productivity of human resources showed also the leadership style of the management stands secondly in affecting the performances of employees in a positive direction. That is acceptable leadership style of the management increases the employees’ productivity (Shekari et al, 2012).

Hence, the researcher concluded that, the result of the present study is consistent with the results of previous studies.

#### Correlation Analysis between Work-life Balance of Employees andEmployees’ Productivity

|  |
| --- |
| The result of Pearson correlation test between the dependent variable “employees’ productivity” and the independent variable “work-life balance” showed that, there is a statistically significant positive relationship between the two variable at the level of **(R=0.404\*\*), (P<0.01)**. MacEachron, (1982) classified this magnitude of relationship as a moderate. |

**H3: There is significant positive relationship between employees’ “work-life balance”**

**and “employees’ productivity”.**

The researcher beforehand hypothesized that, there is a significant positive relationship between the predicted variable employee productivity and the predictor work-life balance. Hence the result of the study confirmed the same and we accept the third hypothesis, **H3.**

**Evidences from previous Studies**

* From survey study on employees revealed that 70% of respondents (employees) reported that if their employers do not do a good job, allowing them to balance their work–life with their personal life, such feelings are the driving force for younger generation performances. And it is believed that work-life balance has to be part of employees’ performance enhancement schematics. Otherwise performances will decrease considerably. Expressing the work-life balance of employees, 48% of US employees indicated that work related stress (over loading tasks) is affecting their performances due to long working hours. As the work stress increase (decrease in work life balance) employees’ performance decreases(Rose, 2010).
* The other issues of work-life balance of employees were further explained by child care issues, personal and political conflicts, elderly care, relationship issues, and long commuting time all are general issues of employees that are strongly affected by their work related stress. This was explained in the study conducted on workers of Life Care Inc. factors affecting productivity (Ryan, 2008).

Hence, the result of this study is also supported by the findings of the above researchers.

#### Correlation Analysis between Workforce Factors and Employees’ Productivity

#### The Pearson correlation result of the study, between the predicted variable of “employees’ productivity” and the predictor variable of “workforce competency” factors showed that, there is significant positive relationship between the two variable at a statistical level of **(R=0.470\*\*), (P<0.01)**. From this particular relation study of employees’ productivity and factors affecting productivity, workforces’ factors is the third in strength of correlation.

From the MacEachron, (1982), tables of correlation magnitude we can infer that, the degree of association between workforce factors and employees’ productivity is moderate.

**H4: There is significant positive relationship between Workforce Factors and employees’ productivity.**

From the positive relationship obtained on the above discussion based on the Pearson correlation test, the dependent variable, “employees’ productivity” and the independent variable “workforce factors” are directly related and we accept the fourth hypothesis **H4**.

**Evidences from previous Studies**

* The extension of the above study on employees of Workers Life Care Inc. Companies, showed that workforce effectiveness is highly determined by the quality of the employees performing the tasks. The quality of employees as indicated in the study includes personal health, inadequate training, and skillfulness. Hence the workforce quality is directly related to the performance of employees (Ryan, 2008).
* From the study conducted on the Gas Company, showed that workforce related factors like demographics characteristics, creativity and innovation, background, experience and health are some the factors that affect employees’ productivity positively (Shekari et al, 2012).

#### Correlation Analysis between Working Environment and Employees’ Productivity

The Pearson correlation test was conducted to check the degree of association between the dependent variable “employees’ productivity” and the independent “variable working environment”.

Accordingly, the test result of the study showed that, there is a significant positive relationship between the two variables at a level of **(R=0.547\*\*), (P<0.01).** Based on MacEachron, (1982) correlation table, the magnitude of relationship between the two variables was moderate. .

**H5: There is a significant positive relationship between employees’ productivity and working environment**

Armed with correlation result obtained, between the predicted variable of employees’ productivity and the predictor variable working environment, we prove that there is positive relationship between them and hence we accepted the fifth hypothesis, **H5.**

**Evidences from previous Studies**

* From Khorasan Razavi Gas Company study using Multi Attributed Decision Making Model (MADM) for ranking the factors affecting the productivity of human resources showed that physical environment of the organization was one of the ranked factors for affecting the performances of human resources. As the working environment become conducive for work, employees’ productivity increases (Shekari et al, 2012).

The result of this particular study is also in line with the above evidences.

#### Correlation analysis between Company’s Commitment and Loyalty and Employees’ Productivity

From the correlation analysis obtained we can say that the “employees’ performance” is significantly correlated with the predicting variable “company’s commitment and loyalty”. Hence, the result of Pearson correlation test showed that, both variables are correlated at a degree of **(R=0.469\*\*), (P<0.01).** At this level we could say that, the correlations between the two variables are moderate, according to MacEachron (1982).

**H6: There is a significant positive relationship between employees’ productivity and company’s commitment & loyalty**

From the Pearson correlation test result given on table 4.4, it can be concluded that, there is positive relationship between employees’ productivity and company’s commitment and loyalty. Hence we accepted hypothesis**H6**.

Concluding remark on the correlation and hypothesis tested.

The researcher considered six factors to find out the degree of correlation of these factors with the dependent variable employees’ productivity with the help of the Pearson correlation factors. Accordingly, all the factors were positively associated with employees’ productivity using Pearson correlation test and for that all hypothesis were also accepted.

### Multiple Regressions Analysis

To find out the linear relation of one dependent variable with more than one independent variables linear multiple regression is used. These factors are treated as independent variables and employees’ productivity as dependent variables. To develop the regression line formula, the dependent and the independent variables are denoted as, (**X1=System of Compensation, X2=Supervisory and Leadership competency, X3=Work-Life Balance, X4=Workforce Factors, X5=Working Environment and X6=Company’s Commitment and Loyalty**) and the dependent variable, **Y=Employees’ Productivity.**

On the process of developing the equation of multiple regression, The researcher conducted the five assumption that have to be fulfilled before testing multiple linear regression which are the assumption of normality, linear relationship, homoscedasticity, independence of errors and multicollinearity are discussed using SPSS. Model summary of the regression result, the ANOVA, standardized and unstandardized coefficients have been presented to find out all the necessary relationships between the dependent variable (productivity) and independent variables (factors).

#### 4.2.3.1. Assumption 1- Normality of the distribution

The assumption of normality shows the distribution of the errors for any given combination of values on the predictor variables (independent variables)(Matt, Carlos, and Deson, 2013). One way of measuring the normality of distribution is through checking the level of skewness and kurtosis. Usually the value of skewness and kurtosis for normal distribution is varied from 1 to -1.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 4.12 Normality of the data** | |  | |  | |  | |  | |
| Descriptive Statistics | | | | | | | | | |
| Variables | N | | Skewness | | | | Kurtosis | | |
| Statistic | | Statistic | | Std. Error | | Statistic | | Std. Error |
| Production | 339 | | -.784 | | .132 | | .059 | | .264 |
| Company’s Commitment and Loyalty | 339 | | -.010 | | .132 | | -.837 | | .264 |
| System of Compensation | 339 | | .192 | | .132 | | -1.057 | | .264 |
| Supervisory and Leadership competency | 339 | | .036 | | .132 | | -1.047 | | .264 |
| Work Life Balance | 339 | | -.021 | | .132 | | -.738 | | .264 |
| Workforce Factors | 339 | | .175 | | .132 | | -.089 | | .264 |
| Working Environment | 339 | | .023 | | .132 | | -.577 | | .264 |
| Valid N (list wise) | 339 | |  | |  | |  | |  |
| Source: Own survey, 2015 |  | |  | |  | |  | |  |

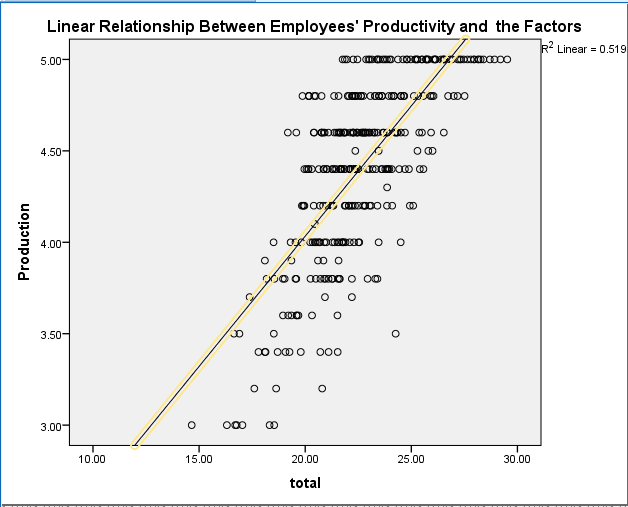
As it is showed in table 4.12, the results of skewness in construct dimensions of employees’ productivity, against the factors affecting productivity of employees were within the acceptable range of normality **(-1 to +1).** But the Kurtosis of the factors under System of Compensation, and Supervision & Leadership (-1.057 and -1.047 respectively) are slightly out of the **+1** range and this violates the assumption of normality. However, since the sample size of 339 according to the central limit theorem, sampling distribution, and the use of the statistical test with this variable is appropriate. Hence the normality assumptions are satisfied for the obtained date (Field, 2006).

#### 4.2.3.1. Assumption 2- Linear relationship

As stated by Chatterjee&Hadi, (2012) a model that relates the response ***Y*** to the predictors ***X1, X2, X3... Xn****,*is assumed to be linear in the regression parameters. As cited by, Matt N, Carlos A, and Deson K (2013) it was further explained that the response variable is assumed to be a linear function of the parameters *(ß1,ß2,ß3…..ßn*) but not necessarily a linear function of the predictor variables *X1, X2, X3...Xn*.

The result of this particular study shows that, there is a linear relationship between the dependent or response variable employees’ productivity and the independent or predictor variables which are factors affecting productivity (system of compensation, supervisory and leadership competency, work-life balance, workforce factors, working environment, company’s commitment and loyalty). That means for every increase in the independent variable of salary and compensation, supervision and leadership, work-life balance, workforce factors, working environment, commitment and loyalty, the dependent variable employees’ productivity will increase. This has been demonstrated by the graph 4.1.

**Figure 4.1 Linear relationships between employees’ productivity and Factors of productivity**



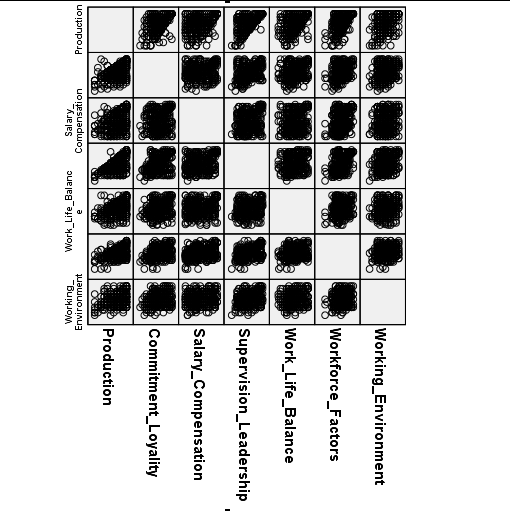
Source: Researcher’ own survey, 2015

#### 4.2.3.3. Assumption 3- Homoscedasticity (equal variance)

For homoscedasticity to exist, at each level of the predictor variable (s), the variance of the residual terms should be constant (Field, 2006). That means the model errors are generally assumed to have an unknown but finite variance that is constant across all levels of the predictor variables. This assumption is also known as the homogeneity of variance assumption (Field, 2006) and (Weisberg, 2005), as cited by, Matt N, Carlos A, and Deson K (2013).

This is to mean that, the variance of Y for each value of X is constant in the population (as explained by the sample population). The assumption can be checked by visual examination of the plot of the standardized residuals (the errors) by the regression standardized predicted values. Based on this general assumption the following scatter plot was obtained from the average results of the dependent variable employee productivity and the independent variables factors that affect employee productivity constructs to see weather homoscedasticity is really a pressing problem of this particular study.

**Figure-4.2 homoscedasticity between variables**



When graph-4.2 visually inspected in to the right corner of the first row, we see that the variances between the dependent variable employee productivity and the independent variables of Commitment and Loyalty, Salary and Compensation, Supervision and Leadership, Workforce Competency, Working Environment and Work-life Balance are very minimal. That means as we go through levels of one variable, the variance of the other is not changing and hence we concluded that the assumption of homoscedasticity (homogeneity of variance) was proved in this particular study.

#### 4.2.3.4. Assumption 4- Independent of Errors/Residuals

For any observation the residual terms should be uncorrelated or independent and this eventuality is described as lack of autocorrelation (Field, 2006). These residuals are the prediction errors or differences between the actual score and estimated by the regression equation. And the size of the residual for the given case should have no impact on the size of the residual for the next case. That means the errors are assumed to be independent (Chatterjee&Hadi, 2012; Fox, 1997; Weisberg, 2005). Any violation of this assumption leads to biased estimate of standard errors and significance, even if the estimate of the regression coefficient remain unbiased but yet inefficient. (Chatterjee&Hadi, 2012), as cited by, Matt N, Carlos A, and Deson K (2013).

The Durbin-Watson statistic is used to test for independent of residuals or presence of serial correlation among the residuals(Field, 2006).Table-4.13 indicates the Durbin-Watson test result of the study.

**Table –4.13 Durbin-Watson test result**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
| 1 | .741a | .549 | .541 | .33720 | 1.720 |
| a. Predictors: (Constant), Working Environment, Workforce Factors, Work Life Balance, System of Compensation, Company’s Commitment and Loyalty, Supervisory and Leadership competency  b. Dependent Variable: Production | | | | | |

***Source:*** Researcher’ own Survey, 2015

The test statistics of the Durbin-Watson statistic ranges from 0 to 4. As a general rule, the residuals are independent (not correlated) if the Durbin-Watson statistic is approximately 2, and an acceptable range is 1.50 - 2.50.A value greater than 2 indicates a negative correlation and a value less than 2 explains a positive correlation (Field, 2006, Babatunde, Oguntunde, Ogunmola and Balogun, 2014).

For this particular study, the Durbin-Watson value is 1.720, and within the acceptable range and hence, we assumed independence of residuals assumption exists**.**

#### 4.2.3.5. Assumption 5- Multicollinearity

Multicollinearity exists when independent variables in the regression model are more highly correlated with each other than with the dependent variable. And when the independent variables are highly correlated each other they are basically measuring the samething (Field,2006). This assumption of linear regression model explains that the independent variables, *Xi,* are linearly independent of each other. If multicollinearity exists among the predicting or independent variables, there is strong correlation between two or more predictors and it is a problem associated with multiple regression (Field, 2006). If multicollinearity is not satisfied for any multiple regression analysis, the independent variables are thus multi-collinear and the result is that the individual regression Coefficients for each variable are not identifiable since multicollinearity makes the regression coefficients quite unidentifiable. If the aim is to estimate the regression equation, it is important to reduce it as much as possible (Michael and Patrick, 1970 PP, 11).

The pair-wise correlation among the independent variable should not exceed 0.80 if multicollinearity expected not to exist between the variables (Hair et al., 2006). As it is shown in table-4.14, the bold values show the pair-wise correlation result and hence none of them exceeded the tolerable range of 0.80. From the above discussion and the result of the study we can say that multicollinearity was not a problem in this particular relation.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Correlations** | | | | | | | |
|  | Production | Company’s Commitment Loyalty | System of Compensation | Supervisory and Leadership competency | Work Life Balance | Workforce Factors | Working Environment |
| Production | 1 |  |  |  |  |  |  |
|
| Company’s Commitment Loyalty | .469\*\* | 1 |  |  |  |  |  |
|
| System of Compensation | .332\*\* | **.212\*\*** | 1 |  |  |  |  |
|
| Supervisory and Leadership Competency | .611\*\* | **.414\*\*** | **.236\*\*** | 1 |  |  |  |
|
| Work Life Balance | .404\*\* | **.224\*\*** | **.129\*** | **.248\*\*** | 1 |  |  |
|
| Workforce Factors | .470\*\* | **.388\*\*** | **.265\*\*** | **.456\*\*** | **.195\*\*** | 1 |  |
|
| Working Environment | .547\*\* | **.393\*\*** | **.287\*\*** | **.515\*\*** | **.282\*\*** | **.282\*\*** | 1 |
|
| \*\*. Correlation is significant at the 0.01 level (2-tailed). | | | | | | | |
| \*. Correlation is significant at the 0.05 level (2-tailed). | | | | | | | |
| c. Listwise N=339 | | | | | | | |

**Table –4.14Pair-wise correlations among the independent variables**

Source: Researcher’s own survey, 2015

#### 4.2.3.7. Regression Analysis Results

Since all the multiple regression assumptions are satisfied, the researcher continued further the regression analysis and mainly focused on the three most important elements of regression output, i.e. the Model Summary, the ANOVA test and the Beta coefficient. Based on the average response obtained from the employees, the dependent variable, employees’ productivity and each of the predictor variables, Commitment and Loyalty, Salary and Compensation, Supervision and leadership, Workforce Factors, Working Environment and Work-life Balance were analyzed.

**Table –4.15model summary of the regression result**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson | |
| 1 | .741a | .549 | .541 | .33720 | 1.720 | |
| a. Predictors: (Constant), Working Environment, Workforce Factors, Work Life Balance, System of Compensation, Company’s Commitment and Loyalty, Supervisory and Leadership competency | | | | | | |
| b. Dependent Variable: Production | | | | | | |

Source: Researcher’s own Survey, 2015

The regression model considered employees’ productivity as dependent variable and the factors affecting productivity for the individual factor as the independent variables. A multiple regression analysis is conducted to evaluate how well the six factors predict employees’ productivity. As it is depicted under the table-4.15 and table-4.16, the linear combination of the six factors is significantly related to employees productivity **(R2 =0.549, F=67.418 and P<0.001).** This means that, **54.9** percent of the positive variance of employees’ productivity in the sample can be accounted for by the linear combination of the six factors that affect labor productivity which are Commitment and Loyalty, Salary and Compensation, Supervision and leadership, Workforce Factors, Working Environment and Work-life Balance (Field, 2006).

**Table –4.16 ANOVA for the relationship of factors and employees’ productivity**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ANOVAa** | | | | | | |
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 45.994 | 6 | 7.666 | 67.418 | .000b |
| Residual | 37.749 | 332 | .114 |  |  |
| Total | 83.743 | 338 |  |  |  |
| a. Dependent Variable: Production | | | | | | |
| b. Predictors: (Constant), Working Environment, Workforce Factors, Work Life Balance, System of Compensation, Company’s Commitment and Loyalty, Supervisory and Leadership Competency  Source: Researcher’s own survey, 2015 | | | | | | |

The relationship of the six factors and employee productivity is well below **.05(P<0.001).** Therefore, we concluded that the **R** and **R2**between the dependent variable employee productivity and the independent variables the six factors are statistically significant, based on the responses collected from employees of selected factories of Moha Soft Drinks Industry S.C.ANOVA (Analysis of variance), was employed to compare whether the mean of one dependent variable differ significantly across the categories of another independent variables. The ANOVA table provided, the result of the test of significance for **R** and **R2**using an F-statistic. Since the result of the test is significant, with P-value below 0.05, that **R2**is significantly different from zero and there is a relationship between the independent variables (the factors) and dependent variable (employees productivity) in the population (Field, 2006).

**Table 4.17– Beta coefficient**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | |
| Model | | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | | (Constant) | 1.044 | .175 |  | 5.979 | .000 |
| Company’s Commitment and Loyalty | .100 | .032 | .135 | 3.140 | .002 |
| System of Compensation | .062 | .023 | .106 | 2.696 | .007 |
| Supervisory and Leadership competency | .257 | .040 | .304 | 6.424 | .000 |
| Work Life Balance | .145 | .029 | .196 | 5.020 | .000 |
| Workforce Factors | .150 | .042 | .154 | 3.554 | .000 |
| Working Environment | .165 | .036 | .208 | 4.583 | .000 |
| a. Dependent Variable: Production | | | | | | | |
| Source: Researcher’s own survey, 2015 | | | | | | | |

From the Beta Coefficient table, the researcher highly concentrated on the values of the standardized Beta coefficient in order to figure out the relative importance of each independent variable, in predicting the dependent variable and on the unstandardized Beta coefficient in order to formulate the linear regression equation.

1. **Standardized Beta Coefficient**

Standardized beta coefficients are sometimes called relative importance weights and can be used to compare scores like Z-scores since they all are measured in standard deviation and are not dependent on the unit of measurement of the variables (Field, 2006). Relative importance weights are the proportionate contribution from each predictor to **R2** correcting for the effects of the inter-correlations among predictors (Lorenzo-Seva et al., 2010). This method is recommended when the researcher is examining the relative contribution each predictor variable to the dependent variable (Johnson, 2004).

Based on the relation observed ontable-4.17 we can see that the contribution of company’s commitment and loyalty 13.5%, system of compensation 10.6%, supervisory and leadership competency, 30.4%, Work-life balance 19.6%, workforce factors 15.4% and working environment 20.8% for the variation observed in the dependent variable (productivity of employees). The highest contributor for the variation in employees’ productivity according to the responses of employees is supervisory and leadership competency of the management. The second important factor that contributed more, to the productivity of employees is working environment, accounted for 20.8% of the beta coefficient followed by work-life balance, which had a beta coefficient share of 19.6%.

From the questionnaire survey made on employees of selected factories of Moha Soft Drinks Industry S.C, the least affecting/contributor factor for the productivity of employees from the given factors was system of compensation. That means as salary and compensation offered by the company increase by one standard deviation, the productivity of employees increase by 0.106 standard deviations (Field, 2006). The same is true for the other factors.

1. **Unstandardized Beta Coefficient**

Unstandardized beta coefficient is sometimes called, the Beta Weights and tells us about the relationships between the dependent variable and the independent variables. If the value is positive the relationship between the predictor and the outcome is positive. Negative coefficient represents a negative relationship (Field, 2006). According to Pedhazur, (1997), a β weight coefficient informs us, as to how much change in the criterion variable (i.e. employees productivity in our case) we might expect with a one-unit change in the predictor variables, (i.e. company’s commitment and loyalty, system of compensation, supervisory and leadership competency, Work-life balance, workforce factors, and working environment) holding all other predictor variables constant. That means from table-4.17, as supervision and leadership of the management increases by one unit productivity of employees increases by 0.304 if the other five factors kept constant(Field, 2006).

The linear multiple regression formula for the dependent variable (employees’ productivity), and the six independent variables of factors of productivity, company’s commitment and loyalty, system of compensation, supervisory and leadership competency, Work-life balance, workforce factors, and working environment, took the form of:

**Y = *a* + *b1*X1+ *b2*X2+ *b3*X3+ *b4*X4+ *b5*X5 + *b6*X6** + **e**

Where, ***Y***= the dependent variable employees’ productivity

***a*** = y axis intercept (the constant beta value)

***b1*, *b2*, *b3*, *b4*, *b5,b6****=beta weight for each independent variables*

***X1, X2, X3, X4, X5, X6***=representing, system of compensation, supervisory and leadership competency, Work-life balance, workforce factors, working environment, company’s commitment and loyalty, respectively.

**e =** the error term (0.05 in our case)

Based on table-4.10 and taking the unstandardized beta value into consideration, the regression equation of this particular study to the nearest two decimal places can be expressed as:

**Y = *1.044* + 0.06X1+ *0.26*X2+ *0.15*X3+ *0.15*X4+ *0.17*X5** + ***0.10*X6*+ 0.05***

I

**Interpretations from the equation**

* For every unit increase in the value of company’s commitment and loyalty of the company setting all other predictor variable to be constant, the value of response variable employees’ productivity will increase by 0.10 units or 10%.
* For every unit increase in the value of system of compensation in Moha Soft Drinks Industry S.C, setting all other predictor variable to be constant, the value of response variable employees’ productivity will increase by 0.062 units or 6.2%.
* For every unit increase in the value of supervisory and leadership competency of the management of in Moha Soft Drinks Industry S.C, setting all other predictor variable to be constant, the value of response variable employees’ productivity will increase by 0.257 units or 25.7%.
* For every unit increase in the value of *work-life balance* in Moha Soft Drinks Industry S.C, setting all other predictor variable to be constant, the value of response variable employees’ productivity will increase by 0.145 units or 14.5%.
* For every unit increase in the value of workforce factors in Moha Soft Drinks Industry S.C, setting all other predictor variable to constant, the value of response variable employees’ productivity will increase by 0.15 units or 15%.
* For every unit increase in the value of working environment in Moha Soft Drinks Industry S.C, setting all other predictor variable to be constant, the value of response variable employees’ productivity will increase by 0.165 units or 16.5%.

## Discussion

This research was conducted to find out the impact of certain factors of productivity on employees’ overall performances more specifically for operational departments of selected factories of Moha Soft Drinks Industry S.C. Thus factors include commitment and loyalty, salary and compensation, supervision and leadership, work-life balance, workforce factors, and working environment. Different issues that are believed to be categorized under these main topics were included in the questionnaires.

This study showed that, employees’ productivity has a significant positive relationship with the six factors that affect employees’ productivity at a significance level of **R2=0.549 (F=67.418, P<0.001).** This finding is in line with the hypothesis number seven; (**H7**) which states that the different factors mentioned in the paper (system of compensation, supervisory and leadership competency, work-life balance, workforce factors, working environment, company’s commitment and loyalty)had a significant positive effect on employees’ productivity. Thus the seventh stated hypothesis is accepted.

Although the methods of arguments made on the above evidenced studies are different from the one employed in this study, the central conclusions of the above studies were in agreements with the findings of this particular study. All of the above evidenced studies were done on multiple factors even thought for discussion purpose each factor was discussed separately. The conclusion of each study was based on the individual factor effect and multiple factor effects on the performances of employees. The evidenced studies showed that different factors contributed for the variance of employees performances. As discussed, fortunately each factor contributed in positive relation. Hence the result of this study was evidenced by the different studies conducted in different industries (Shekari et al, 2012, Ryan, 2008, Rose, 2010, Rivas et al, 2011, Nuray, 2010).

### 4.3.1. Qualitative Data Analysis

To support the discussion and results generated from the questionnaire analysis, additional primary data were collected from interview of the department heads and supervisors. The interview was designed to list out the differ factors that are contributing for performances of employees in each department and the efforts made by the management groups. Additionally the interview intended to reveal out gaps that should have to be taken by the management in order to follow and act on the factors related to employees’ performances.

#### Factors Affecting Employees’ Productivity

From the analysis of the management group interview factors that affect the productivity of employees were stated as follows. Generally in all departments the first and the most determinant factor for employees productivity was financial compensations/benefits that include salary and other related compensations as stated by all the interviewed managers. When interpreted in meaningful terms it is to mean that the monthly salary employees receive, incentives, commissions, allowances, bonuses, annual salary increments, health and insurance coverage etc. are the factors that majorly affect the productivity of employees. In other factors the center of focus is different from manufacturing to marketing. Table-4.18 presented some of the factors that are included in the management group discussions in comparison.

|  |  |
| --- | --- |
| **Table 4.18 Productivity Affecting Factors Comparison in Departments** | |
| **For manufacturing Employees** | **For Marketing Employees** |
| Group one | Group one |
| Salary and other Financial Benefits | Salary and other Financial Benefits |
| Group two | Group two |
| Working Environment | Working Facilities |
| The Nature of the Work | Training Opportunity |
| Long Working Hours | Supervisory and Leadership Competency |
| Working in Shift | Recognition and Empowerment |
| Group three | Group three |
| Health Factors | Work life Balance |
| Work life Balance | Policy packages |
| Family or Personal Affairs | Family or Personal Affairs |
| Policy packages | External Working Environment |
| Group four | Workforce competency |
| Supervision and follow up competency |  |
| Work Force Competency |  |
| Training Opportunity |  |

Source: Researcher’s own survey, *2015*

As it is clearly indicated there are differences in factors that are believed to affect the performances of employees in the manufacturing and marketing areas. Some factors are crucial in determining the productivity of employees in one area but less important in the other area. For example factors related to working environment and working hours are very important in the manufacturing areas but relatively their importance decrease in marketing areas. Employees’ overall health status (both physical and psychological wellbeing-ness) affects per hours output of the production operation. The significance of its importance decreases for the marketing operation.

In both operational departments all factors are grouped based on the relative importance of their effect on employees’ productivity. The factors in group one are more important than those in group two and those in group two are more important than those in group three etc. Group four factors are the least affecting factors in the arrangement according to the interview.

#### Employees’ Performance Evaluations

In overall the performance of employees in every department is explained to range from “Good” to “Very Good”. Under the given working conditions and material supply, employees are rated to score satisfactory performance level.

In Sales and marketing area the accepted level of employees’ performance could not be expressed in terms of figures per each employees rather in total quantity sold or loaded. Since quantity sold per each sales person is not part of the report, it was not possible to measure the performance or effectiveness of each employee. Whereas in production area it was specifically interpreted in term of quantity produced per each employees and measured on daily bases.

#### Employees’ Performance Development Plans

Although employees are the center of all tasks and activities in the production and transaction processes that is, both the in-bound and out-bound logistics operators, less attention is given for their skill, capability and knowledge development programs. As explained and exemplified by the interviewed management group members, in most of the departments the training and capacity development programs are not either well planned, stated or identified. As production machines need maintenance to appreciate their working efficiencies, people need also task oriented training and development programs to increase their productivity.

Some departments from the assessed factories identified and stated the required performance targets based on job analysis for each job position. This is the first and very important input for the training and development programs. Others should also follow this remarkable start. But in all cases almost there was any satisfactory development plan that was implemented to appreciate employees’ performances.

#### Performance Based Motivational System

The other important issue related to employee’ performance was motivational system or package that initiates good performances. As explained by all interviewed management members of the factories, the company has good motivational package which are profit based annual salary increments and bonuses for all employees. This is important measure for the whole community of the company since it is based on total performances. But nothing differentiates the best performer from the good performer, and the good performer from the least performer. Sometimes collective motivational system may favor the least performers and demotivate the best performers. As the member of the company’s management and the interviewed group, the researcher also has sensed this feeling repeatedly. Because the stated motivational package considers attendances (not to be absent for more than one 30 days in the year) and performance evaluation score of 75% are sufficient conditions. This does not appreciate good performances.

### Secondary Data Analysis

To support the primary data analysis results, the researcher tried to assess secondary data that can be related with employees’ performances. The only available data that can be interpreted and evaluated regarding the different efforts made by the factories was the incentive paid and the corresponding quantity gained. And the data are taken from the past budget years’ records of the plants. As shown in table 4.19the factories gained some additional profits during the incentive periods.

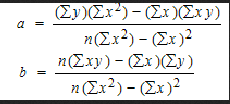
In the process of developing the relation of the incentive paid and the quantity produced from the secondary data, the researcher could not analyze some hidden facts that have to be considered during the interpretation of the relation. He tried to consider the quantity produced above the plan target in comparison with the incentive paid. This helps to manipulate the financial gain or loss the factories faced due to the incentive package. But it does not tell us the quantities that could have been produced if there were no incentive pays. Hence the developed equation helps to show only the direction of relation between incentive paid and quantity produced. The researcher believed that to find out the reasons of the observed differences in the magnitude of the relation (slope) between the incentive paid and quantity produced among the three factories is beyond the scope of this paper. Also the differences in the magnitude of the y-intercepts are not justified in this paper.

The equation of the straight line that showed the relation of incentive paid and quantity gained took the form:

**y = bx + a**.

Where “**Y”** is the quantity produced**. “X”** is the incentive paid, “**a”** the **y**-intercept, and “**b”** is the slop of the equation.

And both “**b**” and “**a**” for the equation could be obtained by the following equations (Chandan, Singh and Khanna, 1999):



|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table 4.19 Nefas Silk Plant Incentive Paid and Quantity Produced Comparison. | | | | | |
| Marginal additional quantity  (Y) | Incentive paid per additional quantity  (X) | Net selling price | X2 | Y2 | X\*Y |
|
|
|
|
| 41 | 5 | 15 | 1681 | 25 | 205 |
| 42 | 6 | 15 | 1764 | 36 | 252 |
| 38 | 5 | 15 | 1417 | 25 | 188 |
| 35 | 5 | 15 | 1225 | 25 | 175 |
| 36 | 4 | 15 | 1296 | 16 | 144 |
| 33 | 4 | 15 | 1089 | 16 | 132 |
| 31 | 3 | 15 | 961 | 9 | 93 |
| 34 | 5 | 14 | 1156 | 25 | 170 |
| 33 | 5 | 14 | 1089 | 25 | 165 |
| 37 | 4 | 14 | 1369 | 16 | 148 |
| 37 | 3 | 14 | 1369 | 9 | 111 |
| 32 | 4 | 14 | 1024 | 16 | 128 |
| 34 | 3 | 14 | 1156 | 9 | 102 |
| 31 | 3 | 14 | 961 | 9 | 93 |
| 28 | 2 | 14 | 784 | 4 | 56 |
| 31 | 3 | 13 | 961 | 9 | 93 |
| 34 | 4 | 13 | 1156 | 16 | 136 |
| 29 | 3 | 13 | 841 | 9 | 87 |
| 31 | 4 | 13 | 961 | 16 | 124 |
| 30 | 3 | 13 | 900 | 9 | 90 |
| 27 | 2 | 13 | 729 | 4 | 54 |
| 34 | 4 | 13 | 1156 | 16 | 136 |
| 26 | 3 | 13 | 676 | 9 | 78 |
| 22 | 2 | 12 | 484 | 4 | 44 |
| 26 | 3 | 12 | 676 | 9 | 78 |
| 27 | 2 | 12 | 729 | 4 | 54 |
| 24 | 2 | 12 | 576 | 4 | 48 |
| 26 | 3 | 12 | 676 | 9 | 78 |
| 27 | 3 | 12 | 729 | 9 | 81 |
| 32 | 4 | 12 | 1024 | 16 | 128 |
| 948 | 106 | 405 | 30615 | 408 | 3471 |

Source: Researcher’s own survey, 2015

From the above table, Σx = 948, Σy = 106, Σxy 3471, Σx2 = 30615,

Σy2 = 408. “n” is the sample size (30, in our case).

Replacing the values on the above equations we obtained, a=141, and b = 0.18 and the final equation had the form

**y = 0.18x + 141**

From the above equation we concluded that quantity produced graphed against incentive paid, the regression line of the resulting plot will have a slop of 0.18. And since the slop is positive the relation between incentive paid and quantity produced were positively related. This is to mean, as incentive paid increase the quantity produced will also increase by 0.18 amounts.

Similarly for Hawassa and Summit plants were calculated based on the their respective data and the following summary table was obtained.

|  |  |  |  |
| --- | --- | --- | --- |
| Table 4.20 Linear regression line equations of quantity gained and incentive paid | | | |
| Factory | Value of | | Regression Equation |
| **a** | **b** |
| Hawassa Plant | 490 | 0.70 | Y = 0.602X + 490 |
| Summit Plant | 213 | 0.29 | Y = 0.29X + 213 |
| Nefas Silk Plant | 141 | 0.53 | Y = 0.18X + 141 |

Source: Researcher’s own survey, 2015

As clearly shown in all cases the relation between quantity gained and incentive paid were positively related. Hence the company in general and the plants in particular were beneficiary in their incentive packages.

The researcher could not found any other secondary data that could be related with employees’ productivity and effort of the company. Specially, the researcher tried to get any data that was related with commission paid and quantity sold. Unfortunately it was not possible to get from any of the plants. And also the effects of other financial benefits granted to employees that are stated in the collective bargaining documents of all the three factories (yearly salary increments and bonus) could not be demonstrated through any measurable productivity parameters.

# CHAPTER FIVE

# SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Regarding the whole journey of the study this chapter contains the most critical issues that have been discussed, revealed, and argumentatively presented in the past chapters. Specially, the chapter discusses facts and realities based on the data obtained and the methodology employed in the study pertinent to the research question under the stated experimental conditions of the target organization. The findings and discussions might be specific to the study or they can also be generalized as facts if supported by other studies and theoretical discussions.

The first portion of the chapter focuses and relates the major findings of the study that have relevance to the research questions. Following the summary, the conclusion part states the explanations of the researcher based on the findings and interpretations relevant to the basic research question of the study. And finally the chapter contains the recommendation of the researcher based on the discussions and findings of the study.

## 5.1. Summary of Major Findings

Based on the analysis of the collected data the following major findings were presented.

* The reliability test conducted to check the dependability and consistency of the instrument showed, a Cronbach Alpha of **0.818**. This indicates the instrumentality of the employed data collection method is acceptable.
* The company’s system of compensation has the lowest effect on the current employees’ productivity as rated by the overall responses of employees.
* Most of the employees are satisfied with their working area. That means they believe that they are working in conducive environments. The working environments of manufacturing areas need some improvements as explained by the managements.
* Based on the average responses of employees on work-life balance most employees revealed that they have no adequate time for their personal life. This reality was witnessed also by the interview results of the management group.
* Most employees agreed that the company is in “good” stand regarding its internal and external business commitments in the competitive business environment.
* The respondent employees rated the overall management’s supervisory and leadership skill as “much competent” in supporting their productivity.
* The workforce competency as rated by employees was “good”. The management rated the overall capabilities of employees to be competent enough to have satisfactory performances.
* In overall what employees want and aspire to have about the working conditions of the factories is in line with what the management thinks. This is very helpful in creating mutually understood working environment.
* Pearson correlation test between the dependent variable employee productivity and the predictor variable “system of compensation” showed, an **(R=0.332), (P<0.01)**, where **H1** was accepted since there is a positive relation between the two although the degree is week.
* Pearson correlation test between the dependent variable employees’ productivity and the predictor variable “Supervisory and leadership competency” showed, an **(R=0.611), (P<0.01)**, where **H2** was accepted for their strong correlation result. Accordingly the factor that showed strong correlation with employees’ productivity under the existing business environments of the factories was “supervisory and leadership competency”.
* Pearson correlation test between the dependent variable employees’ productivity and the predictor variable “Work-life balance” indicated, an **(R=0.404), (P<0.01)**, where **H3** was accepted for their moderate association.
* Pearson correlation test between the dependent variable employees productivity and the predictor variable “Workforce factors” revealed, an **(R=0.470), (P<0.01)**, which enables the acceptance of **H4**for their moderate degree of correlation..
* Pearson correlation test between the dependent variable employees’ productivity and the predictor variable “Working environment” showed, an **(R=0.547), (P<0.01)**, where **H5** was accepted under moderate degree of association.
* Pearson correlation test between the dependent variable employees’ productivity and the predictor variable “Company’s commitment and loyalty” explained, an **(R=0.469), (P<0.01)**, where **H6** was accepted for moderate degree of correlation.
* Pearson correlation test between the dependent variable employees’ productivity and the predictor variable “Factors affecting productivity” in general showed, an **(R=0.741), (P<0.01)**, where **H7** was accepted for the exhibited strong associations between the factors and employees’ productivity.
* The normality test conducted on the data of the study showed the skewness values of the entire dependent and the independent variables are within the acceptable ranges of **+1**. In case of the kurtosis for two predictor variables (system of compensation and supervisory & leadership competency), the values were out of the normality ranges. Since the sample size was more than 30, by central limit theorem the statistical tests can assume normality for the test results. Hence normality assumptions are satisfied for the entire study.
* The linearity test conducted so far which considered employees’ productivity as a dependent variable denoted by **Y** and company’s commitment and loyalty, system of compensation, supervisory and leadership competency, Work-life balance, workforce factors, and working environment, as an independent variables denoted by**X1,X2,X3,X4,X5,X6** showed, a positively slopped least square regression line.
* The homoscedasticity test conducted so far showed relatively there is an equal variance across the each point of the test result and hence for the population.
* The Durbin Watson result of **1.720** indicated the existence of independent residuals or uncorrelated error terms assumptions among the test results.
* The multicollinearity assumption test result showed that, the pair-wise correlations between all the independent variables are well below the acceptable range of **0.80,** and the tolerance values of all are greater than the acceptable range of **0.10.**This indicates the predicting variables (factors) are more related with the dependent variable than among themselves.
* The model summary results showed that, a linear combination of all the independent variables (the factors) considered under the study predict**(R2=0.541),** of the variance in the dependent variable employees’ productivity. Indicating 54.1% of the variation in the employees’ productivity is accounted by these six factors.
* The ANOVA test result showed that, the value of **R** and **R2** obtained under the model summary part was statistically significant at **(F=65.913), (P<0.001).**
* The standardized beta coefficient of each independent variable showed, (company’s commitment and loyalty**=** 0.135, system of compensation = 0.106, supervisory and leadership competency = 0.304, Work-life balance = 0.196, workforce factors = 0.154 and working environment = 0.208). Showing that the employees’ productivity changes by the indicated amount as a result of one standard deviation change of each predicting variable.
* The unstandardized beta coefficient values for each independent variables showed, (company’s commitment and loyalty = 0.10, system of compensation = 0.062, supervisory and leadership competency = 0.257, Work-life balance = 0.145, workforce factors = 0.150 and working environment = 0.165)**.**This means for every one unit increase in the indicated predictor, there will be an increase for the outcome variable by the stated amount.

## Conclusions

This study has tried to find out the impact of different organizational factors on the employees’ productivity in beverage manufacturing sector more specifically in selected factories of Moha Soft Drinks Industry SC. And from the findings of this particular study, the researcher concluded that:

* From the descriptive analysis the employees rated the company as low paying firm and the overall system of compensation is not encouraging employees’ productivity.
* In overall the working environment of the company appreciates employees’ productivity with an average value of 3.79 which means “satisfactory” level. In this regard for a conducive working environment, contributed for the positive side of employees’ productivity.
* Due to the work load of the company employees can attend their personal and family affairs sometimes. That means most of the time they are attending extended working hours.
* The company’s commitment and loyalty was rated as “good” with average value of 3.79 which indicates the overall commitment of the company as a business organization favors employees’ productivity. But aggressive business environments may seek more commitment level to the degree of “excellent”.
* The supervisory and leadership competency was rated as “much” supportive with an average value of 3.99. It was the highest contributor for employee productivity. That means the current supervisory leadership competency of the management contributed highly for employees’ productivity.
* The workforce factors are rated as “good” supporters of employees’ productivity with an average value of 3.83 and it was ranked as the second production encouraging factor. This indicates that in relation to the employees’ productivity of the factories, the workforce factors are contributing to more production trend.
* In overall from the descriptive analyses results it can be said that the three factories of Moha are not at most productivity improving working situations considering the six factors that are expressed in 37 items. Because there are rooms for improvement at each case.
* The employees’ productivity of Moha Soft Drinks Industry Shared Company of operation departments is positively correlated with the response variable (factors that affect productivity) using Pearson correlation test and hence we conclude that for every unit increase in the factors (predictors), the productivity of employees increase.
* Since there was a significant positive relation between employees’ productivity (the response variable) and the stated six factors (predictors), the researcher concluded that, all the hypotheses presumed were well accepted.
* All assumptions (pre-stated requirements) of the multiple regressions which are normality, linearity, independence of residuals, homoscedasticity and multicollinearity were proven to valid under the present study.
* Based on the model summary of the multiple regressions we concluded that the stated six factors (company’s commitment and loyalty, system of compensation, supervisory and leadership competency, Work-life balance, workforce competency and working environment) have significant impact in explaining the variance in the dependent variable employees’ productivity in selected factories of Moha Soft Drinks Industries S.C. of operational departments.
* From the ANOVA test result, we concluded that, the **R** and **R2**of the linear combinations of factor that affect employees’ productivity was statistically significant in explaining the variance in the response variable employees’ productivity of operational departments in selected factories of Moha Soft Drinks Industries S.C.
* Based on the standardized Beta coefficient obtained in the analysis, we concluded that, among the factors considered in the study supervisory and leadership competency was the most important or contributor predictor of the response variable employee productivity in selected factories of Moha Soft Drinks Industries S.C. of operational departments. The other factors according to their order of importance (contribution) in determining the response variable were working environment, work-life balance, workforce competency, company’s commitment & loyalty, and system of compensation. As shown the least contributor to the positive variance in the response variable employees’ productivity was system of compensation.

## Recommendations

The current business opportunities are very volatile and operate under dynamic business environment that require developing undefeatable core competency. One of the instruments of building core competency which is also the most important one is having experienced productive expertise. For business organizations creating and keeping competent workforce might force them to invest huge amount of money because the central idea of core competency falls on employees and employed technology. Hence any company in competitive business environment should plan to exploit and keep its labor inputs at its maximum productive rate. Based on this general core competency business reality, the researcher forwarded the following recommendations evidencing the findings of the study.

* Creating more productive workforce is a means to have a product with the right quantity, at the right time at the right place with consistent quality. In this respect Moha Soft Drinks Industry S.C has to deal with the issues of employees’ productivity as highlighted in this study. Otherwise unsatisfied internal and external customers may look for other markets that may satisfy their need and these force the company to lose its market leadership position.
* Since the factors related to employees’ productivity are complicated and most of them are interrelated, the company should plan to identify the root causes of underperformances related to the factors and tackle strategically. The variations in employees’ productivity as a result of the stated factors are improvement potentials. Because these factors account for 54.1% variations in employees productivity.
* The behaviors of human beings are complex for that the strategy that is anticipated to guide the behavioral changes to the required direction should consider all possible elements (packages) of the target employees desire. This needs systematic assessment because it was witnessed by this study that employees’ responses for a particular item vary in both extreme ends. The incidences are adequate enough not to consider such responses are simple probabilistic happenings rather they appear to be intentional responses. Hence such behavioral paradoxes have to be considered in addressing the different factors based on the needs of employees.
* From the responses of employees and from the interview of the management group, it is clearly shown that, the employees could not have proper balance between their personal life and their work. And mostly they don’t get adequate time to address family responsibilities. Hence employees are within stress on their personal life. This is mainly due to continuous extended working hours. Most of the interviewed management group members agreed that continuous over time works have less employees’ productivity. Hence the company should follow effective planning system in order to reduce the extended long working hours which are less cost effective
* To facilitate more productivity in manufacturing area, the working environment needs improvement in some of the factories. This has been witnessed by both data collection instruments. Hence the company should further consider the issue and design facility improvements for factories like Nefas Silk.
* The burning issue for most of the employees as well as for the management group is that the salary and compensation system of the company. Most of them believe that the payment they are receiving is less adequate for their personal life, not appropriate compared to the tasks they are performing and payments of similar jobs in other organizations. Such feelings are destructive in building team sprits and company belongingness. These feelings also strongly affect the employees’ enthusiasm and the overall synergy of the company. Hence the company should afford reasonable salary and compensation system for its employees.
* Most employees responded that they are not having training opportunity related to their tasks and professional areas. Training is one of the recommended tools to increase employees working efficiencies and productivities. Hence the company should design training schedule in order to exploit more output from its inputs through expertise manipulations generated by continuous work related training programs.
* The management overall supervisory and leadership competency is the highest contributor for the positive change in employees’ productivity. Following poor performances and absenteeism, setting attainable goals, and proper work instruction are some of the good qualities of the management witnessed by the employees. Hence the company should strengthen such qualities of the management that contributed a lot for employees’ productivity.
* The company is also following transparent and fair policies regarding promotion, transfer and advancement. This is one of very important tools in bringing high company belongingness among employees. Hence the company should strengthen its transparent policies to enhance employees’ productivity.
* The company has to consider the remaining factors that are not addressed in this study which contributed for 45.9% of the changes for employees’ productivity. If the company does not consider these factors, its anticipation actions might not be complete in targeting effective employees’ productivity improvement efforts. Hence the company should identify such unaddressed factors and work on them in parallel with tackling the stated factors.
* Taking into consideration the paramount importance of securing employees’ performance and overall synergy of the company, much attention has to be given for employees’ productivity enhancement programs, especially in manufacturing and marketing operations. Building performance centered organizational culture and norm through formulating “employees-centered” strategy is one of the solutions that help to pave the way to such end. The company should anticipate and sponsor further studies and this study might be one of the inputs.

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# Appendices

## Appendix 1 - Questionnaire



**ST. MARY’S UNIVERSTY**

**SCHOOL OF GRADUATE STUDIES**

**MBA PROGRAM**

Dear Respondent!

This questionnaire is designed to assess the factors affecting the productivity of employees in MOHA Soft Drinks Industry Shared Company. The research output is mainly to fulfill the partial requirement of **Masters of Business Administration**. The information gathered will be used fully and with due attention for academic purpose only. I therefore, would like to assure you that the data collected will not be misused in anyway. Therefore, your genuine, honest, and prompt response is a valuable input for the quality and successful completion of the paper.

***General Instructions***

* There is no need of writing your name.
* You are not forced to fill this paper.
* Don’t hesitate to ask questions for clarification (If Any).

***Thank you in advance for your cooperation and timely response!***

:

**Part I: General Information**

***INSTRUCTION:*** Please put a tick mark (√ ) in the given box under the appropriate answer.

1. Gender Female Male
2. Age

18 – 24 25 – 30 31 – 40 41 – 50 51 – 60

1. Marital Status Single Married Separated
2. Number of children

None One Two Three Four Greater than four

1. Educational Background

1 – 8 9 – 12 College diploma Degree Masters’ degree

1. Work experience

1– 5 6 – 15 16 – 25 26 – 35 36 – 46

1. Your department

Production Technic QC and Food Safety Sales and Marketing

1. Your Plant/Factory

Hawassa Millennium Nefas Silk Teklehaimanot II

**PART II: Opinion Survey on Factors Affecting Labor Productivity**

1. **Some basic facts about labor productivity**

Consider your company’s overall commitment orientation towards encouraging employees’ productivity. To what extent do you agree or disagree with the following statements?

1= Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| № | Statements | 1 | 2 | 3 | 4 | 5 |
| 1 | Job related ability/competency contribute to better productivity of employees. |  |  |  |  |  |
| 2 | Better technology enhances labor productivity. |  |  |  |  |  |
| 3 | Job related training and experience favors more employee productivity. |  |  |  |  |  |
| 4 | Competitive business environment encourages better employee productivity. |  |  |  |  |  |
| 5 | Employees, morale or work motivation improves labor productivity. |  |  |  |  |  |

1. **System of Compensation**

Consider your salary and overall benefits the company afforded and answer the following questions based on the given options.

1= Far too low 2 = Too low 3 = Just low 4 = Too high 5 = Far too high

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| № | Statements | 1 | 2 | 3 | 4 | 5 |
| 1 | As compared to the tasks you are performing, how would you rate your salary? |  |  |  |  |  |
| 2 | Your salary compared with similar jobs you might find elsewhere. |  |  |  |  |  |
| 3 | How can you describe the contribution of your salary in improving your living standard and satisfying your basic needs? |  |  |  |  |  |
| 4 | The attractiveness of the compensation policy of the company compared to others. |  |  |  |  |  |
| 5 | The financial motivation system of the company in appreciation of productivity. |  |  |  |  |  |

1. **Working Environment**

Consider your company’s overall working environment in relation to the given consideration and put your level of satisfaction according to the given options.

1. Very dissatisfied 2. Dissatisfied 3. Neither 4. Satisfied 5. Very satisfied

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| № | Statements | 1 | 2 | 3 | 4 | 5 |
| 1 | Your degree of satisfaction on the work place with regard to its comfort level (heat, light, noise, ventilation). |  |  |  |  |  |
| 2 | Adequacy of working tools and safety equipment to do your job well. |  |  |  |  |  |
| 3 | The free space available to encourages better performance. |  |  |  |  |  |
| 4 | Your satisfaction level on the security measures taken by your company is? |  |  |  |  |  |

1. **Work/Life Balance**

Consider the company’s overall work load in relation to your personal life and family responsibilities. Put your level of freedom and work engagement according to the given options?

1= Never; 2= Rarely; 3=Sometimes; 4=Often; 5=Always

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| № | Statements | 1 | 2 | 3 | 4 | 5 |
| 1 | The organization provides a supportive balance between work and personal life. |  |  |  |  |  |
| 2 | How often you are able to satisfy both your job and family/personal responsibilities? |  |  |  |  |  |
| 3 | Your job causes unreasonable amount of stress on your life. |  |  |  |  |  |
| 4 | The amount of work you are asked to do is reasonable. |  |  |  |  |  |
| 5 | The pace of the work in the company enables you to do a good job. |  |  |  |  |  |

1. **Company’s Commitment and Loyalty**

Consider the company’s overall commitment and loyalty to business competitiveness sprit in the industry with regard to productivity enhancement factors. Put your evaluation according to the given options?

1= Very poor; 2 = Poor; 3 = Average; 4 = Good; 5 = Excellent

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| № | Statements | 1 | 2 | 3 | 4 | 5 |
| 1 | The follow up and action taking of the company on poor performance. |  |  |  |  |  |
| 2 | The training opportunity you are provided. |  |  |  |  |  |
| 3 | The transparency and fairness of the company’s policies for promotion and advancement. |  |  |  |  |  |
| 4 | The company’s responsiveness to external competitive business environment. |  |  |  |  |  |
| 5 | On time delivery of raw materials to support productivity. |  |  |  |  |  |

1. **Supervisory and Leadership Competency**

Consider the overall management and leadership qualities of the company and evaluate in its degree of supportiveness for employee productivity according to the given options.

1= Not at all; 2 = Not Much; 3 = Average; 4 = Much; 5 = Very Much

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| № | Statements | 1 | 2 | 3 | 4 | 5 |
| 1 | The management is setting attainable goals to enhance productivity. |  |  |  |  |  |
| 2 | The management is supportive in setting proper work schedule. |  |  |  |  |  |
| 3 | The management provides clear work instruction. |  |  |  |  |  |
| 4 | The management recognizes good performances. |  |  |  |  |  |
| 5 | The management strictly supervises and follows absenteeism. |  |  |  |  |  |
| 6 | Your immediate boss follows fair performance review to enhance productivity. |  |  |  |  |  |
| 7 | The management leads by example. |  |  |  |  |  |

1. **Workforce Factors**

Consider the following factors and evaluate the labor force according to the given options.

1 = Very Poor 2 = Poor 3 = Average 4 = Good 5 = Excellent

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| № | Statements | 1 | 2 | 3 | 4 | 5 |
| 1 | The overall labor force enthusiasm. |  |  |  |  |  |
| 2 | The competency of the labor force. |  |  |  |  |  |
| 3 | On time presence at the work place. |  |  |  |  |  |
| 4 | Effective communication skill of the labor force. |  |  |  |  |  |
| 5 | How do you rate the work force turnover in the factory. |  |  |  |  |  |
| 6 | Work relationship with co-workers. |  |  |  |  |  |

## Appendix -2 Amharic questionnaire

**¡õM ›”É: ›ÖnLÃ S[Í­‹**

***¾›VLM SS]Á­‹:*** uØÁo¨< ›”é` u}kSÖ¨< dØ” ¨<cØ UM¡ƒ uTÉ[Ó Ÿ}cÖ<ƒ ›T^à‹ ¨<eØ ƒ¡¡K—¨<” SMe ÃU[Ö<

1. ë c?ƒ ¨”É
2. ÉT@
3. 18 - 24 25 - 30 31 - 40 41 - 50 51 - 60
4. ¾Òw‰ G<’@ ÁLÑv/‹ ÁÑv/‹ ¾ð/‹

1. ¾MÐ‹ w³ƒ

U”U ›”É G<Kƒ Zeƒ ›^ƒ ›Ueƒ“ Ÿ³ uLÃ

1. ¾ƒUI`ƒ Å[Í

1 - 8 9 - 12 ¢K?Ï Ç=ýKAT Ç=Ó] Te}`e Ç=Ó]

1. ¾Y^ MUÉ

1 - 5 ›Sƒ 6 - 15 ›Sƒ 16 - 25 ›Sƒ 26 - 35 ›Sƒ

36 - 46 ›Sƒ

1. ¾T>W\uƒ ¾Y^ ¡õM

U`ƒ ‚¡’>¡ Ø^ƒ lØÖ`“ UÓw ÅI”’ƒ

ÑuÁ“ iÁß

1. ¾T>W\uƒ ów]"

Gªd T>K=’>¾U ów]" ”óe eM¡ ów]" cT>ƒ ów]"

**¡õM G<Kƒ : ¾c¨<yÃM U`T’ƒ“ }³TÏ S[Í­‹**

**G. SW[© ¾c¨<yÃM U`T’ƒ ¨<’­‹**

¾T>W\uƒ” õw]" ¾c¨< U`T’ƒ” Ÿõ KTÉ[Ó ÁÅ[Ñ ÁK¨<” ›ÖnLÃ G<’@­‹ Ó”³u? ¨<eØ uTeÑvƒ kØKA ¾}²[²\ƒ ›[õ} ’Ña‹ u}cÖ¨< ›T^à‹ ›”é` UM¡ƒ ÁÉ`Ñ'

1 , u×U ›MeTTU 2 , ›MeTTU 3 , ÑKM}— 4 , eTTKG<5 , u×U eTTKG<

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ተ.ቁ |  | 1 | 2 | 3 | 4 | 5 |
| 1 | ¾W^}—¨< ‹KA ¨Ã”U ¾Y^ wnƒ U`T’ƒ ÁÓ³M:: |  |  |  |  |  |
| 2 | ¾}hK ¾SX]Á ›Å`ÍËƒ ¾c¨<yÃM U`T’ƒ” Ÿõ ÁÅ`ÒM:: |  |  |  |  |  |
| 3 | ¾Y^ MUÉ“ }³TÏ’ƒ ÁK¨< eMÖ“ ¾c¨<yÃM U`T’ƒ” Ÿõ ÁÅ`ÒM:: |  |  |  |  |  |
| 4 | uY^ }¨ÇÇ]’ƒ S”ðe ¾}VL ¾Y^ ›"vu= ¾}hK ¾c¨<yÃM U`T’ƒ ¨<Ö?ƒ” KTeS´Ñw Ã[ÇM:: |  |  |  |  |  |
| 5 | ¾c^}™‹ ¾Y^ V^M ¨Ã”U S’nnƒ ¾c¨<yÃM U`T’ƒ” Ÿõ ÁÅ`ÒM:: |  |  |  |  |  |

**K. ¾¡õÁ“ ¾T’nmÁ S”ÑÊ‹**

¾T>ŸðM­ƒ” ÅV´“ M¿ M¿ ØpTØpV‹” Ó”³u? ¨<eØ uTeÑvƒ ¾T>Ÿ}K<ƒ” Hdx‹ uT>eTS<uƒ” u[Í u}cÖ¨< T’éç]Á UM¡ƒ ÁÉ`Ñ<&

1 , ÏÓ u×U ´p}— 2 , u×U »p}— 3 , ´p ÁK 4 , u×U Ÿõ}— 5 , ÏÓ u×U Ÿõ ÁK

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ተ.ቁ |  | 1 | 2 | 3 | 4 | 5 |
| 1 | ŸT>ÁŸ“¨<’<ƒ ¾Y^ }Óv` ›”é` ¾T>ŸðM­ƒ ÅV´' |  |  |  |  |  |
| 2 | É`Ï~ ¾T>ŸõM­ƒ ÅV´ u}SddÃ ¾Y^ Å[Í K?L É`Ïê ŸT>ŸðK¨< ¡õÁ ›”é`' |  |  |  |  |  |
| 3 | ¾T>ŸðM­ƒ ÅV´ ¾`e­”“ ¾u?}cw­” ¾’<a Å[Í KThhM ÁK¨< ›e}ªê\*' |  |  |  |  |  |
| 4 | ŸK?KA‹ É`Ï„‹ ›”é` É`Ï~ KW^}™‹ Ák[u¨< M¿ M¿ ¾T""h ¡õÁ­‹' |  |  |  |  |  |
| 5 | ¾c¨<yÃM U`T’ƒ” KTÔMuƒ uTcw É`Ï~ KW^}™‹ ¾T>cÖ¨< Ñ”²w ’¡ Tu[‰­‹' |  |  |  |  |  |

(Creech)(Creech S. , 2003)**N. ¾Y^ ›"vu= U‡’ƒ**

›ÖnLÃ ¾Y^ ›"vu=­ƒ” ŸT>Ÿ}K<ƒ ’Øx‹ ›”é` }SM¡}¨< uGdx‡ LÃ ÁK­ƒ” eUU’ƒ ÃÓKè&

1 , u×U ›M["G<U 2 , ›M["G<U 3 , ÑKM}— ’˜4 , [¡‰MG<5 , u×U [Ÿ[‰MG<

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ተ.ቁ |  | 1 | 2 | 3 | 4 | 5 |
| 1 | ŸS<kƒ ' w`H” & ÉUê “ ¾›¾` ´¨<¨<` ›’é` ue^ x­ƒ ›"vu= ÁK¨< }Sˆ’ƒ ›eSM¡„' |  |  |  |  |  |
| 2 | ¾Y^“ ¾ÅI”’ƒ Sd]Á­‹” ›p`xƒ u}SKŸ}' |  |  |  |  |  |
| 3 | U`T’ƒ” KTu[ƒ uT>W\uƒ ›"vu= ÁK¨< ’é S”kdkh eõ^” u}SKŸ}' |  |  |  |  |  |
| 4 | ¾Y^ LÃ ›ÅÒ” KSŸLŸM É`Ï~ ¾¨cÅ vK¨<`UÍ” u}SKŸ}' |  |  |  |  |  |

**S. ¾Y^“ ¾ÓM IÃ­ƒ T>³“©’ƒ**

¾Y^ Ý“ uÓM“ uu?}cw­ yLò’ƒ LÃ ÁdÅ[w­ƒ” ተጽኖበተመለከተ

1 ,uß^i 2 , u×U ›Mö ›Mö 3 , ›”Ç’É Ñ>²? 4 , ›w³—¨<” Ñ>²? 5 , G<MÑ>²?

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ተ.ቁ |  | 1 | 2 | 3 | 4 | 5 |
| 1 | É`Ï~ ¾Y^“ ¾ÓM IÃ¨ƒ T>³”” KSÖup um Ñ³ ÁÅ`ÒM |  |  |  |  |  |
| 2 | U” ÁIM Ñ>²? ¾Y^“ ¾ÓM I­ƒ­” yLòK„‹ uÒ^ KS¨×ƒ ‹KªM' |  |  |  |  |  |
| 3 | ¾Y^ yKò’ƒ­ ›LeðLÑ> Ý“ uÓM IÃ­ƒ­ LÃ ÁdÅ[ ÃÑ—M' |  |  |  |  |  |
| 4 | ”Ç=W\ƒ ¾T>Ö¾lƒ ¾Y^ SÖ” uÓM I­ƒ­ LÃ Ý“ ÁdÅ[ ’¨<' |  |  |  |  |  |
| 5 | uÉ`Ï~ Y^ ¾}W^uƒ ÁKuƒ õØ’ƒ Ø\ ¾Y^ ¨<Ö?ƒ” ”Ç=ÁeS²Óu< [É„­M' |  |  |  |  |  |

**W. ¾É`Ï~ l`Ö˜’ƒ“ T˜’ƒ**

¾É`Ï~” ›ÖnLÃ l`Ö˜’ƒ“ uÑuÁ ¨<eØ ÁK¨<” ¾}¨ÇÇ]’ƒ S”ðe” Ó”³u? ¨<eØ uTeÑvƒ kØKA u}Ökc<ƒ Hdx‹ ›”é` ¾T>eTS<uƒ” ÃU[Ö<&

1 , u×U Å"T 2 ,Å"T 3 , S"ŸK— 4 , Ø\ 5 , ÏÓ u×U Ø\

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ተ.ቁ |  | 1 | 2 | 3 | 4 | 5 |
| 1 | uÅ"T ¾Y^ ›ðéçU LÃ É`Ï~ ÁK¨< ¡ƒƒM“ `UÍ ›¨dcÉ' |  |  |  |  |  |
| 2 | ¾Y^ wnƒ­” KThhM ÁÑ–<ƒ ¾eMÖ“ ÉM' |  |  |  |  |  |
| 3 | KÉÑƒ“ ´¨<¨<` É`Ï~ ¾T>Ÿ}K¨< þK=c= õƒH©’ƒ“ ÓMê’ƒ' |  |  |  |  |  |
| 4 | K¨<Ý©¨< ¾ÑuÁ õLÔƒ“ ñ¡¡` É`Ï~ ¾T>cÖ¨< ð×” SMe' |  |  |  |  |  |
| 5 | U`T’ƒ” Ÿõ KTÉ[Ó ¾U`ƒ Ów›„‹” u¨p~ ¾Tp[w wnƒ' |  |  |  |  |  |

**[. ¾¡¡ƒƒM“ ¾SU^ƒ wnƒ**

¾É`Ï~” e^ ›S^` ›ÖnLÃ ¾SU^ƒ“ ¾Te}vu` ›pU” Ó”³u? ¨<eØ uTeÑvƒ KW^}™‹ U`T’ƒ ¾T>cÖ¨<” ÉÒõ kØKA u}kSÖ¨< Seð`ƒ Sc[ƒ ¾T>eTS<uƒ” ÃU[Ö<&

1 , U”U ›Ã’ƒ ÉÒõ ›ÃcØU 2 , w²<U ÉÒõ ›ÃcØU 3 , ÉÒõ cß’~ S"ŸK— ’¨< 4 , u×U ÅÒò ’¨<5 , ÏÓ u×U ÃÅÓóM

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ተ.ቁ |  | 1 | 2 | 3 | 4 | 5 |
| 1 | U`T’ƒ” KTÑ´ ¾É`Ï~ Y^ ›S^` K=}Ñu` ¾T>‹M Ów” ÁpÇM' |  |  |  |  |  |
| 2 | ¾É`Ï~ Y^ ›S^` }Ñu=¨<” ¾Y^ pÉ uT¨<×ƒ U`T’ƒ” ÁÓ³M |  |  |  |  |  |
| 3 | ¾É`Ï~ Y^ ›S^` ÓMê ¾J’ ¾Y^ SS]Á” Ãc×M' |  |  |  |  |  |
| 4 | ¾É`Ï~ Y^ ›S^` SM"U ¾Y^ ›ðéçV‹” ¨<p“ uSeÖƒ Áu[M' |  |  |  |  |  |
| 5 | ¾É`Ï~ Y^ ›S^` ŸY^ Sp[ƒ” uØwp ÃŸ}LM' |  |  |  |  |  |
| 6 | U`T’ƒ” KTu[ƒ ¾p`w ›Kn­ƒ ÓMê“ õƒH© ¾J’ ¾Y^ ›ðéçU ÓUÑT Á"H>ÇK<' |  |  |  |  |  |
| 7 | ¾É`Ï~ Y^ ›S^` W^}™‡” W`„ uTd¾ƒ (›`›Á uSJ”) U`T’ƒ” ÁÓ³M' |  |  |  |  |  |

**c. ¾Y^ Ów[HÃM SS²—­‹**

kØKA ¾}SKŸ~ƒ” SS²—­‹ uSÖkU ¾W^}—¨<” ›ÖnLÃ ¾Y^ wnƒ“ õLÔƒ ÃS´’<'

1 , u×U Å"T 2 , Å"T 3 , S"ŸK— 4 , Ø\ 5 , ÏÓ u×U Ø\

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ተ.ቁ |  | 1 | 2 | 3 | 4 | 5 |
| 1 | W^—¨< ›ÖnLÃ KY^ ÁK¨< õLÔƒ“ }’di’ƒ' |  |  |  |  |  |
| 2 | ¾W^}—¨< ¾Y^ ‹KA“ wnƒ' |  |  |  |  |  |
| 3 | ¾W^}–¨< uY^ Ñu¨< LÃ uc›~ SÑ–ƒ' |  |  |  |  |  |
| 4 | ¾W^}–¨< S[Í ¾SKª¨Ø ‹KA“ wnƒ' |  |  |  |  |  |
| 5 | W^}–¨< ¾É`Ï~” Y^ LKSMkp ÁK¨< ´”vK?' |  |  |  |  |  |
| 6 | ¾W^}—¨< ›ÖnLÃ ¾`e u`e ¾Y^ Ó’<˜’ƒ |  |  |  |  |  |

## Appendix -3 Semi-structured questionnaires

INTERVIEW QUESTIONS

These interview questions are designed to assess the factors affecting the productivity of employees in MOHA Soft Drinks Industry Shared Company. The research output is mainly to fulfill the partial requirement of **Masters of Business Administration**. The information gathered will be used fully and with due attention for academic purpose only. I therefore, would like to assure you that the data collected will not be misused in anyway. Therefore, your genuine, honest, and prompt response is a valuable input for the quality and successful completion of the paper.

Factory\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Department\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Position\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. How do you measure labor/employee productivity in your department?
2. How frequently do you measure labor/employee productivity in the department

Daily\_\_\_\_\_ Weekly\_\_\_\_\_ Monthly\_\_\_\_\_ Semi-annually\_\_\_\_\_ Annually\_\_\_\_\_\_\_

1. What are the factors that majorly affect the productivity of employees in your department?
2. How do you rate the performances of employees in your department in achieving their daily goals?

Poor\_\_\_\_\_\_\_\_\_\_Good\_\_\_\_\_\_\_\_\_\_\_VeryGood\_\_\_\_\_\_\_\_\_\_\_Excellent\_\_\_\_\_\_\_\_\_\_\_\_

1. In relation to employees’ productivity, do you think that the department is performing well as per the strategic direction of the company?
2. Regarding the factors influencing employee productivity, what measure should be taken to improve the performances of employees to better productivity standards?
3. Comparing your department and other operational departments (production, QC and Food Safety, Technical, Sales and Marketing) do you think that there are factors that contributed more in affecting the productivity of employees the department?
4. Does your department have performance based motivational package?
5. Does your department have plan for developing labor productivity?
6. If yes, what are the actions or strategies included in the plan?
7. If No, what problem forced you not to plan or it is not considered as important issue