Investigation of Company-wide Performance Factors in Ethiopian Leather Footwear Industry

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Abstract — Nowadays, there is a high need of business enterprises to measure, evaluate and improve performance as they encounter increasing competition from an ever-changing business environment. The Ethiopian Leather Footwear Industry (LFI) has a huge potential for boosting the country’s economy and the federal government of Ethiopia gives higher priority to its development. However, its overall performance is low due to various internal and external factors/problems, some of which include: shortage of inputs (quality and quantity), poor production planning and control practices, labor productivity and high manufacturing cost. The critical problems of the footwear companies in particular were not yet clearly identified. Thus, the aim of this study is to assess and analyze the overall performance management practices of the Ethiopian LFI and to investigate the firm level process-based key performance problems of the companies. Survey questionnaire has been distributed to selected LFI’s. Furthermore, a case company was taken so as to conduct a company-wide process-based performance assessment. The assessment followed in this study used various performance variables and measures in each of the factory process categories. Finally, critical problems that hinder the performance of the factories were investigated. Thus, the study recommends the footwear factories to focus mainly on these identified process-based problems with further root causes analysis.

Key words: performance, performance evaluation, performance factors, footwear industry, Ethiopian calendar (E.C.)

I. INTRODUCTION

In recent times, customers demand a wide variety of products at low price but with fast delivery time. Customers also have more market options and information than ever before. As a result, firms have become more concerned about the satisfaction of their customers. This resulted in a high need of business enterprises to measure, analyze and improve their performance/productivity regularly [1, 2, 3 & 4]. In order to effectively cope with these significant competitive issues of increasingly sophisticated customers and management practices, accelerating globalization and product differentiation, a number of proposals have been put forward in search of more appropriate performance measurement/evaluation and improvement methods.

Performance is the valued productive output of a system in the form of goods and services. The actual fulfillment of the goods or services requirement is thought of in terms of units of performance. These goods or services units of performance are usually measured in terms of quantity, time, and quality measures [1]. Measurement is the first step in controlling and improving performance. Decisions can hardly be made in the absence of performance measurement [17]. As Gruenberg T. stated, performance measurement helps to connect company goals to improvements and to set targets for improvement. Together, these help focus energy and increase the impact of any improvement initiative.

Performance improvement can be achieved through effective use and implementation of modern performance improvement methods. But, its success does not rely on the application of specific performance techniques; rather, it depends more on the commitment and creativity of all [10, 19]. Ideally, most companies would like to take full advantage of the modern methods of performance improvement. Part of this can be attributed by fear of changes, complexity in working culture, lack of management commitment and lack of understanding of performance.

Ethiopia is the leading African country in its livestock wealth. This huge potential resource is expected to play a significant role in the country’s economy. In this regard, the industrial sector in general and the leather sector in particular are basically intended for the production for both local and
export markets. However, the industrial sector in Ethiopia has been characterized by a low level of development.

Footwear is an active product in international markets. It is being delocalized from developed countries to developing ones. Ethiopian leather shoe industries are producing shoes mainly for export market. The leather footwear industry is considered as an important sub-sector that leads the whole sector’s modernization. In addition, it is the last stage of the leather sector where more value is added. Although export of leather footwear started only in 2005, the export value has been growing steadily since then and is expected to have a big impact on the economy. Studies made by UNIDO in 2005 E.C., by Japan Embassy in 2008, and other researchers [11, 22] showed that Ethiopian leather footwear industries’ performance is unsatisfactory; most of them are characterized by low productivity (material and labor), poor working conditions, improper utilization of resources, and etc.

II. PROBLEM DESCRIPTION

Generally, the overall performance of Leather Footwear Industry (LFI) in Ethiopia is poor due to various internal and external factors or problems. Especially the internal factors or problems are not studied and clearly identified yet. In addition, the existing performance measurement and evaluation practices are not suitable for company-wide learning which in turn retards performance improvement efforts. These situations raise the need to conduct both an overall sector level and a company-wide process-based performance assessment and evaluation. This later on helps the factories to focus on the critical problems and develop mechanisms that can mitigate problems of the leather sector in general and footwear companies in particular.

III. OBJECTIVE OF THE STUDY

The study has a general objective of assessing the performance of Ethiopian LFI and then specifically identifying the critical company-wide process-based performance problems which later on need special attention to bring improvement in the sector.

IV. LITERATURE REVIEW

According to Darryl D. (2000), performance is defined as "the progressive achievement of tangible, specific, measurable and personally meaningful goals." Specific and measurable goals help organizations evaluate success. A number of factors have caused companies to re-examine their performance. These factors include: competition, change in customer demands and knowledge, rapid technological changes and change in internal needs [10].

Performance, in both profit making and non-profit making organizations, can be stated as an appropriate combination of efficiency and effectiveness although there seems to be some inconsistency in the use of these terms in the existing literature. Drucker (1977) distinguished efficiency and effectiveness by associating efficiency to “doing things right” and effectiveness to “doing the right things” [6, 20].

![Fig. 1. Components of performance [20]](image)

An improvement program, if it is to have real impact, must be tightly connected to performance goals and objectives. This helps to ensure clarity of the improvement program and to ensure that all participants are working in the same direction. In turn, if all levels of the company understands the program and its direction; all resources can more easily be directed to the same targets and goals. If improvement goals are connected with overall strategic goals, there can be a “multiplier effect” which fuels performance - objective results. A linkage between performance objectives and improvement
objectives can raise the impact of improvement work, which in turn helps fulfill performance objectives.

Performance of a manufacturing firm can be defined in various ways depending on the questions in mind when we inquire to know about a firm’s performance. From a socio-economic perspective, profit is the most common measure of a firm’s performance. Other indicators include internal rate of return, productivity, superior quality and reliability, flexibility, efficiency, effectiveness, capacity utilization, growth of output and net present value, and market share [12]. In another way, manufacturing performance is defined as the relationship between the quality and quantity of physical outputs in relation to inputs used in the production process. This definition of manufacturing performance reflects the basic rationale for a production system, which is to produce something of value [12]. The definition of performance of a manufacturing firm describes a joint impact of several factors. Some of these factors are the efficiency of production, the level of technology in use, and the structure and composition of the industry.

In this regard, performance measures quantitatively tell something important about products, services, and the process that produce them. They are tools which can help understand, manage, and improve what organizations do [3]. They also provide information necessary to make intelligent decisions. Therefore, the basic concept of performance measurement involves planning and meeting established operating goals/standards; detecting deviations from planned levels of performance; and restoring performance to the planned levels or achieving new levels of performance. Performance measures help to understand and improve one’s performance. If an activity cannot be measured, it cannot be controlled, it cannot be managed, and eventually it cannot be improved; i.e., without dependable measurements, intelligent decisions cannot be made. Hence, performance measurement is a prerequisite to performance improvement.

Discussing and measuring performance has two main aims - first to connect company goals and objectives to improvements and secondly to set targets for improvement activity. Together, these help focus energy and activity and increase the impact of any improvement initiative [1, 6].

Since customer behavior is not static and flexibility is hard to benchmark between different organizations, some aspects of performance are difficult to measure, e.g. customer satisfaction and flexibility. Performance characteristics which are difficult or too blunt to be easily measured, they may be sub-divided or even measured "by proxy". These divided measurements, often as simple ratios, turn out to resemble "productivity" measurements.

Since one cannot improve what one cannot measure, performance metrics become a prerequisite to achieve organizational excellence [16]. Most studies on manufacturing performance improvement reflect the experiences and situations of the developed world, where real social demands and economic and technological constraints are different from those in developing countries. Therefore, approaches which allow decision makers of manufacturing industries in such countries to identify and understand the causes of poor performance and their implications can provide them valuable insights when supporting the process of performance measurement and improvement.

When we look into the performance overview of African and Ethiopian footwear sector, African countries have 20% of the world’s cattle, sheep and goats, but produce only 14.9% of world output of hides and skins. They have 10% of the world’s cattle but produce only 4.5% of bovine hides. Their exports of hides and skins have fallen in recent years from 4% to 2%, and their tanning capacity from 9.2% to 6.8%. At the same time when other developing countries have substantially increased their share of world footwear production in relation to developed countries, African countries have shown only a modest increase. Import penetration of their domestic leather footwear markets by other developing countries is estimated at 73.3% (A Blueprint for the African Leather Industry, 2002 E.C.). This gap between resources and production shows the considerable potential of the African leather industry. Reducing this gap is especially critical in an important strategic sector for the economic and industrial development of many African countries. This sector not only has an excellent and renewable resource base, but it is also labor-intensive with the potential to be a major source of employment all along its supply chain.
In eight of nine countries surveyed in a ‘Blueprint for the African Leather Industry’, in 2002 E.C., the leather and shoe manufacturing sub-sector already provides 4% to 5% of total industrial employment, with contributions to MVA of 2.9% in Egypt, 8.3% in Tunisia and 74% in Ethiopia, where the cattle population is the highest in Africa, and close to 1% in the remaining five countries. Clearly the realization of the African leather industries potential would bring significant economic gains to the continent.

The study also states that African footwear sub-sector seems isolated from the fast pace of technological innovation taking place globally. Lack of design capabilities, operator, supervisory and managerial skills, and knowledge of more appropriate material inputs and marketing techniques, all combine to cause poor productivity and low competitiveness. Even in the local market, high operational costs and lack of attention to what the market demands in shoes in terms of quality and price, allow cheap Asian products and second hand shoes to penetrate the market.

According to a report from the US International Trade Commission, Ethiopia is emerging as one of the leading sub-Saharan footwear exporters, along with South Africa, Kenya, Zimbabwe and Cape Verde. These five countries account for 80% of the shoe exports from the region. The development comes on the eve of substantial private investment in shoe production in Ethiopia, and the export is also benefitting the country's trade balance. Exports have been helped by improved quality in the production among other reasons because of a government established training institute giving six months training for employees in the industry. The industry is also benefitting from tax exemption in imports of materials for the production and export taxes on the ready products [18].

Ethiopia possesses the largest livestock population in Africa, and the 10th largest in the world. Ethiopia’s livestock population in 2007 E.C. is estimated at 44.3 million cattle, 23.6 million sheep, 23.3 million goats and 2.3 million camels. The skin removal rate is 7% for cattle, 33% for sheep and 37% for goats. The country produces 2.7 million hides, 8.1 million sheepskins and 7.5 million goat skins annually [15]. Here, it can be observed that resource utilization as well as output performance of Ethiopian leather sector is low. The leather industry still has room to be developed and therefore, its critical issue to identify the main company-wide problems faced. Then attention will be given primarily for these critical factors which later leads to the improvement directions.

V. METHODOLOGY

Primary and secondary data were collected via observation, interview, questionnaire and referring case company annual performance reports. As shown in the figure below, the study was done at two levels; sector wise and firm level. To conduct the sector wise study, a survey questionnaire was developed to assess the overall performance practices of the sector. Fourteen representative medium and large footwear factories were selected in consultation with leather development institute and association organizations and data related to current performance status, planned and actual production, performance problems faced, performance measurement practices used were collected. In the firm level study, a case company was taken and observation and intensive discussion was used to collect necessary data and information. The case company is one of the renowned footwear factories in Ethiopia which is considered to have a well track of records of information about footwear operations, and business – XYZ Share Company. Observation was used to see the real working situation in the production process of the case company and so as to identify factors related. Interview and intensive discussion with different responsible bodies (officials and experts) in the sector and case company experts was made to assess the practices and pin point the real performance factors. In the case company, company-wide process-based performance assessment and measurement was conducted to investigate firm level critical problems. Secondary data were collected by referring previous research works in the area from related literatures, leather sector and footwear factories’ reports from Leather Industry Development Institute (LIDI), Ministry of Trade (MOT), Ministry of Industry (MOI), leather association, and others.

Conceptual analysis framework of the study

In the framework below, the sector wise performance assessment was made first to know the overall performance practices and general problems to the Ethiopian LFI. Then it will help us to guide for the
firm level assessment and the factors will be external to the firm. The firm level assessment is to investigate the specific factory level and process based performance factors which are critical and have great impact also to the sector. Accordingly, it is discussed, analyzed and presented under categorizing the processes of the company in to seven major processes based on overall activity and organizational structure of the firm. These mainly include production, design & product development, procurement and material stock management, sales & marketing, distribution, human resource development & administration, and finance & accounting.

VI. PERFORMANCE ANALYSIS AND RESULTS

A. Sector wise performance evaluation

A benchmarking analysis (*Benchmarking shoe production in Ethiopia*) made by Global Development Solutions in 2006 EC, indicated that Ethiopia is relatively competitive against Indonesia with respect to the cost of leather shoe assembly, but less against Bangladesh. Ethiopia’s shoe manufacturing productivity is still very low, compared with China, the largest shoe producer in the world; it takes 78 minutes to produce one pair of shoe uppers in Ethiopia, whereas it only takes 30 minutes for Chinese manufacturers [15].

To some extent, the export performance of the Ethiopian LFI reflects the sector’s development stage as a whole since, for a fully integrated leather sector, its cumulative outcome is reflected in the end product of the sub-sector. However, Figure 3 shows that the export performance of Ethiopian LFI is far below its plan for the past five years. Especially, in 2000 E.C and 2001 E.C, the planned and actual export shows high deviation. As it can be calculated from the collected data, on average, actual exports account for about 28 percent of planned export value. Though the Ethiopian LFI export value figure shows increasing trend, it is inconsistent and show too slow progress; thus, improvement activities have to be identified and introduced to increase the performance and get competitive advantage.

![Fig. 2. Conceptual analysis framework](image-url)
The questionnaire had four parts that helps to collect both qualitative and quantitative data. It was all collectively aimed to assess the current performance status, existing performance management practices and factors or problems that affect performance of Ethiopian footwear manufacturing firms. It also helps to cross check whether performance factors that are found in literatures are really achievable in Ethiopian LFI. 78% of the distributed questionnaire was received and the data so collected is analyzed using Microsoft excel or spreadsheet file and discussions were made and results in brief are presented here.

The results of the survey questionnaire showed that most Ethiopian LFI are working at lower performance and even far from the designed production capacity. From the survey, the following points were summarized regarding the current performance management practices:

- Most LFIs did not regularly practice performance measurement to identify areas that require strategic focus;
- Most LFI use only financial indicators as performance measures;
- Though LFIs have training programs which are mostly on job trainings, it is not on a regular basis;
- Though some factories have standard time for each leather shoe product type, they did not use it properly.

Regarding the recent performance measurement and improvement practices/methods in LFFs, the following observations were made:

- Most firms use net income, ROI, and profitability as financial performance measures;
- Some firms use production and sales volume, and benchmarking as operational performance measures;
- EFI use sales growth as marketing performance measures;

However, there is no as such activity done for employee satisfaction, innovation & employee learning and suppliers’ performance. Some of the reasons specified by the respondents are lack of skilled staff, absence of improvement method and lack of commitment by the private owners.

From the survey questionnaire analysis, it was also observed that there is no formal or scientific way of performance measurement and improvement practice. The industries also did not have the practice of consistently deploying performance measurement for specified period of time. They did not define performance factors, metrics, and targets which can be used as easy indicators for performance improvement. As a result, they failed to identify root causes towards their low performance. These were some of the major reasons to the low performance of the Ethiopian LFI.

To sum up, we can trace from the respondents that there are many performance problems, mainly with shortage of inputs, poor production planning and control, low productivity, high manufacturing cost, lack of technology, low export performance and lack of marketing strategy. The SWOT analysis made on Ethiopian LFI [21] also showed that though there are strengths and intense opportunities for
the development of the sub-sector, yet there are different weaknesses which affect the factories to be at lower level of performance.

B. Case study (XYZ Shoe Share Company)

XYZ shoe share factory is one of the oldest and well known shoe factories in Ethiopia, located at the capital city, Addis Ababa. Though it is the leader in production volume (max. 2500 pairs/day) among Ethiopian leather shoe factories, it is not working at satisfactory performance level [9, 13].

In previous sections, the performance and related problems of Ethiopian LFI were assessed. This has created an opportunity to know their performance level and to identify the problems the sector is currently facing. In this section, internal situations (firm-level) of LFI (such as performance problems, working environment and improvement practices, etc.) are assessed based on the case company’s data collected through observation of production process, reviewing annual reports and discussing with factory experts.

Regarding production performance, though the case firm has high production capacity relative to other LFIs, it is not using the capacity effectively. It has a designed capacity of producing 4,500 pair of shoes per day but its current attainable capacity is about 2000 – 2500 (50%) pairs of shoes per day. The firm has a trend of preparing timely (quarterly) production reports which show production performance against the plan. Table 1 (see Appendix) shows the company’s production and sales report [8]. From Table 1, we can develop Figure 4 and it shows a four year production trend of the firm. Accordingly, the average four year production performance of the company compared to its yearly plans is: local production 112%, export production 38.6% and total production 70.3%. Here, it can be concluded that the company was better in performing local production though the yearly export plan is higher. It can also be observed that this trend is inconsistent.

Fig. 4. Production trend (local, export and total) of case company (2008-2011 E.C.)

In this section, mainly the performance variables and measures that the case company used and how they measure and the factors affecting the performance as well as their practices are assessed and analyzed. Thus, results and findings are summarized below in terms of the problems of each of the company’s processes, seven major processes that are explained in the methodology part of this study.

☒ Production Process Related Problems

Supervisors failed in controlling the production process and in motivating workers. This brings lesser outputs from the process to increased manufacturing costs and rework cost; as a result of which the case company encounters 11% rework in its products that cost the company 68,250 Birr a year. The company also has a non-optimal material utilization which resulted in 15% of scraps in the cutting section. The company has also weak production planning practices. Due to the lack of proper maintenance, the factory’s machines are down for 25% of their working time. This leads to lower capacity utilization to respond to large export market in terms of quantity and time. In addition, quality related problems were also observed which mainly resulted from poor quality of raw material (processed leather) and lack of skilled labor in lasting and finishing technologies.

☒ Procurement and Stock management process Related problems

The company is facing long procurement lead time (3-5months), high stock level (about 10 million Birr raw material, 5 million Birr WIP and 14 million Birr finished goods in 2010), low inventory
turnover ratio (about 1.5), high cost of raw material (65% of total cost) and inventory holding, poor material and or stock management practice and poor components procurement system.

**Design and/or Product Development Process Related problems**

Due to lack of design capabilities and design infrastructures/facilities (not using software for design and related technologies), the shoes lack good looking, fashionable, especially in terms of last shapes and heel heights. There is no documented mechanism for conducting fashion & style forecast by considering imported competitors’ products. The research and development department and activities under it are not well organized and hence very less new product development activity and less product range.

**Sales and Marketing process Related problems**

There is no consistent implementation of marketing system or strategy. In addition, the marketing staff lacks adequate marketing expertise to enhance marketing endeavors for the factory. As a result; lack of attention to what the market demands in shoes in terms of quality and price is visible, low sales performance of some factory outlets, less net profit relative to total sale (1-2%) though total sale shows an increasing trend, low export sales performance (40.6% with the planned), not competitive in price due to high manufacturing cost, and no market research and less promotion of its products.

**Distribution process Related Problems**

The distribution system and inventory management of the company has relatively poor performance in which it can be justified with high inventory hold up - finished goods stock which leads to capital tied up, obsolete (damage, defective or despair) stock in the retail shops, low annual selling performance and high selling and distribution expense, and delay in delivery time for local orders. Besides, lack of market assessment via the retail shops to know local customer needs and poor communication with the factory as well as in between shops.

**Finance and Accounting process Related problems**

Financial performance is not as expected and it’s mainly due to shortage of working capital, lack of access to finance, improper costing systems which lead to high price decision and lack of awareness towards allocating budget to some improvement actions or projects. In addition, there is a practice which is limited to financial measures or cost accounting which in turn is not an integrated performance measurement technique.

**Human Resource Development and Administration process Related problems**

In Human Resource development, the main issue is skill improvement trainings. However, in the company such trainings are not provided regularly in planned and documented manner. As a result there is no proper training record like list of identified training topics that arises as result of actual skill gap audit and training reports. The training effort doesn’t include management level rather it only focuses on operator or supervisor positions. There is also lack of diversified and up-to-date training programs. In line with this, the study identifies that there is poor employee satisfaction; caused by unsatisfactory payment, no incentive, no education and regular training which in turn affects the labor productivity. Accordingly, it can be concluded that there is poor training plan performance and unsatisfactory management and administration skill.

It is also observed that there is a traditional performance measurement system (the annual performance report and financial statement which mostly shows the financial measures), utilization of the available performance measures in unbalanced way and no performance improvement method implemented and used scientifically in the factory.

**VII. CONCLUSION**

Though performance is a widest term, which covers overall economical and operational aspects and has many definitions, this study accepts it as “the progressive achievement of tangible, specific, measurable and personally meaningful goals.” Nowadays, there is a need for business enterprises to measure, analyze and improve performance as they encounter increasing competition from an ever-changing business environment. Performance measures are the lifeblood of organizations, as without them no decision can be made, as it is the first step to control and improvement. In this study, many
investigations are made. In the first place, most Ethiopian LFIs are operating at low total performance and are faced with many performance problems, mainly with shortage of inputs, poor production planning and control, low productivity, high manufacturing cost, technology and lack of marketing strategy. Though the leather sector is envisaged to generate export income amounting to 500 million USD at the end of the plan year which will focus mainly on finished leather, footwear (63%), gloves and leather garment and articles, it can be concluded that unless an improvement action is designed and proper performance improvement method are used, this plan cannot be achieved. This is mainly due to low export performance (on average, actual exports account for about 28% of planned export value) and current shortage (quantity and quality) of finished leather. Secondly, from the case study, it can be concluded that the case company is operating at low performance as the statistical values and internal process based problems shows. From the company-wide process based performance evaluation, it can be concluded that the investigated problems under each of the seven processes are the major process based problems to the leather sector which needs attention. Therefore, the Ethiopian footwear factories are highly recommended to focus on the identified and summarized process-based problems as these are internal factors in which the firms can easily solve than the external sector-wise factors. Further, a root cause analysis to these problems and developing a performance measurement and improvement tool that can suit to the sector’s competitiveness is needed.

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REFERENCES


**APPENDIX**

**PRODUCTION AND SALES OF THE CASE COMPANY**

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<td>Plan Performance</td>
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<td>Local prod.</td>
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<td>2201</td>
<td>267106</td>
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<td>343931</td>
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<td>26226</td>
<td>6440</td>
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<td>8525</td>
<td>23722</td>
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<td>-</td>
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[Source: collected & summarized from annual performance reports of case company]