MBA Thesis

Factors Affecting Organizational Production Performances:

The Case of National Tobacco Enterprise (Ethiopia) S.C.

By

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JUNE, 2020

ADDIS ABABA, ETHIOPIA

FACTORS AFFECTING ORGANIZATIONAL PRODUCTION PERFORMANCE: THE CASE OF NATIONAL TOBACCO ENTERPRISE (ETH.) S.C.

BY

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A THESIS SUBMITTED TO ST.MARY'S UNIVERSITY, SCHOOL OF THE GRADUATE STUDIES IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION (MBA)

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Declaration

I the undersigned declare that this thesis is my original work; prepared under the guidance of my advisor Dr. Maru Shete. All source of material 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 institutions for the purpose of earning any degree.

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Endorsement

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

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Acronym

S.C.**:**	Share Company
HRM:	Human Resource Management
NTE:	National Tobacco Enterprise
Eth.:	Ethiopia
QMS:	Quality Management System
ISO:	International Standard Organization
AACCSA:	Addis Ababa Chamber of Commerce and Sectoral Association
DAB- DRT:	DAB-Development Research and Training
GDP:	Gross Domestic Product
OMP:	Overall Manufacturing Performance
OEE:	Overall Equipment Effectiveness
SMART:	Specific, Measurable, Agreed Upon, Realistic and Time-based.
RCA:	Root Cause Analysis
CED:	Cause-and-Effect Diagram
ID:	Interrelationship Diagram
CRT:	Current Reality Tree
DOE:	Design of Experiments
SPS:	Statistical Process Control
SPSS:	Statistical Package for Social Sciences
IMS:	Inputs and Spare parts
SMP:	Skilled Man Power
TD:	Training and Development
IFC:	Information Flow/Communication
IT:	Information Technology
CTL:	Capital
TCL:	Technology Level
ECT:	Employees Commitment
MLS:	Managerial Skill
PPF:	Production Performance
ANOVA:	Analysis Of Variance

Abstract

The purpose of this study was to find out the factors affecting Organizational production performance in the case of National Tobacco Enterprise (Ethiopia) S.C. Explanatory design was implemented in order to make inference and come up with sound conclusion. Besides, using random sampling method 95 production technicians and production associates were included in the study. Accordingly, questionnaires were distributed for all of them. Additionally, nine interviews were held with operation managers, shift managers and maintenance managers in order to triangulate data from questionnaire. Furthermore, the quantitative data gathered through questionnaire was analysed and interpreted using appropriate statistical tool like multiple regression. In addition, the data gathered through interview was analysed qualitatively. The findings of data analysis revealed that inputs and spare parts, skilled manpower, training and development, capital, technology level, employees' commitment, and managerial skill were determinants and significantly affected production performance in National Tobacco Enterprise (Ethiopia) S.C.The overall prediction power of the model was 57%,revealing the need to include more variables in future studies.

Thus, it is recommended that, stakeholders and concerned bodies of National tobacco Enterprise (Ethiopia) should focus on improving those factors in order to maximize the production of the firm.

Key words: Production Performance, regression, determinants, National Tobacco Enterprise (Ethiopia) S.C.

CHAPTER ONE

INTRODUCTION

1.1 Back ground of the study

Organizations have an important role in our daily lives and therefore, successful organizations represent a key ingredient for developing nations. Thus, many economists consider organizations and institutions similar to an engine in determining the economic, social and political progress. (Corina Gavera, Liviu Ilies and Roxana Stegerean, 2011) Precisely for this reason, in the last 22 years, there were 6 Nobel prizes awarded to researchers who have focused on the analysis of organizations and institutions. Continuous performance is the focus of any organization because only through performance organizations are able to grow and progress. Thus, organizational performance is one of the most important variables in the management research and arguably the most important indicator of the organizational performance. Although the concept of organizational performance is very common in the academic literature, its definition is difficult because of its many meanings. For this reason, there isn't a universally accepted definition of this concept.

The years 80s and 90s were marked by the realization that the identification of organizational objectives is more complex than initially considered. Managers began to understand that an organization is successful if it accomplishes its goals (effectiveness) using a minimum of resources (efficiency). Thus, organizational theories that followed supported the idea of an organization that achieves its performance objectives based on the constraints imposed by the limited resources (Lusthaus & Adrien, 1998). As it is well known, one of the most important components of for the organizational performance is its ability in accomplishing the production itself.

Thus, Competitive pressures in the global manufacturing environment are forcing manufacturing organizations to re-engineer in order to become more competitive in the marketplace. Toward that end, management of these organizations is paying closer attention to the changing nature of manufacturing performance, and the systems, processes and measures used in its evaluation. (Carlos F. Gomes, Mahmoud M. Yasin & João V. Lisboa, 2004).

Rapid and cost-effective scalability of the throughput of manufacturing systems is an invaluable feature for the management of manufacturing enterprises. System design for scalability allows the enterprise to build a manufacturing system to supply the current demand, and upgrade its throughput in the future, in a cost-effective manner, to meet possible higher market demand in a timely manner; to possess this capability, the manufacturing system must be designed at the outset for future expansions in its throughput to enable growths in supply exactly when needed by the market. (YoramKoren, Wencai Wang and Xi GU, 2017)

The surge of globalization in the late 1990s created a fierce competition that is causing abrupt variations in product demand, which makes it harder for manufacturing enterprises to predict the future demand for new products (Koren, 2010). Prior to the mid-1990s, high-volume manufacturers, such as automakers, enjoyed stable markets with long product lifetimes, in which products were manufactured using fixed transfer lines (Dolgui et al., 2005). By contrast, manufacturing companies in the twenty-first century are facing increasingly frequent and unpredictable market changes, including rapid introduction of new products, and frequently varying product demand.

Usually, manufacturing systems are designed with a specific capacity to fulfil a forecasted demand (Tang et al., 2004). The designers of manufacturing systems face a tough dilemma regarding the capacity of new manufacturing systems: If the new system is designed to produce a smaller throughput than the market will require in the future, tremendous financial loss in losing market share will take place. And if the new manufacturing system is designed to produce a larger throughput than the actual market will need in the future, then the system will be partially idle, which means a considerable loss in capital investment – purchasing, installing and maintaining machines that are not operating. In some cases, even if there are periods in which the system is operated at full capacity, these periods are short compared to the system's entire life cycle (DeGarmo, Black, and Kohser, 1998).

In addition to responding the management of the scalability in production performance, we should strive highly also among other factors in managing and take the advantage of the training and development of the organizations human resource in efficient and effective manner.

There is no doubt that organizations worldwide are striving for success and out-competing those in the same industry. In order to do so, organizations have to obtain and utilize their human resources effectively. Organizations need to be aware of face more realistically towards keeping their human resources up-to-date. In so doing, managers need to pay special attention to all the core functions of human resource management as this plays an important role in different organizational, social and economically related areas among others that are influential to the attainment of the organizational goals and thus organizations successful continuation in the market. (Aidah Nassazi, 2013). And therefore, this research also examines the relation of the employee training in their production performances in NTE.

Organizations are facing increased competition due to globalization, changes in technology, political and economic environments (Evans, Pucik & Barsoux, 2002) and therefore prompting these organizations to train their employees as one of the ways to prepare them to adjust to the increases above and thus enhance their performance. It is important to not ignore the prevailing evidence on growth of knowledge in the business corporate world in the last decade. This growth has not only been brought about by improvements in technology nor a combination of factors of production but increased efforts towards development of organizational human resources. It is therefore, in every organizations responsibility to enhance the job performance of the employees and certainly implementation of training and development is one of the major steps that most companies need to achieve this. As is evident that employees are a crucial resource, it is important to optimize the contribution of employees to the company aims and goals as a means of sustaining effective performance. This therefore calls for managers to ensure an adequate supply of staff that is technically and socially competent and capable of career development into specialist departments or management positions (Sultana et al., 2012)

The question that may arise in many instances is why human resources are important. Bearing in mind that human resources are the intellectual property of the firm, employees prove to be a good source of gaining competitive advantage (Houger, 2006), and training is the only way of developing organizational intellectual property through building employees competencies, in order to succeed. Organizations have to obtain and utilize human resources effectively. Organizations, therefore, need to design its human resource management in ways that fit into the organization’s structure as this it will make the organizations achieve their goals and objectives.

Moreover, it is also important for organizations to assist their workforce in obtaining the necessary skills needed and increase commitment. (Kaneez F. Mamdani & Safia Minhaj, 2016).

Moreover, the fate of an organization is usually determined by its employees so it sounds logical to understand how employees can be motivated. As far as the employee's motivation is concerned, employee motivational incentive programs have been found to be the most commonly adopted technique among organizations. The purpose of the program is to reward productive performance, reinforce positive behaviour and stir interest in employee performance and how it could be enhanced is central to the concern of industries and organizations, therefore many organizational scientists, are very much interested indifferent schemes and techniques related to performance and its growth incentives are one of those techniques used in Workplaces to stimulate employees in order to get desired performance.

In fact the whole thrust of incentive plans is to build the sort of highly trained, empowered, self-governing and flexible work force that companies today need as a competitive advantage. Employees desire appreciation and other monetary and non-monetary incentives in exchange for a job done well. This trend is becoming more popular as businesses explore ways to motivate employees. In any organization, workers need something to keep them at work. Most of the times the salary of the employee works as a stimulus; though to keep him or her working constantly for an organization other incentive packages and programs are also necessary. An employee must be motivated to work for a company, if not then that employee's quality of work, or all work in general will deteriorate so it is necessary and compulsory need of today's competitive era to provide different desired incentives and benefits to employees to keep their goal- directed performance on track. (Kaneez F. Mamdani & Safia Minhaj, 2016).

Hence, in this research, it is going to be assessed and indicate the major factors that influence in the case of National Tobacco Enterprise (Ethiopia) S.C. Organizational Production Performance and how these are compatible with the findings of literature.

1.2 Background of the organization

Source: (NTE Corporate affairs & Communications Directory)

The National Tobacco Enterprise (Ethiopia) Share Company (NTE (Eth.) S.C.)Was established in 1942 as Imperial Ethiopian Tobacco Monopoly by the Tobacco Regie Act No.30, 2nd year

Negarit Gazetta No. 2/1935.During that period, the company was managed by Board of Directors, where this was led by Finance Minister of the Country. Several minor adjustments of management were done until 1981 when relatively was taken major change by recognizing the Company as "National Tobacco and Matches Corporation" by proclamation No. 1971/1981 under the supervision of the Ministry of Industry. In 1992, the Company name was changed again to "National Tobacco Enterprise" by proclamation No. 37/1992 with the exclusive right to produce, process, manufacture, distribute, import and export tobacco and tobacco products. During this period, the Enterprise was managed by a Management Board under the direct supervision of the public Enterprises Supervising Authority.

At that time, the initial Share capital of the Company was Birr 250,000,000.00 that was fully subscribed and paid up by the government at the time of formation. Following the Share company participation of private investors, 77.85% of the total paid up share capital has been maintained by the government while the remaining 22.15 are owned by private foreign shareholders. Through time, with the sales of shares to private investors, the ownership structure of the Company changed to 70% private shareholders and 30% government, and finally as of December 21/2017 the remaining government share (30%)was sold to privates and currently the company is totally owned by Private Investors. The current registered capital of the Company is Ethiopian Birr 784,692,000.00

NTE (Eth.) S.C is functioning in two sub-sectors: Tobacco planting & Tobacco processing and Cigarette manufacturing. The business purpose of the company are to grow and process tobacco, manufacture, import, export, distribute, sell and purchase tobacco and tobacco products including but not limited cigars, cigarillos and pipe and water pipe tobaccos, producing matches and manufacturing paper for the preparation of cigarettes. And also to carry on any other activities necessary for the successful achievement of the above mentioned purposes of the company.

The Company is operating under corporate governance which has four major organs: General Meeting of Shareholders, Board of Directors, General Manager and Auditor. NTE (Eth.) S.C has been organized under two core functions (Supply Chain and Marketing &sales) where there are 6 Directors and 35 line managers and support activities respectively. The company has five Tobacco development farms in Robi, Billatie, Hawassa, Wonji and Wolaita covering 1,521 hectares. NTE (Eth.) S.C currently produces five brands namely: Nyala, Gisilla, Elleni, Delight

and Nyala Premium. The annual designed production capacity of the company was about 4 billion pieces and it is now reached 6 billion after completion of the installation of new machine and start of full production scale in January 2015; where NTE (Eth.) S.C meets about 65% of national annual cigarette demand.

NTE (Eth.) S.C is certified company in QMS, ISO 9001-2008 since March 2014, which is audited every year and checked to be recertified every three years.NTE (Eth.) S.C supply the national market with five local brands and two imported brands (i.e. Variants of Winston Red and Blue). And as of December 31, 2018 NTE has employed 912 permanent, 284 contract and 3,700 daily labourers. Among the permanent employees 128 are professional; 147 are semi-professional and 266 have vocational certificates. Currently, due-to the need of the Addis Ababa city Administration, NTE (Eth.) S.C is planning to move its factory site from where it is now (residential area) to industry zone in 2 to 3 years, where this project costs about1.6 billion Ethiopian Birr.

1.3 Statement of the problem

The manufacturing scene has experienced rapid changes over the last two decades and this has driven manufacturing firms to respond to uncertainty more rapidly. Thus, emerging of world class competitors in domestic and international business require manufacturing firm to revamp their processes to fulfil market needs.(Jennifer N. Kariithi & Dr. Allan Kihara,2017) Therefore, fundamental goal of manufacturing firm's corporate and functional level strategies is the development of sustainable competitive advantage (Hitt,Hoskisson & Ireland, 2007).

Productivity is one of the most widely used tools for evaluating, monitoring, and improving the performance of industries and national economies. At an organizational level, productivity measures how well an organization converts input resources (labor, materials, machines, etc.) into goods and services. A decline in productivity will result in an increase in costs and therefore deterioration in the competitive position of an organization. On the other hand, an improvement in productivity can lead to a decrease in the costs and duration of production, an improvement in quality, and therefore a growth in market share (Bashir et al, 2014)

Manufacturing enterprises can face obstacles that make productivity improvement efforts ineffective or even prevent improvement operations. In an investigation done of the internal

obstacles restraining productivity improvement programs in the manufacturing enterprises of developing countries, particularly in the case study of Oman, where the data required were collected through questionnaires for 51 Production and Operation Managers,15 factors were applied for the study analysis and from these only three were identified as major obstacles restraining the productivity improvement programs in Oman Manufacturing enterprises; and these in order of importance were: poor management practices, employee job dissatisfaction, and poor HRM practices (Bashir et al, 2014)

According to AACCSA & DAB-DRT Manufacturing Survey Analysis (2014) studies, the Ethiopian manufacturing establishments counts 2610 entites,where it is divided in to eight sub sectors and from this the top two manufacturing sub sectors; food and beverage and metal and engineering industries account for 51% of the sector's GDP. The performance of the sector has been affected by low productivity of workers and use of obsolete technologies which is attributed to the poor state of physical infrastructure, limited access to finance, limited research and development, poor institutional framework, and inadequate managerial technical skills.

In regard of National Tobacco Enterprise (Ethiopia) S.C; as per the company records, despite continual growth of production volume except for the year 2012, the actual production performance of the last 10 years (2009-2018) was continually lesser than each year target plan of production (Appendix C; Table 1.1) and no one has questioned or studied formally why the actual production volume is always lesser than the target plan. Therefore, the rational to conduct this research was to examine and identify main factors, which affected the production performance in the case company and forward practical recommendations to the management staffs and others concerned expertise.

1.4 Objective of the research

1.4.1 General Objective

The general objective of this research is to identify factors for critical and recurrent problems of the production performance and recommend possible solutions in the case of National Tobacco Enterprise (Ethiopia) S.C.

1.4.2 Specific Objective

The specific objectives are:

- To identify inputs and spare parts related factors associated with failure to meet production volume plan.
- To examine human resource related factors that affect NTE production performance.
- To analyse managerial skill related factors that affect production performance of NTE

1.4.3 Research questions

What are the major factors /issues that are detaining the required production volume from meeting the planned production target for consecutive years?

What is the current practice toward meeting the targeted production plan of the case company?

What should be done to minimize the challenges of production performances?

1.5 Hypothesis of the research:

H1: The production performance is expected to be affected by the shortage of in-put materials and spare parts

H2: The production performance is expected to be affected due to lack of skilled manpower

H3: The production Performance is expected to be affected due to training and development issues

H4: The production performance is expected to be affected by the Information/ communication problems.

H5: The production performance is expected to be affected by Capital problems

H6: The production performance is expected to be affected by technology level

H7: The production performance is expected to be affected by employee`s commitment

H8: The production performance is expected to be affected by Managerial skill issues.

1.6. Significance of the study

This study is expected to reveal why recurrent problems appear and what are the main sources of the same in organizational production performances; mainly, which has monopoly right that sourced from the government. It is so obvious that any profit based Organization is performing

to improve every time its performance and satisfies its customers, employees, shareholders and in general all its stakeholders. Therefore, the outcome of an assessment and examination of the NTE (Eth.) S.C. Organizational Production Performance influencing factors will benefit a lot the company itself, researchers, practitioners, affiliated institutes and more of similar organizations.

1.7 Scope and limitation of the Study

This research activity covers the National Tobacco Enterprise (Ethiopia) S.C.Head office that means the production of different cigarette brands, production performances assessment along with repetitive problems that affect practically all budget years recurrently; which embraces from the year 2009 to 2018. It also spans in the identification of the very important sources of the recurrent problems, which affect the organizational production performance variables, which has been studied on how they are so influential on same.

As the research emphasises on finding factors, which affects the organizational production performances, this has been examined thoroughly the major issues related to training and development, skilled man power, employees commitment/ motivation, availability of input materials and spare parts, information accesses, technology levels, management skill gaps etc.; and their sources of shortcoming. The study will not cover the branch tobacco farm effect related to the production of the head office cigarettes production performances due-to time limitation and others surrounding inconvenient issues. And also Head office employees who had less than two years' experience, which are supposed to have not enough experience.

1.8 Organization of the Study

In regard of the paper organization, up to now we have seen Chapter one and from here now the paper has four chapters; where the second chapter includes literature review of the related literature and empirical ones collected from various sources. Chapter three deals about the research design and methodology; it includes data types and sources, target population, sampling techniques, sample procedure, inclusion and exclusion of criterias, data analysis and presentation, reliability and validity and lastly the ethical consideration. Chapter four discussed all about the data analysis, findings and interpretation parts of the study. Finally chapter five presents the summary, conclusions and recommendations of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 The Concept of Organizational Performance

Measuring organizational manufacturing performances and assessing of the same is not something easy to do any time as if picking predefined methods or any procedures. Various approaches, most of them with a large number of measures on different hierarchical levels, exist. Many of the measures used are considered obsolete and inconsistent for various reasons. The usefulness of most cost accounting systems, individual measures as well as more comprehensive activity-based costing systems, are frequently questioned since they do not cover manufacturing performances relative to the competitive capabilities (e.g. Dixonet al., 1990, White, 1996). Another serious problem with most performance measurement systems used in firms is that they often include too many different measures, which makes it difficult to understand the "big picture" (Keegan et al., 1989). Integration between measures is often problematic, and many papers have emphasised that firms have no effective system that covers all necessary performance dimensions (e.g. Caplice and Sheffi, 1995; Ghalayini and Noble, 1996; Maskell, 1991; Schmenner and Vollmann, 1994; Srikanth and Robertson, 1995).Showed in an empirical study that most studied companies needed seriously to consider changing their performance measurements. They argued that most firms were both using wrong measures and failing to use the right measures in correct ways. This is serious and it therefore seems important to identify the critical dimensions in a performance measurement system (what to measure) and the optimum characteristics of the measures (how to measure). Measurement systems could then be evaluated and improved with the dimensions and characteristics as comparative datum. Evaluation of the existing system against the identified set of dimensions and characteristics is the first step toward a more comprehensive and effective approach for measuring Overall Manufacturing Performance (OMP). The second step is to suggest improvements of the existing performance measurement systems. It has been identified that a large proportion of the total costs of production can be attributed to production losses and other indirect and "hidden" costs (Ericsson, 1997). The overall equipment effectiveness (OEE) measure attempts to reveal these hidden costs (Nakajima, 1988) and when the measure is applied by autonomous small groups on

the shop floor together with quality control tools it is an important complement to the traditional top down oriented performance measurement systems.

2.1.1 Dimensions and characteristics of OMP measurement

The performance measurement system may be used for top management control or continuous shop-floor improvement. It may be compared against internal targets or external benchmarks. No matter what the objective of the system or use of the performance information, a complete OMP measurement system needs to be comprehensive and cover the most critical performance dimensions of the organisation.

We first review previous efforts to define the requirements of a good OMP system. (Ghalayini and Noble, 1996) asserted that to overcome the previous limitations of performance measurement systems new systems should be dynamic, stress the importance of time as a strategic performance measure and link the areas of performance and performance measurement to the factory shop-floor. (Maskell, 1991) stated that a good measurement system should be related to manufacturing strategy, include non-financial measures, vary between locations, change over time, be simple and easy, and give fast feedback, and aim to teach rather than to monitor. (Caplice and Sheffi, 1995) argued that a "good system" should be comprehensive, causally oriented, vertically integrated, horizontally integrated, internally comparable and useful. (Lynch and Cross, 1991) noted that good systems include the need to: link operations to strategic goals, integrate financial and nonfinancial information, measure what is important to customers, motivate operations to exceed customer expectations, identify and eliminate waste, shift the focus of organisations from rigid vertical bureaucracies to more responsive, horizontal business systems, accelerate organizational learning and build a consensus for change when customer expectations shift or strategies call for the organisation to behave differently, and translate "flexibility" into specific measurement.

When designing performance measurement systems it is necessary to decide first, what to measure, and second, how to measure. The dimensions "strategy", "flow orientation", "internal efficiency" and "external effectiveness" of the present framework mostly describe the "what to" question. It is not enough to identify what dimensions to measure; the measures also need to be designed so that the performance information can be successfully used. The way may differ

between systems with different objectives. However, the characteristics “improvement drivers” and “simple and dynamic” describe the “how to” question. We now consider each of these dimensions and characteristics separately.

2.1.2 Dimensions of Performance Measurement System

1) Strategy

The competitive priorities of the business or product have to be emphasised in corporate, business and manufacturing strategies, as well as in measures on various hierarchical levels. This dimension deals with two important aspects of performance measurement systems. First, the system should measure the long term success factors (qualifying and order-winning criteria) of organisations, not just short-term departmental specific performances. (Maskell, 1991), for example, identified six elements of a manufacturing strategy that should be measured: quality, cost, delivery, lead time, flexibility and employee relationships. (Allen, 1993) further developed this list to 19 critical success factors. Second, it should emphasise that the long-term success factors have to be derived from management level to direct production personnel, and measured on all hierarchical levels of the organisation. The decisions made at different levels of the organisation vary in nature, but they should all strive towards the same overall strategy. Increased focus on quality, dependability and flexibility, and the fact that strategic priorities might vary between products, and between stages of a product’s often short life-cycle, sometimes make it hard to link measures to strategies. Performance measures may even hurt a company’s corporate strategy due to mismatch between goals on different levels (Caplice and Sheffi, 1995). This is serious. (Lynch and Cross, 1991) considered that qualitative and non-financial manufacturing performance measures can help organisations to link operations to strategic goals on all hierarchical levels, since they are easier to derive from the qualifying and order-winning criteria and easier to put into effect, but it is still necessary to link corporate, business and manufacturing strategies. To be a relevant tool for achieving the intended manufacturing strategy the performance information must be directly linked back to the personnel within the organisation.

2) Flow orientation

Effective manufacturing contributes to efficient flow of materials, with high quality and short throughput times. We should therefore measure horizontal business processes that cut through the firm, instead of functional processes, i.e. by products rather than shops. It is becoming more important to view manufacturing and business from supply chain perspectives, consisting of vertically integrated processes and firms, and chains of suppliers and customers. This makes performance measurement even more difficult to carry out, and leads again to flow-oriented measures. One way of switching to flow orientation is to measure time and throughput volume (e.g. Azzone et al., 1991).A time-based approach does not necessarily lead to a "flow measure", though. First, it has to be vertically integrated and not just "inward looking", and then it has to be comparable to other measures. For example, inventory levels, turnovers, throughput times and service levels are more important from a supply chain perspective than from a functional production perspective. The measures are comparable if they cover the same functions and processes along the ever-more-integrated supply chains. (Caplice and Sheffi, 1995) argue that a flow-oriented system actively encourages inter-organisational co-operation and innovative approaches to the organisation. They mean that focus switches from orders already placed to trying to modify the order patterns by working with customers and suppliers as partners.

3) Internal efficiency

The objective of the internal efficiency dimension is to identify performances of a function. Use of financial metrics for internal efficiency can simplify trend identification and comparison of the overall internal efficiency between departments. Trade-off analyses between various performances can easily be carried out if they are all measured in financial terms as "costs" or "profits". However, several measures of internal efficiency, such as lead time, are difficult to operationalize with financial measures. Non-financial and qualitative measures are important complements to traditional financial measures, especially when it comes to day-to- day control of the manufacturing, as they are often more flexible and give fast feedback to the organisation (Maskell, 1991). It is often advantageous to use operational and qualitative measures as improvement drivers in quality circles and project teams, while aggregated financial measures are more important for management, although mixing the two types of measures is necessary to cover all internal efficiency dimensions. However, mixing financial and non-financial measures

can be considered complex from an overall management, as well from a shop-floor, perspective. To decrease the complexity of the overall measurement system, it is therefore important to focus on a small carefully-selected set of financial and nonfinancial measures of internal efficiency.

4) External effectiveness

This dimension deals with measurement of customer satisfaction and fulfilment of the competitive priorities. Service level and quality measures, on both strategic and operational levels, are often used for measuring external effectiveness in firms, but they are not enough for measuring total customer satisfaction, or to cover competitive priorities. The definitions of quality often deal with product quality and internal efficiency, rather than customer satisfaction based on external data. Customer satisfaction research is neither quick nor easy. A significant commitment of company personnel is necessary, even if an outside research company manages the main part of the interviewing and analysis phase of the customer satisfaction measurement. (Dutka, 1994) argues that six months elapsed time from developing a request for a customer satisfaction proposal to receiving the first customer satisfaction ratings is not uncommon. To be able to fulfil customer requirements direct production personnel have to be given more authority and more direct contact with external customers. This leads to identification of customer-oriented measures to be carried out on shop-floor level (Maskell, 1991). A practical problem in several firms is that measurement systems are often split between internal efficiency and external effectiveness. This might create a “measurement gap”, that sometimes is considered to be a big obstacle. An important objective of the measurement system should be to bridge this gap (Andersson et al., 1989), and establish the relationship between the internal measures (causes) and the external measures (effects).

2.1.3 Characteristics of Performance Measurement System

1) Drivers of Organizational Performance

According to Ishikawa (1982), the reason for collecting data should not be to present neat figures, but to create a base for action and development of processes. This is very much linked to what data are collected, how the analysis is carried out and how the performance information is used. The data source may be internal or external, the data type subjective or objective, the focus maybe on the process input or outcome, the reference external benchmark or internal target

(White, 1996). There are three aspects of future performance improvements. First, the set of measures should cover those aspects that indicate potential future improvements. Worker empowerment, job fulfilment and managerial commitment are not directly linked to process outcome, but are often considered vital conditions for improvement in performance (Deming, 1986). These more or less subjective aspects could therefore be used as indicators for potential future improvements, even if it is difficult to directly link them to the final result. Second, the measure should in itself identify and generate continuous improvements, instead of working as passive control. This is especially true for operational measures focusing on non-value added activities, such as OEE. Third, when measuring long-term rather than short term, performance on a continuous rather than a periodic basis; the performance measurement system can work as an important component of a continuous improvement program.

2) Simple and dynamic

The measure should be simple and easy to understand, calculate and use, and not necessarily have fixed format. This is true for the individual measure, as well as for a system of several measures. (Keegan et al., 1989) considered that the problem with most OMP systems is that there are too many obsolete and inconsistent performance measures. (Schmenner and Vollmann, 1994) showed in a survey that most manufacturing companies need seriously to consider changing their performance measurements. Most firms both used wrong measures and failed to use the right measures. Too many or too complex measures might lead to a reactive system, focusing on checking and controlling the past, or end up being ignored or discarded after a relatively short period of time. There probably exists no panacea that works well in all organisations, but the key is to evolve one's own – dynamically and iteratively. Table 2.1 provides a summary of OMP dimensions and characteristics. No single measure can possibly cover all these aspects on the management as well as the shop-floor level, but a structured set of measures and a balanced management interpretation is probably more suitable. Sets of integrated performance measurements, such as the SMART system (Lynch and Cross, 1991), balanced scorecard (Kaplan and Norton, 1992) and other synchronised measures (e.g. Ghalayini and Noble, 1996; Maskell, 1991; Srikanth and Robertson, 1995) have been proposed in order to link internally and externally focused measures and to give an overall view of companies' performances. (Ghalayini and Noble, 1996) emphasise the following limitations of existing integrated

performance measurement systems (i.e. SMART and balanced scorecard) they are mainly constructed as monitoring and controlling tools rather than improvement tools; they do not provide any mechanism for specifying which objective should be met in a specific time horizon; they are not dynamic systems; they do not look ahead to predicting, achieving and improving future performances; they do not provide any mechanism to achieve global optimisation especially at the operational level; they do not stress the importance of time as a strategic performance measure; and none of the models provides a specific tool that could be used to model, control, monitor and improve the activities at the factory shop floor.

Table 2.1.Dimensions and Characteristics – Summary

Dimensions/ Characteristics	Description
Strategy	The measurement system translates the corporate and business strategies to all levels of the organisation.
Flow orientation	The measurement system integrates all functions, activities and levels of the Organisation process along the supply chain
Internal efficiency	The measurement system makes productivity control and comparison between internal functions possible
External efficiency	The system interacts with customers and measures the level of customer satisfaction
Improvement drivers	The measurement system not only works as passive control, but is instead used for continuous improvement
Simple and dynamic	The measurement system is simple and dynamic, since several dimensions are to be included and since the circumstances for measurement are fast changing

Source: (Maskell, 1991)

2.2 Causes of Overall Manufacturing Performance (OMP)

Root Cause Analysis (RCA) is the process of identifying causal factors using a structured approach with techniques designed to provide a focus for identifying and resolving problems. Tools that assist groups or individuals in identifying the root causes of problems are known as root cause analysis tools. Every equipment failure happens for a number of reasons. There is a definite progression of actions and consequences that lead to a failure. Root Cause Analysis is a step-by-step method that leads to the discovery of faults or root cause. The RCA investigation traces the cause and effect trail from the end failure back to the root cause. It is much like a detective solving a crime.

To meet up the high changing market demands along with high quality at comparable prices, one shall have to identify quickly the root causes of quality related problems by reviewing an event, with the goals of determining what has happened, why it has happened and what can be done to reduce the likelihood of recurrence. (Mahto, Dalgobind & Anjani, Kumar, 2008)

(Wilson et al., 1993) have defined the Root Cause Analysis as an analytic tool that can be used to perform a comprehensive, system-based review of critical incidents. It includes the identification of the root and contributory factors, determination of risk reduction strategies, and development of action plans along with measurement strategies to evaluate the effectiveness of the plans.

Canadian Root Cause Analysis Framework (2005) says that root cause analysis is an important component of a thorough understanding of “what happened”. The team begins by reviewing an “initial understanding” of the event and identifying unanswered questions and information gaps. The information-gathering process includes interviews with staff, who were directly and indirectly involved, examination of the physical environment where the event and other relevant processes took place, and observation of usual work processes. This information is synthesized into a “final understanding”, which is then used by the team to begin the “why” portion of the analysis.

Similarly, to solve a problem, one must first recognize and understand what is causing the problem. This is the essence of root cause analysis. According to Wilson et al. (1993) a root cause is the most basic reason for an undesirable condition or problem. If the real cause of the

problem is not identified, then one is merely addressing the symptoms and the problem will continue to exist.

Dew (1991) and Sproull (2001) state that identifying and eliminating root causes of any problem is of utmost importance. Root cause analysis is the process of identifying causal factors using a structured approach with techniques designed to provide a focus for identifying and resolving problems. Tools that assist groups and individuals in identifying the root causes of problems are known as root cause analysis tools.

According to (Duggett, 2004) several root cause analysis tools have emerged from the literature as generic standards for identifying root causes. Some of them are the Why Analysis, Multi Vari Analysis, Cause-and-Effect Diagram (CED), the Interrelationship Diagram (ID), and the Current Reality Tree (CRT). He has added that Why Why analysis is the most simplistic root cause analysis tool whereas current reality tree is used for possible failures of a system and it is commonly used in the design stages of a project and works well to identify causal relationships. There is no shortage of information available about these tools.

The literatures confirmed that these tools do, in fact, have the capacity to find the root causes with varying degrees of accuracy, efficiency, and quality. DOE Guideline Root Cause Analysis Guidance Document February (1992) says that immediately after the occurrence identification, it is important to begin the data collection phase of the root cause process using these tools to ensure that data are not lost. The data should be collected even during an occurrence without compromising with safety or recovery. The information that should be collected consists of conditions before, during, and after the occurrence; personnel involvement (including actions taken); environmental factors; and other information having relevance to the condition or problem. For serious cases, photographing the area of the occurrence from several views may be useful in analysis. Every effort should be made to preserve physical evidence such as failed components, ruptured gaskets, burned leads, blown fuses, spilled fluids, and partially completed work orders and procedures. This should be done despite operational pressures to restore equipment to service. Occurrence participants and other knowledgeable individuals should be identified.

(Anderson and Fagerhaug, 2000) have simplified the root cause analysis. They provide a comprehensive study about the theory and application of metrics in root cause analysis. It emphasizes the difficulty in achieving process capability in software domain and is cautious about SPC implementation. They mention that the use of control charts can be helpful for an organization especially as a supplementary tool to quality engineering models such as defect models and reliability models. However, it is not possible to provide control as in manufacturing since the parameters being charted are usually in-process measures instead of representing the final product quality. The final product quality can only be measured at the end of a project as opposed to the production in manufacturing industry, so that on-time control on processes becomes impossible. They also underline the necessity of maturity for achieving process stability in development of product quality and productivity. Finally, they bring a relaxed understanding by stating that the processes can be regarded in control when the project meets in process targets and achieves end-product quality and productivity improvement goals. Arcaro (1997) has presented various tools for identifying root causes. He describes that RCA techniques are constrained within domain and give a detailed tutorial by supporting theoretical knowledge with practical experiences. He states that all RCA techniques may not be applicable for all processes.

Brown (1994) has used the root cause technique to analyse the assembly of commercial aircraft. He has concluded that it is the most effective tool to eliminate the causes in most vital assemblies like aircraft, where utmost safety and reliabilities needed. Brassard (1996), and Brassard and Ritter (1994) have put their emphasis on continuous improvement and effective planning. They have pointed out that Root Cause analysing tools give management to think ahead about failures and plan accordingly. They emphasize that process improvement models implicitly direct companies to implement RCA as a crucial step for project level process control and organizational level process improvement purposes. Quantitative Process Management requires establishing goals for the performance of the project's defined process, taking measurements of the process performance, analysing these measurements, and making adjustments to maintain process performance within acceptable limits.

Cox and Spencer (1998) have advocated that RCA tools effectively give solution to handle constraints and arrive at an appropriate decision. Like Cox and Spencer (1998), Dettmer (1997) has also used root cause analysis on management of constraints. He presents one of the earliest

studies on the debate of applying Root Cause Analysis to processes. A proper management decision is necessary to succeed the RCA tools and methods in a particular environment. Lepore and Cohen (1999), Moran et al. (1990), Robson (1993) and Scheinkopf (1999) move ahead that when change is needed, then think root cause analyzing, identifying and eliminating. The foundations of their studies are pioneering one as they question an accepted practice for root cause analysis and the results of the example studies are encouraging. However, the studies are far from being practical one as they include too many parameters and assumptions. Smith (2000) has explained that Root Cause Tools can resolve conflicting strategies, policies, and measures. The perception is that one tool is as good as another tool. While the literature was quite complete on each tool as a stand-alone application and their relationship with other problem solving methods. There are very few literatures available on the comparative study of various root cause analysis tools and methods. The study on three tools namely Cause-and Effect Diagram (CED), the Interrelationship Diagram (ID), and the Current Reality Tree (CRT) is deficient on how these three tools directly compare to each other. In fact, there are only two studies that compared them and the comparisons were qualitative.

Likewise, Fredendall et al. (2002) have also compared the CED and the CRT using previously published examples of their separate effectiveness. While Pasquarella et al. (1997) compared CED, ID and CRT on Equipment/Material Problem, Procedure Problem, Personnel Error, Design Problem, Training Deficiency, Management Problem and External Phenomena using a one-group post-test design with qualitative responses. There is little published research that quantitatively measures and compares the Why Why Analysis, Multi Vari Analysis, Cause-and-Effect Diagram (CED), the Interrelationship Diagram (ID), and the Current Reality Tree (CRT). Dean (2007) has presented some insight into the comparison of common root cause analysis tools and methods. He indicates that there are some comparative differences between tool and method of a RCA. He has added that tools are included along with methods because tools are often touted and used as a full-blown root cause analysis.

Basic terminologies in root cause analysis

- **Facility**: Facility may be defined as any equipment, structure, system, process, or activity that fulfils a specific purpose. Some of the examples include production or processing plants, accelerators, storage areas, fusion research devices, nuclear reactors, coal

conversion plants, magneto hydrodynamics experiments, windmills, radioactive waste, disposal systems, testing and research laboratories, transportation activities, and accommodations for analytical examinations of irradiated and unpredicted components.

- **Condition**: It may be defined as a state, whether or not resulting from an event, that may have adverse safety, health, quality assurance, security, operational, or environmental implications. A rendition is usually programmatic in nature; for example, an (existing) error in analysis or calculation, an anomaly associated with (resulting from) design or performance, or an item indicating weaknesses in the management process are all conditions.
- **Root Cause:** The cause that, if corrected, would prevent recurrence of this and similar occurrences. The root cause does not apply to this occurrence only, but has generic implications to a broad group of possible occurrences, and it is the most fundamental aspect of the cause that can logically be identified and corrected. There may be a series of causes that can be identified, one leading to another. This series should be pursued until the fundamental, correctable cause has been identified. For example, in the case of a leak, the root cause could be management, not its maintenance, which ensures that it is effectively managed and controlled. This cause could have led to the use of improper seal material or missed preventive maintenance on a component, which ultimately led to the leak. In the case of a system misalignment, the root cause could be a problem in the training program, leading to a situation in which operators are not fully familiar with control room procedures and are willing to accept excessive distractions.
- **Causal Factor:** A condition or an event that results in an effect (anything that shapes or influences the outcome). This may be anything from noise in an instrument channel, a pipe break, an operator error, or a weakness or deficiency in management or administration. In the context of Design of Experiments (DOE) there are seven major causal factor categories.

These major categories are:

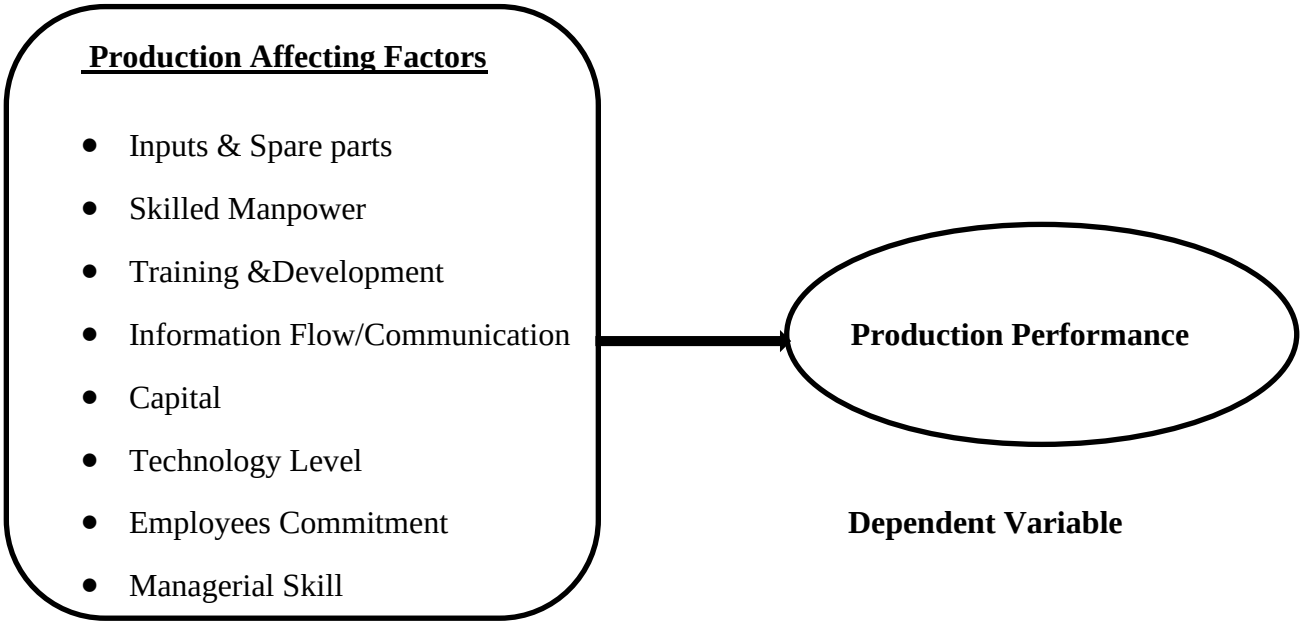
- Equipment/Material Problem
- Procedure Problem
- Personnel Error

- Design Problem
- Training Deficiency
- Management Problem

Particularly in regard of the Management problem, it is believed that it is one of the productivity variables that are critical to productivity improvement, other variables being labor and capital. Management contributes to about 52% of the annual increases in productivity. More effective use of capital in selecting the best new capital investment as well as improving the productivity of existing investments falls in the domain of operations managers. Thus, more effective use of capital, which requires managerial skills, contributes to productivity (Heizer and Render, 2008). Management is responsible for ensuring that labor and capital is effectively used to improve productivity. This increase includes improvements made through the use of knowledge and the application of technology. Use of knowledge and application of technology requires on-going education and training. These are high cost items that are the responsibility of operations manager as they build organizations workforces. Poorly educated labour is a second-class input and a country cannot be a world-class competitor with second-class inputs (Heizer and Render, 2008)

The way processes are managed plays a key role in productivity improvement. Managers must examine productivity improvement. Manager must examine productivity from the level of the value chain because it is the collective performance of individual processes that make the differences. The challenge is to increase the value of output relatives to cost of input. If processes can generate more output or output of better quality, using the same amount of input, productivity increases. If they can maintain the same level of output, while reducing the use of resources, productivity also increases (Krajewski et al., 2007). A research carried out on firm–level productivity and management influence showed that changes in top management were followed by significant shifts in the level of growth rate of total factor productivity. More generally, the results suggested that management effects rather than country-specific factors are the major sources of productivity difference among manufacturing companies (Lieberman, et al., 1990).

Figure 2.1. Conceptual framework of the study.



Independent Variables

Source: Adapted from AACCSA & DAB-DRT (2014)

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Research Approach and Design

This study utilized mixed research approaches. Where the quantitative data collected through questionnaire has been analysed to answer questions raised to investigate issues related to the factors affecting the NTE Organizational Production Performance within the measurable variables in – order to explain the existing situations and predict the factors affecting it. On the other side the qualitative data will be collected from targeted individuals using an interview; this was analysed to explain the Organizational production performance of the case Company; by using 10 years data collected from the record of the Enterprise. An explanatory research design was used in finding factors, which affect the Organizational Production Performance in the case of the National Tobacco Enterprise (Eth.) S.C.

3.2 Data Types and Sources

The data types for this research are both qualitative and quantitative. In addition to that quantitative data has been consumed for the descriptive and inferential analysis of the performance measures from the questionnaire. The source of the questionnaire data were the different departments of production areas employees of the company and the qualitative data has been gathered through interview from selected production Departments management members. As it is described here above, for secondary data, 10 years consecutive relevant annual Production data of the Company was collected and used in regard to analysis of the dependent & independent variables mentioned above for this study.

3.3 Target Population and sampling techniques

In the case company; National Tobacco Enterprise (Eth.) S.C the target Populations were employees at Head office in Addis Ababa. Production technicians, Production Associates and managers who were willing and had significant role in the design, planning, implementation and evaluation of organizational production performance has been included.Due-to the geographical distances, time limitations and resource constraints, farm stations areas was excluded; employees

who are newly employed (less than two years) and have inadequate information and experience on the Organizational production performance are also excluded.

Stratified random sampling is used since it deals with different production departments, to select respondents at Head Office. The total number of respondents for questionnaire and interview has been 95 and 9 respectively as described here below in the sampling procedure section of this thesis research methodology.

3.4 Sampling Procedure

In this study, non-probabilistic sampling strategy has been adopted. Purposive sampling method is used to select the interviewees and respondents for the questionnaire. Purposive sampling technique (judgment sampling) is simply put, the researcher decides what needs to be known and sets out to find people who can and are willing to provide information by knowledge or experience.

The sample size consists a total of 271, from the total target population of 834 employees. However, as stratified random sampling is in use; 26 respondents from production technicians team and 69 from production associates team for questionnaires respondents and 9 production managers interviewees (Table 3.1) who have significant role in designing, planning, implementation, controlling and evaluation of the Organizational production performance has been selected to collect outstanding informations and data. Totally 104 sample size population is assigned for this study.

For the determination of sample sizes the study preferred the formula derived by (Yamane ,1967),based on the above information from the data for the population of 834 at 5% margin error and 95% confidence level,

The implemented formula is: n = N/ (1 + N (e)2)

Where “n” is the sample size, N= population size, and “e” the level of precision, which is 0.05

n=834/ (1+ 834(o.o5) 2 =271 and then:-

The applicable formula to identify the respective sample size is: $n_h = (Nh / N) * n$

Where, nh = Sample size for each stratum, N = Total Number of population, Nh= Population size of the strata and, n = Sample size

a) Production technicians population =80

b) Production associates population = 210

1) (80/834)*271=26 Production technicians sample size

2) (210/834)*271= 69 Production associates sample size

Table 3.1.The types of Respondents, Population Size, Sample Size, Sampling Techniques, and Tools of Data Collection

N/O	Respondents	Population Size	Sample Size	Sampling technique	Tools of data collection
1	Production Technicians	80	26	Simple Random	Questionnaire
2	Production Associates	210	69	Simple Random	Questionnaire
3	Production Managers	9	9	Purposive	Interview
	Total	289	104		

3.4.1 Inclusion Criteria

National tobacco enterprise (Eth.) S.C. factory floor employees such as production technicians, production associates and production area managers who has enough work experience and willing to participate in this study.

3.4.2 Exclusion Criteria

Tobacco farm stations employees were excluded due-to time limitations, resource constraint and geographical distances. In addition to that head office employees who have less than two years' experience and inadequate information about the production performance were excluded.

3.5 Data Analysis and Presentation

The quantitative data collected through questioner has been analysed by making use of inferential statistics using SPSS computer software Version 23. The performance measurement variables (Production affecting factors) and the impact on the Operation Performance (Production volume) dimensions has been analysed by employing the appropriate parametric statistical methods to determine the direction of relationship and degree of association based on the distribution of the sampled data collected. The descriptive statistics has also been presented using tables, figures and percentages to see the descriptive statistical values of the five-point Likert scale data. Narrative analysis was employed to the qualitative data collected from interview.

3.6 Reliability and Validity

Multiple regression analysis method has been used to determine the relative importance of the factors affecting the production performance of National Tobacco Enterprise (Ethiopia) S.C; to test the reliability of the items in the questionnaire and the corresponding scale; this enables the internal consistency of the measuring variables. The validity of the variables and the information obtained has been made by making use of relevant literature review, researcher and experts' judgment.

3.7 Ethical consideration

In this research, the case company's confidential information is kept as per the guide lines put in the questionnaire and there would not be any disclosure without the consent of the company. The originality of the research has also been maintained as well as all facts and previous research findings acknowledgement with the respective authors.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.1 Introduction

The main Objective of this study is to examine and identify factors for critical and recurrent problems of the production performance and recommend possible solutions in the case Company (National Tobacco Enterprise (Ethiopia) S.C.), In-order to achieve this objective, the study ranked the different factors that were related to the variables under the study.

A total of 95 questionnaires were distributed to Production technicians and production associates of different production departments; from these 90 questionnaires were successfully filled. Therefore, the response rate was 94.7% which compares favorably with Punch's (2003) stipulation of an acceptable response rate. Punch (2003) indicated that high response rates help to ensure that survey results are representative of the target population. Punch (2003) indicated that acceptable response rates vary by how the survey is administered. For e-mail and face to face administered questionnaires, a response rate of above 60% is considered adequate.

Once the data was collected it was checked for completeness and consistency. The data was analyzed by use of descriptive statistics and inferential statistics. The findings of the study are presented in three parts. The first part presents the cross tabulation based on demographic variables under consideration. The second part presents findings using correlation analysis while the third part presents data based on regression analysis.

4.2 Description of Demographic variables

The following description presents information related to respondents' demographic characteristics.

Table 4.1. Gender Composition and Educational Status of Respondents

Gender			**Educational Status**		
Gender	N	%	Education	N	**%**
Male	35	36.8	Grade Ten & below	11	11.6
			Diploma	73	76.8
			BA/BSc	11	11.6
Female	60	63.2	MA/MSc & above	-	-
Total	95	100	Total	95	100

Source: Field Survey (2019)

As shown in the Table 4.1. Above, among the participants, majority of proportion was female composition that constitutes about 60(63.2%); whereas 35(36.8%) were male populations.

On the other hand, regarding to Educational status the larger group was Diploma holders 73 this constitutes about 76.8% of the total participant and the other group of participants about 11(11.6%) of them responded that they are grade ten and below. Similarly, about 11(11.6%) of them reported that they are First degree holders.

Table 4.2. Respondents' Current position and Experience

Current position			**Year of Experience**		
Position	**N**	**%**	**Experience**	**N**	**%**
Technician	26	27.4	2-8 years	25	26.3
			9-15 years	69	72.6
			16-25 years	1	1.1
Associate	69	72.6	26-40 years	-	-
Total	95	100	Total	95	100

Source: Field Survey (2019)

Table 4.2. Above revealed that, among the participants, majority 69(72.6%) of them were associates and the remaining 26(27.4%) of them were technicians related to their current position.

On the other hand, regarding to their year of experience, the larger group 69(72.6%) of them were serve the company for 9 to 15 years. Similarly; about 25(26.3%) of them serve the company for 2 to 8 years and the only one person (1.1%) serve the company for longer years in the range of 26 to 40.

4.3 Factors Affecting Production Performance

The factors were grouped into eight categories according to how they relate to the five constructs under study; i.e. Inputs and spare parts, skilled manpower, training and development,

information flow/communication, capital , employees commitment, technology level and managerial skill. Accordingly, this part presents the cross tabulated data for each construct based on the respondents agreement level, to which Production Performance has been affected by the above mentioned factors on a five-likert scale of: Strongly disagree = 1; Disagree = 2; Neither agree nor disagree = 3; Agree = 4; and strongly Agree = 5.

4.3.1 Inputs and spare parts at NTE

Inputs and spare parts was one of the key issues that can affect production Performance. The respondents were asked to indicate their agreement level to which Production performance has been affected by Inputs and spare parts in their firm on a five-likert scale of: Strongly disagree = 1; Disagree = 2; Neither agree nor disagree = 3; Agree = 4; and strongly Agree = 5. The results are stipulated in the table below.

Table 4.3 Inputs and spare parts at NTE

Issues on Inputs and Spare parts	Mean	Std. Deviation
Inputs are available as needed	2.19	1.00
Availability of spare parts as needed	4.86	0.52
The quality of inputs	4.58	0.69
The quality of spare parts	2.26	0.86
Inputs arrival from store to each production machine is punctual	2.40	1.10
Spare parts arrival from store to each production machine is punctual	4.82	0.81

Sources: Research`s findings, (2019)

From the data analysis of Inputs and spare parts effect on production performance of the firm in the above table 4.3., there are three items that affect production performance to a very large extent and respondents were report as agreed by indicating(Mean >4.5, with significant standard deviation). Thus, availability of the Spare parts as needed, the quality of inputs and spare parts arrival from store to each production machine is punctual; were the issues affecting production performance under on input and spare parts category. However, the remaining parameters' were

not perceived to affect production performance with regard to Inputs and spare parts issues, since their mean value(M<3.00) reported as disagreed by the respondents, which means their affection level is to low extent.

4.3.2 Skilled Man Power at NTE

Skilled Man Power was one of the key issues that can affect production performance. Accordingly, the respondents were asked to indicate their agreement level for the items indicated in this category; as to which production performance has been affected in their firm on a five-likert scale of: Strongly disagree = 1; Disagree = 2; Neither agree nor disagree = 3; Agree = 4; and strongly Agree = 5. The results are presented in the table below.

Table 4.4 Skilled Manpower at NTE

Issues on Skilled Manpower	Mean	Std. Deviation
There is only few skilled man power to attend all production machines so that machines may not produce always as required	4.64	.86
The few skilled man power are working excessive Over Time and this affect the production	4.55	.83
The existing skilled man power is so specialized for particular machines and can`t be used interchangeably	4.74	.94
The skilled man power is not well paid and not motivated to enhance the production	4.65	.78
The Employee turnover is so high and affect production	2.36	.82
The turnover of the skilled man power is so high and affect production	2.60	.89

Sources: Research`s findings, (2019)

The above table 4.4: explained that from the data analysis of issues affecting production performance of the firm in relation to skilled manpower; there are four items under this category that affect performance to a very large extent as reported by respondents with (Mean >4.5, with significant standard deviation) and these are: There is only few skilled man power to attend all production machines so that machines may not produce always as required; the few skilled man power are working excessive overtime and this affect the production; the existing skilled man

power is so specialized for particular machines and can`t be used interchangeably and the skilled man power is not well paid and not motivated to enhance the production; which are the issues related to skilled man power and affect production performance. However, the rest listed items under skilled man power were not perceived to affect production performance, since, their mean value (M<3.00) reported as disagreed; in another words their affection level is to low extent.

4.3.3 Training and Development at NTE

Training and Development was also one of the key issues that can affect production performance. Accordingly, the respondents were asked to indicate their agreement level for the items indicated in this category; to which production performance has been affected in their firm on a five-likert scale of: Strongly disagree = 1; Disagree = 2; Neither agree nor disagree = 3; Agree = 4; and strongly Agree = 5. The results are presented in the table below.

Table 4.5 Training and Development at NTE

Issues on Training and Development	Mean	Std. Deviation
Training and Development is not given for the right people at the right time so this influenced negatively on the production.	4.62	.83
Training and Development is realized based on need of assessment and pre-scheduled time	2.21	.62
Training and Development is realized spontaneously as per the order given from authorized personnel.	4.66	.81
Relevant Training and Development is not given to raise production performance	4.55	.87
Training and Development is considered as entertainment by the employees	2.34	.69

Sources: Research`s findings, (2019)

The analysis of data in table 4.5 revealed that production performance of the firm in relation to training and development; consequently, there are three items that affect production to a very large extent (Mean >4.5, with significant standard deviation) and these are: training and development is not given for the right people at the right time so this influence negatively the production of the firm, training and development is realized spontaneously as per the order given from authorized personnel; and the third one is relevant training and development is not given to

raise production performance. However, the rest listed items under training and development were responded as disagreed, because their mean value was (M<3.00). This expression is equivalently stated as, training and development is not given based on need of assessment and pre-scheduled time, and on the other hand, training and development is not considered as entertainment by the employees which shall be encouraged.

4.3.4 Information flow/Communication at NTE

Information flow/Communication was also considered as key issue that can affect production performance. Accordingly, the respondents were asked to indicate their agreement level for the items indicated in this category; to which production performance has been affected in their firm on a five-likert scale of: Strongly disagree = 1; Disagree = 2; Neither agree nor disagree = 3; Agree = 4; and strongly Agree = 5. The results are presented in the table below.

Table 4.6 Information flow/Communication at NTE

Issues on Information flow/Communication	Mean	Std. Deviation
The information/communication flow is only from top to down structure level and affect production	2.68	.85
The information/communication flow is not addressed properly to ensure that every one is aware of the same to maximize production	4.66	.82
There is no feedback checking by concerned personnel for the sent information/communication flow	2.24	.79
Production is affected due-to improper flow of information	2.74	.65
There is no accountable person for wrong and confusable information flows	2.13	.78

Sources: Research`s findings, (2019)

The analysis of data in table 4.6, showed that production performance of the firm with regard to information flow/communication. Accordingly; only one item was responded by the respondents that affect operational performance, i.e., the information/communication flow is not addressed properly to ensure that every one is aware of the same to maximize production. And this affect performance to a very large extent with (Mean >4.5 with significant standard deviation).

Whereas, the rest of all four items, were not assumed to affect significantly the production performance of the firm, since their mean value (M<3.00) and responded as disagree. Hence, the information/communication flow did not affect significantly production performance.

4.3.5 Capital Issues at NTE

Capital was also considered as key issues that can affect production performance. Accordingly, the respondents were asked to indicate their agreement level for the items indicated in this category; to which production performance has been affected in their firm on a five-likert scale of: Strongly disagree = 1; Disagree = 2; Neither agree nor disagree = 3; Agree = 4; and strongly Agree = 5. The results are presented in the table below.

Table 4.7 Capital at NTE

Issues on Capital	Mean	Std. Deviation
There is no shortage of working capital to run the production all the time as required	2.83	.89
Some time there is shortage of local currency and consequently affects the production performance	2.38	.88
Some time there is shortage of foreign currency to run operation properly	4.66	.71

Sources: Research`s findings, (2019)

The above tables 4.7 clearly indicate the influence/ affection relation of capital on production performance of the firm. Accordingly; shortage of foreign currency to run production properly affects performance to a very large extent with (Mean >4.5, with significant standard deviation). However, the rest listed items under capital category were not perceived to affect production performance of the firm. Since, their mean value (M<3.00). Hence, their affection level is to low extent.

4.3.6 Technology Level at NTE

Technology level was also considered as key issues that can affect production performance. Accordingly, the respondents were asked to indicate their agreement level for the items indicated in this category; to which production performance has been affected in their firm on a five-likert scale of: Strongly disagree = 1; Disagree = 2; Neither agree nor disagree = 3; Agree = 4; and strongly Agree = 5. The results are presented in the table below.

Table 4.8 Technology Level at NTE

Issues on Technology Level	Mean	Std. Deviation
Modern and up-to-dated cigarette production machineries.	4.54	.86
Process technology	2.64	1.02
Assimilation of design technology by employees	4.64	.92
Shortage of Technology support with IT	4.78	.99

Sources: Research`s findings, (2019)

Table 4.8, revealed that from the data analysis of issues affecting production performance of the firm in relation to technology level; there are three items that affect performance to a very large extent with (Mean >4.5, with significant standard deviation) under this category: Assimilation of design technology by employees' is importantly affect the production performance of NTE. Similarly, modern and up-to-dated cigarette production machineries implementation was also significantly affect the production performance of the firm and shortage of technology support with IT was also significantly affect the production performance However, Process technology was not significantly affecting production performance of NTE, since, its mean value (M<3.00) indicates that its affection level is to low extent/insignificant.

4.3.7 Employees Commitment at NTE

Employees' commitment was also considered as key issues that can affect production performance. Accordingly, the respondents were asked to indicate their agreement level for the items indicated in this category; to which production performance has been affected in their firm

on a five-likert scale of: Strongly disagree = 1; Disagree = 2; Neither agree nor disagree = 3; Agree = 4; and strongly Agree = 5. The results are presented in the below table.

Table 4.9 Employees Commitment at NTE

Issues on Employees Commitment	Mean	Std. Deviation
Production Employees usage of all designated working hours	2.80	.63
Strict follow up of instructions and others procedures by employs	4.84	.97
All production employees' commitment to maximize the utilization of inputs, spare parts and other resources.	4.74	.78
Employees are committed to produce within the required quality parameters of the Enterprise.	2.52	.82
Reduction of scrap and re-works	4.68	.99
Employees participate in the planning of production activities	2.12	.716
All working areas are not conducive to realize production activities	4.68	.97

Sources: Research`s findings, (2019)

In the above table 4.9, it was shown that Employees Commitment was also affect production performance of the firm. In this regard; there are four items that affect performance to a very large extent with (Mean >4.5, with significant standard deviation). These are: Strict follow up of instructions and other procedures by employees, all production employees' commitment to maximize the utilization of inputs, spare parts and other resources, reduction of scrap and re-works and all working areas are not conducive to realize production activities which were significantly affect production performance of the firm. Whereas, the rest listed items under this category were not perceived to affect production performance since, their mean value (M<3.00). This expression is equivalently stated as their affection level is to low extent/insignificant.

4.3.8 Managerial Skill at NTE

Managerial skill was also considered as key issues that can affect production performance. Accordingly, the respondents were asked to indicate their agreement level for the items indicated in this category; to which production performance has been affected in their firm on a

five-likert scale of: Strongly disagree = 1; Disagree = 2; Neither agree nor disagree = 3; Agree = 4; and strongly Agree = 5. The results are presented in the table below.

Table 4.10 Managerial Skill at NTE

Issues on Managerial Skill	Mean	Std. Deviation
Employees involvement during Planning stage	2.33	.834
Coordination of management on employees in organizing the schedule of production activities	4.56	.93
The management gives incentives to employees	2.60	.92
The management do not handle properly complaints and grievance of employees	4.52	.93
The Management is not committed in controlling the results of production	3.61	.86

Sources: Research`s findings, (2019)

Table 4.10, revealed that from the data analysis of issues affecting production performance of the firm in relation to managerial skill; there are two items that affect performance to a very large extent (Mean >4.5, with significant standard deviation) these are: Coordination of management on employees in organizing the schedule of production activities, and management do not handle properly complaints and grievance of employees. Besides, the item: Management is not committed in controlling the results of production, which is significantly affect production performance to large extent since, its mean value (3.61 is close to 4, with significant standard deviation). But, the rest of items listed under this category were not perceived to affect production performance since, their mean value is (M<3.00). On the other expression their affection level was to low extent.

4.4 Regression Analysis on the Factors Affecting production Performance

The coefficient of determination (R^2) equals 0.570. This shows that the eight independent variables like: Inputs and spare parts, skilled manpower, Training and Development, Information flow/communication, Capital, Technology level, Employees' commitment, and Managerial skill explain 57.0 percent of the variations in production performance. The P- value of 0.000 implies that production performance was significant at the 1 percent level of significance.

Table 4.11 Regression Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	Df_1	Df_2	F	sig
.755[a]	.570	.539	.70357	6	83	18.73	.000

Source: Research data (2019)

Results of the regression model estimation indicate that about 57.0 percent of the variation in production performance can be explained by the eight independent variables, such as inputs and spare parts, skilled manpower, training and development, information flow/communication, capital, technology level employees commitment, and managerial skill. The overall level of significance of the model estimated through ANOVA revealed that all the explanatory variables jointly and significantly explained the variation in production performance of the company at $p<0.01$ (F value =21.282).

Table 4.12. ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	53.457	5	10.691	21.282	.000*
Residual	42.199	84	.502		
Total	95.656	89			

Source: Research data (2019)

This indicates that the predictor variables have a significant effect on the output variable, which means that there is significant relationship between the predictor variables (Inputs and spare parts, skilled manpower, training and development, information flow/communication, capital, technology level, employees' commitment and managerial skill) and response variable (production performance). Multiple regression analysis was conducted from the summarized data and the following regression model was fitted.

Table 4.13 Estimation Results of the Regression Coefficients

(Constant)		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig
		B	Std. Error			
		.658	.454			
In-Put Material &Spare parts	X1	.351	.111	.325	3.153	.002*
Skilled Man Power	X2	.479	.095	.409	5.069	.000*
Training & Development	X3	.507	.102	.470	4.988	.000*
Information Flow/communication	X4	.031	.155	.029	.199	.842
Capital	X5	.332	.085	.341	3.910	.004*
Technology Level	X6	.301	.102	.296	2.94	.000*
Employees Commitment	X7	.456	.121	.428	3.775	.000*
Managerial Skill	X8	.595	.120	.532	4.947	.000*

Dependent Variable: Production Performance

*Significant at $p<0.01$

Source: Research`s findings, (2019)

Based on the above multiple regression model, the following equation is drawn $Y=.658+.351X_1 +.479X_2 + .507X_3 + .332X_5 + .301X_6 +.456X_7 + .595X_8$

From Table 4.11., above and the equation drawn, the following analysis were made: the constant = .658, shows that if Inputs and spare parts, skilled manpower, training and development, information flow/communication, capital, technology level, employees commitment and managerial skill were all rated as zero, production performance rating would be 0.658. X_1= 0.351, shows that one unit change in Inputs and spare parts, results in production performance increase by 0.351 units. Similarly, X_2= 0.479, shows that one unit change in skilled manpower results in 0.479 units increase in production performance, X_3= .507, shows that one unit change in training and development results in .507 units increase in production performance,X_5= .332, shows that one unit change in capital results in .332 units increase in production performance. X_6= .301, shows that one unit change in technology level results in .301 units increase in production performance, X_7= .456, shows that one unit change in employees commitment results in .456 units increase in production performance and X_8= .595, shows that one unit change in managerial skill results in .595 units increase in production performance.

Regarding to significance, information flow/communication is not significant at 1% significance level and therefore can be removed from the model. The resultant model to predict production performance would include Managerial skill, Training and Development, Skilled man power, Employees' commitment, Inputs and spare parts, capital and Technology level.The model hence indicates that these variables are strong determinants of production performance in that order, in the case of National Tobacco Enterprise(Eth.)S.C.

4.5 Summary of the Result

Table 4.14. Summary of Hypotheses testing

Hypothesis	P-Value	t statistic	Conclusion
H_0: There is no significant relationship between Inputs & spare parts and production performance H_1: There is a significant relationship between Inputs &spare parts and production performance	P=0.002<0.01	3.153	Reject H_0, Accept H_1
H_0: There is no significant relationship between skilled man power and production performance H_1: There is a significant relationship between skilled man power and production performance	P=0.000<0.01	5.069	Reject H_0, Accept H_1
H_0: There is no significant relationship between Training & Development and production performance H_1: There is a significant relationship between Training & Development and production performance	P=0.000<0.01	4.988	Reject H_0 Accept H_1
H_0: There is no significant relationship between Information Flow/communication and production performance H_1: There is a significant relationship between Information Flow/communication and production performance	P=0.842>0.1	.199	Accept H_0, Reject H_1
H_0: There is no significant relationship between capital and production performance H_1: There is a significant relationship between capital and production performance	P=0.004<0.01	3.910	Reject H_0 Accept H_1,
H_0: There is no significant relationship between technology level and production performance H_1: There is a significant relationship between technology level and production performance	P=0.000<0.01	2.94	Reject H_0, Accept H_1,
H_0: There is no significant relationship between employees commitment and production performance H_1: There is a significant relationship between employees commitment and production performance	P=0.000<0.01	3.775	Reject H_0, Accept H_1,
H_0: There is no significant relationship between managerial skill and production performance H_1: There is a significant relationship between managerial skill and production performance	P=0.000<0.01	4.947	Reject H_0, Accept H_1,

Source: Research`s findings, (2019)

4.6 Discussion of Main Findings

The above data analysis section was presented the detail analysis of quantitative data gathered through questionnaire. Based on the analysis regarding to the factors associated to the production performance of National tobacco Enterprise (Ethiopia) S.C.; like Inputs and spare parts, skilled manpower, training and development, capital, technology level, employees' commitment and managerial skill has significantly affected production performance. This was assured by regression statistics, since, the predication power of these variables on dependent variable (production performance) including the minor effect of information flow/communication, was 57% and hence, it can clearly indicate the influence of the independent variables on production performance. Similarly as it is described in the statement problem of this study, this outcome result is also supported by the research done for Ethiopian manufacturing sectors by (AACCSA & DAB – DRT, 2014), where mainly the manufacturing affecting factors among others were: low productivity of workers, obsolete technologies, limited access to finance, limited research and development, poor institutional framework, and inadequate managerial technical skills. And also for similar studies in Oman Manufacturing enterprises; among many other factors the mayor production affecting factors were found to be in order of importance: poor management practices, employee job dissatisfaction, and poor HRM practices (Bashir et al, 2014).

4.7 Interview questions Analysis

Besides, to strengthen quantitative analysis qualitative data were collected through in-depth interview with managers. Accordingly, interview was conducted with 9 experienced and selected operation managers; who had well developed experience in manufacturing of different types of cigarettes and other tobacco products from 7 to 25 years. The questions were twelve as indicated in Appendix-B.

Thus, in this section interview response was qualitatively analysed in order to strengthen quantitative analysis. Accordingly, almost all production managers i.e. Operation managers , shift managers and maintenance managers confirmed in one or other words that shortage of spare parts and their late arrival challenges the machinery production performances, shortage of skilled manpower, High down time, quality of raw materials among others are the main factors to affect production performance. They also added that when operation managers; motivate,

encourages and acknowledged production associates and technicians, it was observed improvement on their effort of production activities.

Regarding to training and development, operation managers during the interview section also added that, whenever human resource directorate informed us the training schedule; we select technicians, operators and others by looking their skill gap, capacity, discipline and other related factors in order to able them maximize their capacity both in electrical and mechanical works. In this aspect they mentioned that, this is better trend and should be encouraged, because the positive effect of this issue has been seen clearly in the performance of production. However, the training shall be always strictly based on need of assessments, avoiding any sudden and wrong timing and random selection of trainees.

With respect to employee commitment, all managers were also reflecting in their interview section about their concern where repetitively considerable amount of employees were not following properly the implementation of instructions and procedures during production activities; this might be resulted from low attitude of industrious culture, knowledge or related issues ,which shall be given attention seriously by the management to maximize their commitment in order to improve production performance.

As to the technology level all managers agreed that the primary process of tobacco part is still using out dated machines, which incur high dawn time and still had quality problems; while the secondary cigarette making and packing part is modern and up to dated.

Furthermore, they explained that information/communication flow is going somehow in a good condition so that they have not come across with significant production problem due to information flows. However, they mentioned that shortage of foreign currency sometimes was challenging their production performances.

Finally each interviewee was asked for their opinion in regard of their managerial skill influence on the production performance and practically all were saying that their active participation in planning production volume, guiding, coaching, instructing employee and others management functions in normal as well as in unforeseen circumstances was very crucial and this was proven on the ground results. And they all believe that they have to work more on that direction individually and collectively to feel their managerial gap and then for the improvement of their company performance as a whole.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

In this last chapter; summary, conclusions and recommendations were presented based on discussion of the findings in the study. Accordingly, the overall response rate was 94.7%; it is good, since a representative proportion of the respondents' population was achieved. This was adequate for a normal distribution assumption. Below are the summary of findings, conclusions and recommendations based on the study.

5.2 Summary of Findings

Analysis of the data indicated that the factors like inputs and spare parts, skilled manpower, training and development, capital, technology level, employees' commitment and managerial skill has strong effect on production performance of National Tobacco Enterprise (Eth.) s. c., while information flow/communication has weak effect.

The coefficient of determination R^2 = 57% of the regression model indicates that the model was adequate in predicting operational performance from the eight variables, that is, inputs and spare parts, skilled manpower, training and development, information flow/ communication, capital, technology level, employees' commitment and managerial skill. This means that these variables explain 57 percent of the variations in production performance and hence the regression model fit to explain the factors. The analysis of each variable indicated that inputs and spare parts ($P<0.01$) is statistically significant at 1% significance level. Similarly, skilled manpower, ($P<0.01$), & training and development with ($P<0.01$) are statistically significant at 1% significance level. Like-wise Capital, Employees` commitment, technology level and Managerial skill also ($P<0.01$) are statistically significant at 1% significance level, indicating that these variables could be used to predict the level of production performance in NTE. These findings concur with findings from a study by Bashir et al; (2014) manufacturing enterprises can face obstacles that make their operational performance improvement efforts, ineffective or even tackle their operations improvement.

However, information flow/communication is not statistically significant and hence cannot be useful in the model as it is not good predictor of production performance levels. Information flow/communication (P>0.1) should therefore be dropped from the regression model.

5.3 Conclusion

In this study factors like: inputs and spare parts, skilled manpower, training and development, information flow/communication, capital, technology level, employees' commitment and managerial skill issues were assessed in order to see their influence on production performance in National Tobacco Enterprise (Eth.) S.C.

Accordingly, among the factors explained above, except information flow/communication the rest of all like inputs and spare parts, skilled manpower, training and development, capital, technology level, employees' commitment, and managerial skill were statistically significant and their prediction power on production performance, which was about 57%.

Therefore; from this it was concluded that in National Tobacco Enterprise (Eth.) S.C. production performance was affected by the above mentioned factors. More importantly, the conclusion of the findings is briefly summarized below.

- The availability of spare parts as needed, the quality of inputs and spare parts arrival punctuality from store to each production machine was affecting issues on the production performance.
- The skilled man power is not well paid and not motivated to enhance the production; besides, the few skilled man power is working excessive overtime and this affect the production efficiency due to physical and mental fatigue; on top of that the skilled man power is so specialized only for particular machines and cannot cover all production machines, so all machines cannot produce as required.
- Training and development was not given strictly based on need assessment and pre scheduled time, so that affects the production volume
- Capital was also another issue that assessed in this paper. And it was understood that shortage of foreign currency sometimes affects operational performance of National Tobacco Enterprise (Eth.) S.C.

As to the technology level, the absence of modern cigarette machineries mainly in the tobacco preparation (Primary Section) and the less technology support of IT staff affected the production performance.

- Employees' commitment was another factor that influences operational performance of National Tobacco Enterprise (Eth.) S.C. Since, the follow up of instructions and procedures was not complied strictly.
- Similarly, it is also concluded that, managerial skill was significantly affects production performance of National Tobacco Enterprise (Eth.) S.C. mainly in handling employees and production activities.
- On the other hand, information flow/communication did not influence significantly production performance of National Tobacco Enterprise (Eth.) S.C.

5.4 Recommendations

Based on the above findings and conclusions of the study, the following recommendations were made for improvement and further study:

5.4.1 Recommendations for Improvement

Based on summary of the findings and conclusions the following recommendations are forwarded:

Sometime the quality of inputs and late arrival of spare was potentially affect production performance of National Tobacco Enterprise (Eth.) S.C. Hence, the concerned bodies and stake holders of NTE should focus on improving the availability of inputs and the arrival time of spare parts in proactive way to ensure the non-stop running status of production machineries.

Moreover, human resource directorate of National Tobacco Enterprise (Eth.) S.C should emphasize on improving training and development for its employees, based on need assessment and pre scheduled time in order to maximize operational performance through capacity building works on its employee. Besides, they should enhance their employee commitment through diversified provision of skills, incentives and motivation to increase production performance of the firm.

The human resource directorate also shall take serious attention in how to improve the shortage of skilled manpower and their versatile activity in-order to acquire sufficient skilled manpower for all machines as required, and consequently to reduce the fatigue of the few skilled manpower, and enhance production performances.

The National Tobacco Enterprise (Eth.) S.C top management shall give also more emphasis in improving the managerial skill of all its production line managers in regard of accelerating their ability to perform effectively as per expectations.

Furthermore, the management has to focus more in a very special way on how to solve the complicated shortage of foreign currency, in-order to improve the day to day operational activities as well as in up-dating the current out-dated primary tobacco processing machineries, to eliminate current capacity and quality problems of the firm.

5.4.2 Recommendations for Further Research

This study focused on identifying the potential factors affecting the production performance of National Tobacco Enterprise (Eth.) S.C.Since the Farm development and administration Department of NTE declare that has no history of such studies before, further research could be done on this aspect in National Tobacco Enterprise (Eth.) S.C by assessing the other dimension of factors on production performance of tobacco cultivating culture and tobacco processing plants, which are a provider of main input material (tobacco) that affects the production performance in cigarette manufacturing division. Also a replication of other factors could be carried out in NTE in order to exhaust as much as possible the remaining affecting factors.

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Appendix A

St. Mary's University

School of Graduate Studies

Dear Respondents,

The purpose of this survey question is to collect data related to factors affecting Organizational production performances in the case of National Tobacco Enterprise(Ethiopia) S.C. for the completion of Master Degree from St. Mary's University (Addis Ababa) Your voluntary collaboration & accurate information is vital to complete this research.

The collected data will be used for academic purpose only and will be kept confidential.

Sincerely,

Name: Demissie Kifle

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A. Demographic Characteristics

1. Sex

Male ☐ Female ☐

2. Educational Status:

1. Grade 10 and below ☐ 2. Diploma ☐ 3.BA/BSC ☐ 4.MA/MSc& above ☐

3. Current position:

1. Technician ☐ 2. Associate ☐

4. Work experience [year]:

1. 2-8 ☐ 2. 9-15 ☐ 3. 16-25 ☐ 4. 26-40 ☐

B. Management and Employees Opinion Measurement

The following items which are related to your organization Production performance as measured from possible affecting factors. It is based on your degree of agreement as rated from 1 to 5 from strong disagreement to strong agreement. Accordingly, please rate on the scale 1 to 5, with 1= strongly disagree; 2= disagree; 3= neither agree nor disagree; 4= agree; 5= strongly agree, and please tick "✓" sign in the corresponding cell provided.

Code	Items	Measurement scale				
		1	2	3	4	5
I	**inputs & spare parts**					
IMS1	Inputs are available as needed					
IMS2	Availability of Spare parts as needed					
IMS3	The quality of in-put materials					
IMS4	The quality of spare parts					
IMS5	In-put materials arrival from store to each production machine is punctual					
IMS6	Spare parts arrival from store to each production machine is punctual					
II	**Skilled Man power**					
SMP1	There is only few skilled man power to attend all production machines so that machines may not produce always as required					
SMP2	The few skilled man power are working excessive Over Time and this affect the production					
SMP3	The existing skilled man power is so specialized for particular machines and can`t be used interchangeably					
SMP4	The skilled man power is not well paid and not motivated to enhance the production					
SMP5	The Employee turnover is so high and affect production					
SMP6	The turnover of the skilled man power is so high and affect production					
III	**Training &Development**					
TD1	Training and Development is not given for the right people at the right time so this influenced negatively on the production.					
TD2	Training and Development is realized based on need of assessment and pre-scheduled time					
TD3	Training and Development is realized spontaneously as per the order given from authorized personnel.					
TD4	Relevant Training and Development is not given to raise production performance					
TD5	Training and Development is considered as entertainment by the employees					
IV	**Information flow/Communication**					
IFC1	The information/communication flow is only from top to down structure level and affect production					
IFC2	The information/communication flow is not addressed properly to ensure that every one is aware of the same to maximize production					
IFC3	There is no feedback checking by concerned personnel for the sent information/communication flow					
IFC4	Production is affected due-to improper flow of information					
IFC5	There is no accountable person for wrong and confusable information flows					

V	**Capital**					
CTL1	There is no shortage of working capital to run the production all the time as required					
CTL2	Some time there is shortage of local currency and consequently affects the production performance					
CTL3	Some time there is shortage of foreign currency to run operation properly					
VI	**Technology level**					
TCL1	Modern and up-to-dated cigarette production machineries.					
TCL2	Process technology					
TCL3	Assimilation of design technology by employees					
TCL4	Shortage of Technology support with IT					
VII	**Employees Commitment**					
ECT1	Production Employees usage of all designated working hours					
ECT2	Strict follow up of instructions and others procedures by employs					
ECT3	All production employees' commitment to maximize the utilization of inputs, spare parts and other resources.					
ECT4	Employees are committed to produce within the required quality parameters of the Enterprise.					
ECT5	Reduction of scrap and re-works					
ECT6	Employees participate in the planning of production activities					
ECT7	All working areas are not conducive to realize production activities					
VIII	**Managerial Skill**					
MLS1	Employees involvement during Planning stage					
MLS2	Employees involvement during Planning stage					
MLS3	Coordination of management on employees in organizing the schedule of production activities					
MLS4	The management gives incentives to employees					
MLS5	The management do not handle properly complaints and grievance of employees					
IX	**Production Performance**					
PPF1	The periodical and annual production volume fulfils always the targeted production plan.					
PPF2	The process yield of overall production is always as per the pre-determined limit.					
PPF3	Machines operating speed of production is always as per the capacity of production machines					
PPF4	Changeover time between different products lines are as per the given pre-set time					
PPF5	The main and the distinguishably expensive input material (tobacco leaf) consumption is under control of the targeted limit					
PPF6	Reject ratio of production line is always as per the acceptable limit/edge of scrap.					
PPF7	The down time of production machineries is kept always under the targeted plan.					
PPF8	The Overall Equipment Efficiency is under the target.					

Appendix- B

Interview questions:

1) Have you ever thought and acted to distinguish factors, which affect directly or indirectly your production performance?
2) Can you tell me how you select trainees and how to develop your employees' knowledge and skills, and to what extent was the advantage?
3) Provide an example of when you set expectations and monitored the performance of subordinates. What guidance and direction did you find most effective? And how you evaluate your employee's commitment?
4) Have you ever come across with availability and/or quality problems, to run smoothly the production? And what about their arrival punctuality?
5) In your experience, what is the key to developing a good team? (Look for how they build mutual trust, respect, and cooperation)
6) What about the availability of skilled manpower in your organization, and what efforts are being done to utilize them at their most efficiency?
7) Share an experience in which your ability to consider the costs or benefits of a potential action helped you choose the most appropriate action.
8) Share an experience when and how you applied new technology or information in your job. How did it help your company?
9) How do you delegate responsibilities? And motivate your employees?
10) Can you tell an example of a time you had to gather information from multiple sources? How did you determine which information was relevant?
11) Have you come across shortage of Capital, which influenced your production process? If yes what measures you took to resolve the problems.
12) Can you give me an example of when you thought outside of the box? How did it help your employees and employer?

Appendix-C

National Tobacco Enterprise (Ethiopia) S.C.

Production volume of cigarettes in ten consecutive years.

Cigarette Production From the year 2009 to 2018

Year/Production	2009	2010	2011	2012	2013	2014	2015	2017	2018	Total	Average
Plan	346170	375480	386250	453485	443450	454085	564045	560050	580000	4163015	462557.2
Actual	321580	347062	371684	352929	403497	417938	451299	504343	574002	3744334	416037.1
Percentage	92.90	92.43	96.23	77.83	90.99	92.04	80.01	90.05	98.97	89.94	89.94

Note:-Units of Production are given in cases, where each case contain 10,000 pieces of Cigarettes

Source: (NTE Planning Department)