



**ADDIS ABABA UNIVERSITY
ADDIS ABABA INSTITUTE OF TECHNOLOGY
SCHOOL OF MECHANICAL AND INDUSTRIAL ENGINEERING
INDUSTRIAL ENGINEERING CHAIR**

**IMPROVING QUALITY OF LOCAL LEATHER PRODUCTS ON THE
PERCEPTION OF DOMESTIC CONSUMERS BY USING QFD: THE CASE OF
LEATHER PRODUCING SMEs**

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Abbreviations and acronyms

SMEs	Small and Medium Enterprises
LIDI	Leather Industry Development Institute
FDI	Foreign Direct Investment
UNIDO	United Nations Industrial Development Organization
PASDEP	Plan for Accelerated and Sustainable Development to End Poverty
EICTDA	Ethiopian Information and Communication Technology Development Agency
ICTDA	Information and Communication Technology Development Agency
UNDP	United Nations Development program
ITC	International Trade Commission
ILO	International Labor Organization
GTZ	German Agency for Technical Corporation
DANIDA	Danish International Development Agency
KIDI	Korea International Development Institute
CRs	Customer Requirements
CS	Customer Satisfaction
ISO	International Standard Organization
TRs	Technical Requirements
USD	United State Dollar
VOC	Voice of Customer
R&D	Research and Development

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Abstract

Ethiopia has a large livestock, one of the leading in Africa and 6th in the world, giving the country a natural comparative advantage in the leather sector.

However, vertical disintegration shed light to various factors that prevent Ethiopia from being a competitive actor in both international and local leather product market. From those factors design quality is one of the main factors affecting local consumer preference of leather products. In general, domestic leather footwear, goods and garments are incapable to convince customers in terms of design, attractiveness, quality, and variety. For this reason, customers prefer to use import goods which are superior in meeting customer requirements. On the other hand, local leather producing SMEs are suffering to survive in the market because of lacking the import goods persona leading customers to buy imported products. In order to overcome this situation, the role of customer requirement assessment in terms of design quality is basic to beat the challenge of imported goods market dominance.

The objective of this study was to identify technical requirements of design quality that should be considered while designing local leather products which meet the assessed consumer requirements. In this study, both primary and secondary data were collected and used. Primary data was collected from local customers, producers (SMEs), LIDI employees, designers & engineers on how these three types of information impacted consumers preferences of design quality perception is questioned through a qualitative study. Product quality designer explained in to three types of information communicated in the course of aesthetic design quality, symbolic design quality and functional design quality through QFD. Among different methods and techniques employed to survey customer requirements, Quality Function Deployment is a well-known methodology for customer requirement assessment along with interpretation in to technical language.

The study result identified customers higher priority requirements from the three design quality dimensions, the study found out, aesthetic design is the customers priority (such as color, variety, texture, features & attractiveness) and symbolic design as the second priority. The study also found out ICT platform as an assessment tool for customer requirement. If these identified requirements are fulfilled, it would lead to higher customer satisfaction. This study provides valuable information for both enterprises and academia and identifies areas that must be addressed by the producer to meet customer demand. The study also indicates the intervention areas that demand institutional support.

Key words: *design quality, customer requirement, Leather products, customer satisfaction, QFD*

CHAPTER ONE: INTRODUCTION

1.1. Background of the study

Leather is one of the most widely traded commodities in the world. Leather products play a prominent role in the world's economy, with an estimated global trade value of approximately 414.0 billion USD in 2017 and an CAGR(Compound annual growth rate) of 5.4% in the coming years (Grand view research, inc. 2019).

Ethiopia has one of the largest livestock populations in Africa, with 59.5 million cattle, 30.7 million sheep and 30.2 million goats (CSA, 2017). Large livestock population not only provides an important source of livelihood for rural communities in Ethiopia, but it also renders a tremendous potential supply base of raw hides and skins (RHS) for the development of the leather industry. The leather and leather products sub-sector are two of the most promising manufacturing industries in Ethiopia. In addition, these industries have created more than 10,000 jobs in the MSEs, plus a much greater number in informal handicraft and trading activities (Altenburg 2010).

Leather goods industry corresponds to various types of products, techniques and production volumes. The leather produced by tanneries is used to produce a wide range of items such as leather garments, stitched upholstery, backpacks, handbags, luggage, travel goods, purses and gloves. In Ethiopia, there are currently 15 garments and other leather goods producing factories and about 400 micro and small enterprises producing leather products with small capital ranging in different regions of the country. A major part of the leather goods is thus manufactured in MSEs as the leather goods industry has traditionally been an activity involving a great deal of manual work. According to the quality of their leather, the leather goods products can be either sold to the domestic market or exported, mainly to Europe, Japan and North America. (Mines ParisTech Working Paper, 2017)

Most importantly, the whole leather transformation process appears to be a byproduct industry and it is specialized in mid-range products because of the lack of design skills and quality problems. Because of this conjugal manufacturer struggled to conquer the requirement of the middle- and high-class leather product consumers in the local market and the import merchandise to be overriding (Zakaria et.al, 2017).

Improving the quality of local leather products

In 2018, Ethiopia exported \$7.1 billion and imported \$19.2 billion, resulting in a negative trade balance of -\$12.2 billion. According to the United Nation COMTRADE database on international trade and tradingeconomics.com, imports in Ethiopia increased to 3820 million USD in the fourth quarter of 2019 from 3746.40 million USD in the Third quarter of 2019. The main imports are foodstuffs, textile and wearable products, machinery and fuel. The main trading partners are China, Turkey, Saudi Arabia, Italy, United States, Russia and India. From the main imports Articles of Apparel (both leather and non-leather), knit or crocheted and footwear, gaiters and similar products holds 237.42 million dollars in year 2017.

Despite the potential that exists in the livestock population and the policies and institutions that support the development of the leather sector, the sector is characterized by low performance. For example, the leather sector generated an export value of 132 million USD (against targeted amount of 500 million USD) in the final year of GTP- I (NPC, 2018). One of the main reasons that lead to imported goods dominance are weak design quality of products offered to the market and not meeting the customer requirement.

Quality of design represents a fit between product features and customer needs, it reflects not just internal attributes of a product itself but interaction between those attributes and external factors (Sinha and Willborn, 2005; Gitlow and Oppenheim 2001; Widrick, Mergen and Grant, 2002). According to Widrick *et.al*, quality of design is determined by three factors: deep understanding of customer requirements, translation of these requirements into a product and continuous improvement of the design processes. Such an improvement is based on close cooperation among marketing, research and development, and engineering. Quality is the degree to which a set of inherent characteristics of an object fulfills the customer requirements (ISO, 2015). Quality is to mean reaching the gap between the consumers' expectations for the product's quality and the realization of the actual performance of that product (Parasurman *et.al*, 1990).

The quality of design of a product offered to the market has a great impact on the market share that companies will have by satisfying consumers. This is the reason why customer satisfaction is said to be the only weapon for companies to increase the sales of their product, growth and profit (Gangurde S., *et.al*, 2016).

Improving the quality of local leather products

Product quality is regarded as one of the most important factors that consumers consider while purchasing products. However, Contrary to objective, perceived product quality includes consumer's judgment about the overall design superiority or excellence of a product. (GülayH.,2010).

Functional product design refers to the basic functionality of a product and/or what a product is supposed to do. The symbolic design focuses on specific meanings or signs that communicate status, self-image, and/or social roles on the basis of visual elements). Aesthetics refers to how a product looks feels, tastes, smells, or sounds, and is considered to be highly subjective(Desmet,2003).

In today's highly competitive market, customer demand is a critical factor in offering a well-designed and attractive product. Product Design quality is also rapidly becoming a key competitive issue regarding to fashion wears. This high competition has caused companies and medium and small enterprises to continuously be dominated with imported products because of mainly poor aesthetics and design in general. This indicated that local producers need to work on improving the product that they offer to domestic customers in order to ensure competitive advantage and to be able to gain customer willingness to buy from their business. This exhibit that consumers need assessment is essential (Mines ParisTech Working Paper, 2017).

Customer survey data is important for producers to precisely understand consumer needs and integrating these needs (practical and emotional, declared and undeclared, tangible and intangible) into the product (i.e. during the concept development phase) and after this designer provides data which is more useful for designing process (Tarantino,2008). In addition, understanding customers' needs can be viewed as an important source of competitive advantage (Priyono et.al, 2017). However, meeting customers' need through the delivery of product with ordinary requirements will not always maintain or increase market share. For this reason, enterprises need to better understand what its customers' requirements are, and how those customers prioritize particular requirements of the product delivered by the producers.

Owing to the world economic crisis, both large and small companies face business problems. Many companies have to terminate their businesses. The remaining companies have to struggle to survive and preserve their business. Good product is not enough to survive in a competitive market. Presently, customers are important people for any business. Manufacturers face a wonderful challenge from the

increasing requirement of variety by customers. Thus, it is important to work closely with customers to make sure that the products will fulfill their needs and requirements (Nattapong K., 2015).

Thus, in this study the thesis intended to assess the major problems influencing consumers view and willingness to buy domestic leather goods and garments concerning to Design quality from the customer requirement view, which comprising the three dimensions of aesthetics, functionality, and symbolism” and technical requirement of selected SMEs to design better product that satisfies and met customer requirement by using QFD and suggest a way to assess their customer want.

1.2. Problem statement

Ethiopia has one of the largest livestock population in Africa and the 6th in the world and this gave the country a natural competitive advantage. However, vertical disintegration of the leather industry shed light on various factors that prevent Ethiopia from being a competitive actor in both international and domestic leather business. From these challenges,

Berihu A.et.al,(2018), Endalew A. (2018) , Ashebre M.,(2017),Nebiyu (2017), Tgegegne (2015) , Yadeta (2013), Thomas (2011), Tsegaye, (2007)and also other researches indicated that cheap and imported shoes and other leather goods and garments taking over the local market. In General domestic leather footwear, goods and garments are incapable to convince local customers interms of quality, quantity, variety, design and customers preferred to consume the imported goods which are superior in meeting customer requirement. This impacts domestic producers causing devastating outcomes such as downsizing, bankruptcy, loss of assets and property, to downgrading activities and operations. This indicated that the domestic footwear and leather goods and garment industry in Ethiopia is dominated by import goods from Asia and other Europe countries and the local leather sector failed to respond to the competition and resulted to lose potential domestic consumers.

Even though those researchers pointed out design as one factor affecting customer preference and the reasons to be dominated by the imported products, none of them given an emphasis on the Design quality (in terms of aesthetics, symbolism and functional design) requirement of the consumers, in addition this study will suggest a possible way for producers to survey consumer requirement with needed technical interpretation on selected products. Also the investigation will dealt with Medium and small scale leather goods and garments producing industry, since SMEs have been considered as a strategy for growth and development of the country economy, understanding the business interaction between consumers and producers could help improve the SMEs performance. On the other hand most

of the studies repress on shoes but no other leather products, which puts the market on specific boundary of competition only on specific products.

Thus, identifying consumer requirement regarding to design quality will help the small and medium scale enterprises on the selected sector to produce based on their customer requirement or VOC regarding to perceived quality of the aesthetics, functionality and symbolism of the design and this will aid to control over and counteract on the local as well global market. Also, to foresee and get knowledge about the concept of brand preference and aimed examine consumers' attitude between Global and Local products and Electronic communication power.

1.3. Research Questions

- What is the most important product attribute that influences perception of consumers when buying leather good and garments?
- What are the main requirements of consumers regarding to design quality of leather goods and garments?
- How could leather producing MSEs assess consumer requirements easily?

1.4. Objective

1.4.1. General Objective

The objective of this study is to improve the quality of local leather products by identifying requirements and perception of consumers by making use of quality function deployment.

1.4.2. Specific objective

The specific objectives of this study are:

- ✓ To identify ways to overcome gap between customer requirement or voice of customers and production consideration.
- ✓ To assess the customer needs of the leather goods and garments in terms of design quality.
- ✓ To analyze customer need and interpret to technical requirement for product developers to design products which could satisfy customers.
- ✓ To propose possible way to assess VOC for producers.

1.5. Significance of the Study

The manufacturing sector in Ethiopia is ever-growing. In spite of its fast growth, the products produced by manufacturing industries in the country are not capable of satisfying domestic consumers as well as competing with other producers in the international market in terms of quality, product variety, and design in general. This is mainly because the manufacturing enterprises are not properly assessing what their customers really want from their product. Therefore, this research is very important to identify and analyze customer's desire and help the SMEs to improve their products by providing customer based design quality for leather goods and garments based on the assessed consumers' needs.

1.6. Scope of the study

This study covers the analysis of the customer requirement of the leather products with the technical requirement of product developers to design customer-focused and market dominant products that satisfy customer through a better assessment on what the consumers need. The study was conducted to investigate and assess the overall impact of imported goods and garments on the local leather producing SMEs and customer requirements in sight with design quality. Also, how the domestic producer can reduce the challenges was addressed through possible solutions and suggestion.

1.7. Limitation of the study

The study is done only in selected four sub cities of Addis Ababa, namely, Arada, Addis Ketema, Yeka, Bole and Gulele. The sub cities have been selected based on having the most number of SMEs. Other good and garment producers and consumers away from Addis Ababa were not included. In addition, this investigation is limited to assessing what customer wants and interpreting it to technical requirements on the whole concept of design quality which could be used for any fashion wear leather goods and garments than specific product design. Also, the study is only focused on fashion-wear leather products. As this study follows qualitative research method as one of the method, it could be more of subjective and based up on the respondents thought and honesty towards the questions therefore the reliability of study may not be as representative as other methods.

1.8. Organization of the thesis

This study was organized into five chapters. The first chapter contains the background, problem statement, objectives, research questions, significance, scope, limitation and organization of the thesis. The second chapter is dedicated to review of related works and the missed point or the gap regarding to the title from related studies. The third chapter deals with the description of the study area using various elements relevant to this particular research. It also presented the methods employed including data types and sources, software and tool utilized to conduct the research. The fourth chapter deals with the results and discussion parts of the thesis. The last chapter presents the conclusion and recommendations of the study.

CHAPTER TWO

2. LITERATURE REVIEW

2.1. Introduction

A literature review surveys books, scholarly articles and any other sources that are relevant to a particular issue, area of research or theory (Arelene, 2014). Literature review evaluates the subject area under study and it describes the relationship between previous researches. According to Arelene (2014) literature review, reveal any gaps that exist in literatures, areas of prior scholarship to prevent duplication of efforts and to locate your own research within the context of existing literatures. Research methodology also has to be refined from literature review. Different articles, reviews, manuscripts, case studies and reports are reviewed in this chapter to get a thorough knowledge on roof has sent the area under study. The literature review mainly focused on leather products in SME level, and the importance of supporting local leather SMEs with e-commerce for economic development of the country. As a result, the literature gaps are being identified, areas that need further researching, and the importance of this particular research is identified, the literature goes from general to specific issues.

2.2. The Leather Industry

Industrialization is a term that is mostly associated with the development experience of countries in Western Europe and North America during the 19th and early 20th centuries. In this early sense it referred to a marked departure from a subsistence economy that is largely agricultural towards a more mechanized system of production that entails more efficient and highly technical exploitation of natural resources in a highly formal and commercialized economic setting. As such, industrialization was understood purely in economic terms particularly the physical presence of industrial plants that were involved in manufacturing capital goods as well as processing raw materials into finished goods either for further industrial use, general commercial use or purely for domestic use or purposes. By the early 20th Century therefore a country's industrialization was measured by the percentage of plants and/or industries involved in manufacturing as well as the volume of labor within such industries. By around 1820, industrial activity had picked in Europe where coal was used run the steam engine among other industrial machines (Mumo, 2010).

The African continent suffered a reduction of its share of the world trade in the last twenty-five years of the 20th century. Africa faces problems related to animal husbandry, raw material quality, technical knowledge, and market access. These problems persist in spite of significant technical assistance programs implemented by several UN specialized agencies (most notably UNIDO, UNDP, ITC, ILO) and bilateral aid (e.g., through GTZ, DANIDA). Political changes and civil unrest have often had an adverse impact on development (UNDO 2010).

SMEs provide the economy with economic growth, employment and innovation. The SMEs have contributed significantly to job creation, social stability, and economic welfare of countries. In overall economic development, a critically important role is played by micro, small and medium enterprises which, on average, make up for over 90% of enterprises in the world and account for 50-60% of employment. In particular, in the developing world, “SMEs are the emerging private sector in poor countries, and thus form the base for private sector-led growth” (Luetkenhorst, 2005). In Ethiopia, MSEs comprise 99% of all enterprises, over 60% of private employment, and about 30% of exports (Demeke, Guta and Ferede, 2006). Because of the important role MSEs play in the economy, the Ethiopian government has identified MSEs as key sectors of the economy in its pro-poor economic growth strategy (Nzinga and Tsegay 2012).

2.2.1. The gap between resources and production

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 a 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 leather domestic footwear markets by other developing countries is estimated at 73.3% (Dr. Rolf Boehnke and Dr. Carlos A. Magariños).

Regarding the market position of African hides and skins, and products, African countries’ share of the global market in hides and skins, and products is not commensurate with their share of raw materials, nor is it keeping pace with the increasing market share of other developing countries in relation to developed countries. The increase in domestic demand for shoes in Africa itself, though still modest, is satisfied mainly by cheap imports from other developing countries, and by second hand

footwear from developed countries. A wide range of factors throughout the supply chain contribute to this low level of competitiveness: poor physical infrastructure, low levels of foreign direct investment, inadequate levels of technological development, low productivity, poor workmanship, inadequate training, lack of working capital, lack of effective environmental control mechanisms, and factors more directly related to trade and marketing. Most of these challenges to the African supply chain lie within its own resources and capacities (Endalew, 2011).

2.2.3. Ethiopian Industry

Ethiopia is believed to have the largest livestock population in Africa. An estimate indicates that the country is home for 59.5 million cattle, 30.7 million sheep, 30.2 million goats and 56.53 million poultry (CSA, 2017) with the highest draft animal population on the continent.

About 8million of cattle hide, 12million of sheep skin and 8million of goat skin are available annually. Ethiopia's hides & skins are highly known for their natural qualities of clarity, flexibility, strength, thickness &compact texture.

The industry is still constrained by the poor quality of raw materials, lack of an efficient market structure, a weak extension service, competition from local/rural tanning industries and a lack of price incentive for production of good quality raw material.

2.2.5. Ethiopian Shoe Industry

All shoe factories in Ethiopia are owned by private sector both in the production and export. About 24million pairs are produced both for the local and export market. Only 3.54million pairs are exported to the international market.

2.2.6. Goods and other products

Glove Factories

Even though the Ethiopian High Land skin suitable for dressing glove, the glove factories were coming recently after the policy change towards value addition. There are about 4 glove factories; 1 local and 3 FDI's. Export is in a growing trend from 0 to 6 million USD for the last 6 years. More than 2000 work forces are involved.

Garment

The garment industry is growing. The participation of FDI is there in small amount but majority is local entrepreneurs. The contribution of this sector was very small, but now it is growing fast. Mostly it is operated in small scale. The export contribution reached nearly to 3 million USD. But if they get more manufacturing premises, they will boost in a very short time.

2.3. Ethiopian Leather Sector Challenges

Among the challenges of Ethiopian industry are: the quality and quantity supply of raw hide and skin, the technology to overcome the surface defect of hide and skin, weak value chain linkage among stake holders, infant development stage of product industries to absorb finished, lack of supporting industries like chemical manufacturing companies, accessory and component manufacturers, and the sad fact that almost all supporting inputs are imported. Pollution problem of Tannery wastes and their high treatment costs. Poor market linkage with customers, high involvement of middle men, not getting good prices (Abadi, 2000).

In spite of the challenges, Ethiopia has a potential for investment due to many promising reasons. Raw material, endowed with abundant livestock resources, Ethiopia produces large quantity of which is the major raw material for shoe manufacturing. Ethiopia allows duty free import of all materials (including) for export manufacturing of footwear. Easily trainable and large young force and low Utility costs (Abtew, 2015).

In overall economic development, a critically important role is played by micro, small and medium enterprises which, on average, make up for over 90% of enterprises in the world and account for 50-60% of employment. In particular, in the developing world, “SMEs are the emerging private sector in poor countries, and thus form the base for private sector-led growth” (Luetkenhorst, 2005). In Ethiopia, MSEs comprise 99% of all enterprises, over 60% of private employment, and about 30% of exports (Demeke& et.al 2006). Because of the important role MSEs play in the economy, the Ethiopian government has identified MSEs as key sectors of the economy in its pro-poor economic growth strategy (Nzinga and Tsegay 2012).

2.4. Factors affecting consumer product choosing characteristics

Cultural factors

Culture, subculture, and social class are particularly important influences on consumer buying behavior. Culture is the most fundamental determinant of a person's wants and behavior. Every group or society has a culture. Although different societal groups have their own culture that affects consumers' buying behavior, the extent to which it influences the behavior might vary from country to country (Kotler, 2000).

Social Factors

Consumer's behavior is influenced by such social factors as reference groups, family, and social roles and statuses. A Supreme Court justice has more status than a sales manager, and a sales manager has more status than an administrative assistant (Kotler, 2000). In general, people choose products that communicate their role and status in society.

Personal Factors

Personal characteristics, including the buyer's age, stage in the life cycle, occupation, economic circumstances, lifestyle, personality, and self-concept influence which product or service to be bought. People change the goods and services they buy over their lifetime. They eat baby food in the early years, most foods in the growing and mature years, and special diets in the later years. Taste in clothes, furniture, and recreation is age-related.

Similarly, consumption is also shaped by the stage of the family life cycle-the stages through which families might pass as they mature over time. Similarly, Person's Occupation and economic circumstances also affect the goods and services bought (Kotler and Armstrong, 2010).

Psychological Factors

It constitutes motivation, perception, learning, and beliefs & attitudes. When a person is motivated, he/she ready to act, yet how that person actually acts is influenced by his or her perception of the situation. Perception is the process by which an individual select, organizes, and interprets inputs to create a meaningful picture of the world. When people experience new things, changes take place in

their behavior, i.e. they learn new things when they take action. Therefore, through doing and learning, people acquire beliefs and attitudes that, in turn, influence buying behavior Kotler (2000).

Marketing stimuli

Marketing stimuli consist of the four Ps: product, price, place, and promotion. Other stimuli include major forces and events in the buyer's environment: economic, political, technological and cultural. Which are inputs entering into buyer's mind, where they are changed into a set of buyer's observable response: the buyers brand and company relationship behavior and what he or she buys, when, where and how often (Kotler and Armstrong, 2010, Frings, 2005, Abraham and Littrell, 1995 (cited in Department of Management and Marketing, 2008)). As factors affect consumer's preference, product design and price are taken as the major factors and in which this study focused.

2.5. Design quality

Historically one of the priorities of design is to analyze the cultural and social context in order to create progression in the form of everyday experience (Beirne, 2011). Product designers can contribute to good experiences by creating a good perceived quality product. In order to create a good perceived quality product, designers need to anticipate users' needs, wishes, and expectations, which are each uniquely influenced by the constantly changing society and technological progress. Additionally, designers need to be able to predict future trends and create designs that match future expectations (Rijk, 2014). Good perceived product quality can, amongst others, be achieved by conducting usability studies (e.g. Dumas, 2007), by following a participatory design approach (e.g. Luck, 2003) or a customer-centered design approach (Vink et al., 2008) in the design process. Given this large array of resources for designers, one might expect a large number of good quality products that meet the users' needs. However, such needs, wishes and expectations are still often not fulfilled (Norman, 2010, Den Ouden, 2006; Nielsen, J. 2012; Van Kuijk, 2009).

Quality is buzzword these days and everyone talks about it, the politicians from public platforms, the company officials from business fora, and of course, the common man on the street. However, few understand the true meaning of the word quality and fewer still are able and willing to put quality in its true perception in the changing context of the liberalization and globalization where the national boundaries for free trade and commerce are slowly, but surely, breaking down. Quality is the degree to which a set of inherent characteristics of an object fulfills the customer requirements (ISO 9000:2015).

Quality is to mean reaching the gap between the consumers' expectations for the product's quality and the realization of the actual performance of that product (Parasurman *et al.*, 1990).

A general definition of design quality as a match between product characteristics and customer needs can be specified by invoking the concept of a zone (A tolerance zone is the distance between desired and adequate levels of expectations) of tolerance in customer expectations (Zeithaml *et al.*, 2003).

The design quality of products is a critical determinant of consumer response and product success. Judgments are often made on the elegance, functionality and social significance of products based largely on visual information that relate to the perceived attributes of products and frequently center on the satisfaction of consumer wants and desires, rather than their needs. Design is an important tool to communicate messages and information to the consumers by using the semantic power of sign/signifier/signified trilogy (Crilly *et al.*, 2004). Hence, discover what consumer want in terms of design quality will have a significant role on satisfying and meeting customer demand.

To design a product well, design teams need to know what they are designing, and what the end-users will expect from it. QFD is a systematic approach to design based on a close awareness of customer desires, coupled with the integration of corporate functionality. It consists of translating customer desires (for example, the ease of writing for a pen) into design characteristics (pen ink viscosity, pressure on ball-point) for each stage of the product development. QFD is a way to assure the design quality while the product is still in the design stage (Akao, 1990). Thus, QFD will be an appropriate tool to use to asses customer desire in terms of leather products design quality.

2.6. Quality Function Deployment (QFD)

There are various methods that help to ensure customer satisfaction. Among them, Quality Function Deployment and Kano Model are the two widely used methodologies (Ting W.2008).

Quality function deployment is a quality planning and decision-making tool. It is a customer-focused quality management system for product development and a methodology for integrating the voice of the customer, both spoken and unspoken into a product. This method identify customer needs or requirements and then translation is made for the specific product to meet the customer needs which increase the desire customer satisfaction (Kapuria.K et al,2017, and Balasundaram K.,et.al,2017).

QFD ensures that customer needs and demands are organized through technical requirements (Akao *et al.*, 1983). Technical Requirements (TR) are the result of the problem, gained by systematic multi-disciplinary team analysis in order to attain high customer satisfaction. QFD is a widely used methodology due to its simplicity and broad application. The method does not only help to improve goods and services but also helps to improve strategic planning, procedures and processes. The method begins by capturing the ‘Voice of the Customer’ (VOC) (referring to customers’ requirement, needs, demands, expectations, desires, attributes etc.) and transforms these requirements into a detailed plan to the Technical Requirement (TR) (Pole, 2007).

QFD is a multi-disciplinary team work approach which involves planners, managers, engineers, data analyst, etc., in determining the technical requirement (Özgener, 2003). These technical requirements have vital importance in QFD and any deviation from the correct deployment of these technical requirements can make the whole process fail (Hoyle, 2009).

In today's highly competitive market, customer demand is a critical factor in product design process. Product quality is also rapidly becoming a key competitive issue. This high competition has caused companies to continuously improve the product that they offer to customers in order to ensure competitive advantage and to be able to satisfy customers’ needs. This shows that consumers need assessment or assessing voice of customers (VOC) is essential.

2.7. Voice of the customers (VOC)

A critical part of customer survey is gathering the voice of the customer to evaluate how a product or service measures against what the customer needs or expects. According to (Griffin, 1991), The Voice of the Customer is defined as the identification, structuring, and prioritization of customer needs and expectations. The Voice of the Customer (VOC) is a method of capturing customers’ requirements. It is obtained mainly by two methods, namely by interviews or focus groups, which are then helped to develop an assessment questionnaire to distribute to potential customers. (Griffin & Hauser, 1993) proposed that, an interview with 20-30 customers should identify 90% or more of the customer requirements in a homogeneous customer segment. An accurately captured VOC creates a full set of customer wants and needs which are organized into a hierarchical structure, and then prioritized in terms of relative importance and satisfaction with current options. According to A. Griffin, Hauser, J. R., there are four aspects of the VOC—customer needs, a hierarchical structure, priorities, and customer perceptions of performance. VOC is also a key input for new product definition. The Voice of the

Customer process has important outputs and benefits for product developers. It provides a detailed understanding of the customer's requirements, a common language for the team going forward in the product development process, key input for the setting of appropriate design specifications for the new product or service, and a highly useful springboard for product innovation.

The House of Quality (HOQ)

The term house of quality was taken from the appearance of a matrix that looks like a roofed house (Alrabghi, 2013). QFD methodology uses a basic design tool (matrix) called House of Quality which shows the relationship between customers' needs and design requirements which are usually represented by means of a relationship matrix (Hauser *et al.*, 1988). HOQ is the first and most important part of the QFD matrices. It relates customer qualitative needs to high-level internal measurable technical design requirements using a planning matrix. The outputs of the HOQ are the very important technical requirements in relation to both customer requirements and competitive analysis. The outputs of the HOQ are useful to the engineers, as they can trace each requirement back to its source. Consequently, the engineers and developers ensured that they have effectively transformed the voice of the customers in to technical requirements (Pole, 2007 and Chan *et al.*, 2002). According to Pole, 2007, filling in the House of Quality starts with list the customer requirements in the rows at the central part of the house. Consequently, the degree of importance of the customer requirements is filled in.

2.8. Perceived quality as attribute of a product

According to Zeithaml (1988), "level of abstraction" refers to the many levels in the memory in which "product information is retained". The simplest abstraction level is the product's attributes and the most complex level is the value or payoff of the product to the consumer. Young and Feigin (1975) reveal, in their "The Grey Benefit Chain", that products and their attributes are emotionally and psychologically linked in consumers' minds. Since the perceived quality of a product is strongly related with personal values and preferences, it is cognitively a high level of abstraction (Zeithaml 1988; Young and Feigin, 1975)

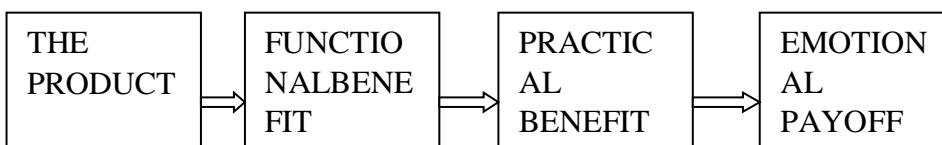


Figure 1. The Grey Benefit Chain (Source: Young and Feigin 1975)

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Smith (1993) explains the differences between quality and physical attributes of an object in two terms: quality is relational and is not directly measurable: “Notions like weight, length, color and age are typical property concepts.

2.9. Summary of the Literature Review

The reviewed literatures are articles, case studies, reports and reviews from different websites. Generally, more than 76 literatures are reviewed for this research. However, only literatures directly related to the case of this research were analyzed and discussed in a table below.

Table 1. Literatures based on customer prominence of leather products

No	Title	Author	Objective	Methodology	Outcome
1	Impacts of Chinese Imports and Coping Strategies of Local Producers: The Case of Small-Scale Foot Wear Enterprises in Ethiopia	Tegegne Gebre-Egzlabher	The objective of study is to examine the impact of imports and coping strategies of firms to with stand completion.	Journal	The finding of this study revealed that Chinese shoes are superior in design, price and quality, with the result that they have taken over the domestic market.
2.	Project for Establishment of the Detailed Action Plan Strategy to Implement Ethiopian national Economic Development Plan Strategy	Jason Wendle Researcher s of Dalberg& et.al (2013)	This study focuses on achieving the GTP targets in four key manufacturing sectors	Analysis and Recesses report	Because of the limited domestic supply of capital, management capacity, skills, and technology, significant portion of the necessary investment will likely need to come in the form of foreign direct investment.
3	A BLUEPRINT for THE AFRICAN INDUSTRY	Dr. Rolf Boehnke and Dr.Carlos Magariños	The study focuseson African products capacity and where they are currently.	Journal	This survey finds that greater strengthening of public-private partnerships in the development of Africa’s industry has important role on developing the sector as whole.
5	Entrepreneurial orientation, market orientation and performance of SMEs in the manufacturing industry: evidence from Ethiopian enterprises	Bereket Mamo Buli	Find out orientation contribution to performance	Survey	Integrating orientation leads to improved performance of SME
6	Factors Affecting Consumer Preference of International Brands	Zeenat Ismail, Sarah Masood	to determine the consumer preferences of global brands	Question naire	most important factors that influence a consumer’s final decision are the price and quality of the product in question

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	over Local Brands Zeenat	and Zainab MehmoodT awab	instead of local ones		
7	CONSUMER PERCEPTIONS OF GLOBAL AND LOCAL BRANDS	Ali Zareei and Peyman GhafariAsh tiani	to investigate consumer attitudes and preferences towards local and foreign brand purchases	Question naire	Global brands are perceived high quality and more accessible
8	SME support system in Zimbabwe	Kenneth Odero	To find out applicable support for SMEs	Survey	Customer demand has increased in quality, price and packaging
9	SCIENCE & TECHNOLOGY FOR SMEs	Placid Rodrigue	To improve SMEs		
10	Future Trends in the World and Products Industry and Trade				
11	Major Factors Affecting Hide and Skin Production, Quality and the Tanning Industry in Ethiopia	Behailu Amde	Find out major factors that affect production	Review	poor quality of raw materials, lack of an efficient market structure, a weak extension service, competition from local/rural tanning industries and a lack of price incentive for production of good quality raw material.
13	Producers' Perception and Practices of Hide and Skin Management and Assessment of Defects at Collection Centers in Two Districts of East Arsi Zone, Ethiopia	Behailu Amade, Gebeyehu Goshu and Getachew Terefe	Find out producers' perception and practices of hide and skin management	Cross sectional study	he needs for introducing an effective mitigation strategy to prevent loses
16	Consumers' Shoe Preference: Domestic versus Imported Shoes: Case Study in Addis Ketema Sub-City, Ethiopia	Endalew Adamu	The findings revealed that the imported shoe were superior in comfortability, fashionability and range of variety.	Survey	The investigator designed to indicate consumers shoe preference: domestic versus imported shoes. Specifically,
17	Determining Factors Affecting the Adoption of E-Commerce in the perspectives of Ethiopian Banks	Nega Bisrat	The major findings of this study indicated that with the exception of perceived complexity, all other independent variables e-	Survey	The primary purpose of this study was to investigate the factors affecting the adoption of e-commerce in banking industry in Ethiopia

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			commerce,		
18	Performance Analysis and Improvement of Ethiopian Footwear Factories	Tomas Cherkos	To assess and evaluate performance management practice of Ethiopian Footwear Factories.	Survey	From the research, it is concluded that the shoe factories have both internal and external problems resulting low performance and competitiveness.
19	Technical assistance project for the upgrading of the Ethiopian and products industry	UNIDO project number: TE/ETH/08 /008 UNITED NATIONS	At country level, the main purpose of the Project has been to upgrade the and products industry by catalyzing changes in the sector.	Independent Evaluation Report	This evaluation has ascertained that the project is well aligned with the government policy and is fully owned by stakeholders at the highest level. The project has been implemented.
20	Case of the sector in Ethiopia	Abera Demsis Tessema	This study investigated the degree of Entrepreneurial Orientation (EO) of thirty footwear manufacturing Small and Medium scale Enterprises (SMEs) in Addis Ababa	Journal	Findings showed about 80% of SMEs in AA represented moderate and above moderate level of EO
22	Factors effecting consumer brand preferences in automobile industry	Najamul Zia	Effect of branding on customer preference	Questionnaire	there is significant impact of brand participation, advocacy, involvement, quality and price on consumer brand preference

Summary of Previous researches on customer preference of local goods

As shown on the above table, Analogous studies have been conducted on consumers preferred to consume the imported goods because of dissatisfaction of local leather goods and garments design quality and other related factors. Also, SMEs lead to business exist and because of the imported goods the following are the findings of different researches;

Endalew A. (2018) study revealed that the imported shoes are superior in comfortability, fashion ability and range of variety. But Domestic shoes had competitive advantage in terms of durability and

price. The study also indicated that quality, style, price, friends and culture as the major factors influenced the consumers shoe preference. The ways forward for focus on collaborative engagements of stakeholders overcome the competitive disadvantages of firms. Training, control, benchmarking and reorganization of production was brought as solutions by the author.

Tegegne (2007) finding shows that the footwear sector in Ethiopia is dominated by cheap imports from Asia, particularly from China. This has inflicted heavy impacts on the sector and threatened its competitiveness in domestic market.

The author finding revealed that Chinese shoes and other goods are superior in design, quality, and price, with the result that they have taken over the domestic market. The impact of Chinese imports on local producers varied from downsizing, bankruptcy, loss of assets and property, to downgrading activities operations. On the other hand, to survive in the market the domestic market is basically engaged in copying strategy rather than creating a better design since the MSEs limited skill of design. At the end the author suggested that strengthening local producers to engage in collective actions and promoting exports should be given proper attention.

Nebiyu (2015) the author study reveals that customers believed the quality of domestic shoes regarding performance, durability and reliability dimensions are very good but domestic shoe products lacks aesthetic value including design, style, and choice. Due to this reason domestic products are not competent with imported products.

The author recommended that “Even if the research output shows domestic products are better in performance, durability and reliability dimensions more effort is required to promote the quality of the products regarding their best performance, durability and reliability. Also, even though domestic products are the best in durability there must be a lot to be done to create competent customer service, and after sales service access subsequently the industry can improve and customers able to fetch expected satisfaction.”

Yadeta (2013), his study indicated that the domestic producers consider competitive pressure from imports as an opportunity to improve performance. It was revealed in the study that low price, high quality using attractively designed shoes and availability and deliveries are strategies used by foreign competitors to influence the domestic footwear producer.

Thomas (2011) concluded that the shoe factories have both internal and external problems resulting low performance and competitiveness. To alleviate the internal or firm level problems, the author proposed a total performance improvement method called Total Performance Scorecard (TPS). In addition to the proposed method, author suggested that a performance measurement framework/scorecard and its implementation guideline development for the standard manufacturing method of products.

Therefore, these are the few authors which works on identifying the factors affecting consumer preference of local goods, the gap identified by the investigator will be seen as follows;

2.10. Literature Gap

Even if most literatures reviewed by the investigator focuses on the overall factors of why consumers get to choose imported products over the local ones, there is a gap of an in depth study on the specific factors particularly on the design quality factor on consumer requirement assessment and translating that in to technical language so that producer could have the knowhow on what the local consumers vital perception areas are regarding to design. Since Design quality is overall superiority/excellence of a product or service, it is one of the major factors for consumers product judgment which leads to purchase decision, assessing overall design requirements of consumers on leather products. on the other hand this study will give technical elaboration of those factors which could help the SMEs to overcome the challenges of customer demand, which will fill the gap found in the literatures. Also, there is a gap of assessing the value of design quality interms of customer judgment about product aesthetics, symbol, functionality, Brand image and Advertisement. on another note, customer survey significance is a major factor that required by the consumers to minimize the customer compliance and maintain producers' goal for meeting the customer needs point was also missed in the literatures on design quality specific area. On the other hand to easily survey consumers requirement by the producers, there should be a proper and easy way such as a common ICT platform to link both parties and understand what the demand is requesting, not indicating an easy way to asses consumers need is also the other gap found in the literature.

Gap Agenda

Product design is considered one of the “Four Ps” of the marketing mix, which is conceptualized as a multidimensional construct comprising three dimensions that communicate functional, aesthetic, and symbolic information. (Jinda r., et.al, 2016), (Gila F. et.al,2017) (Luchs M. et.al, 2016),

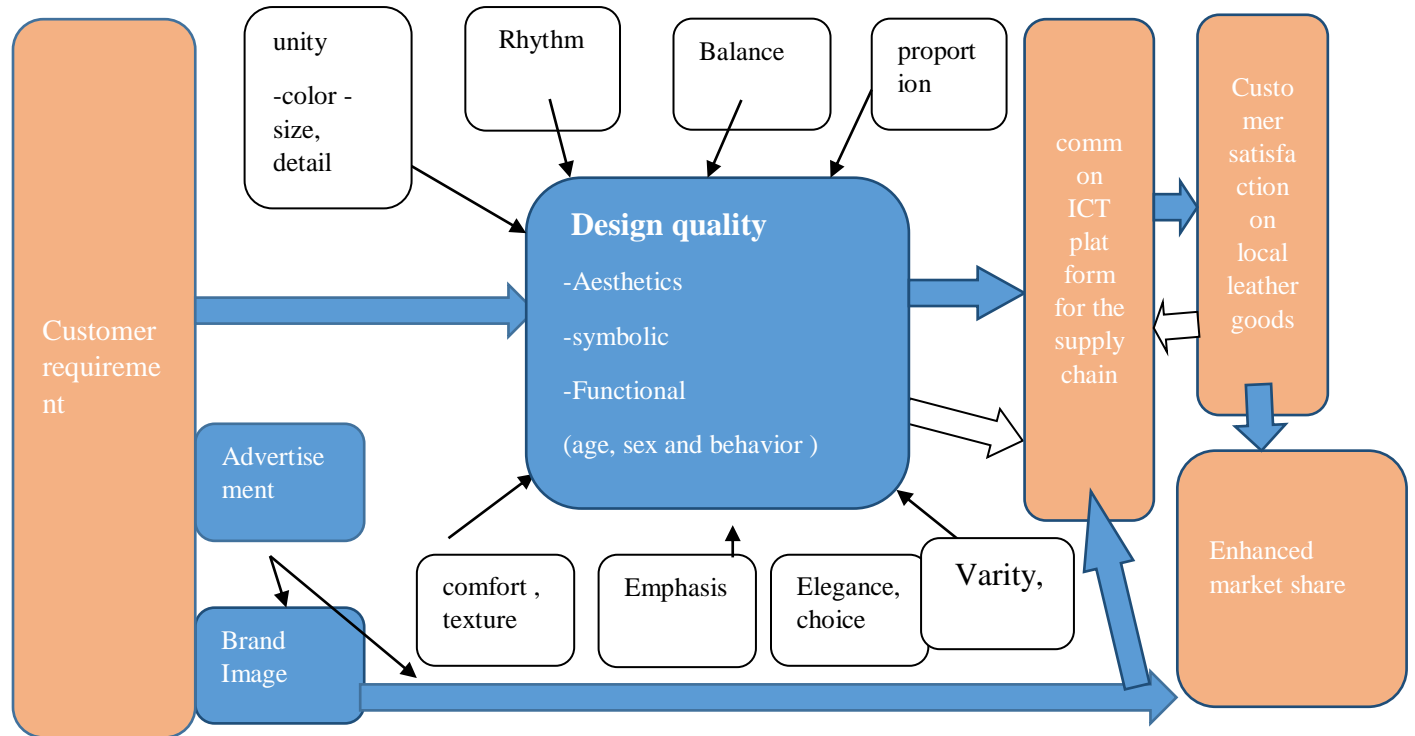


Figure 2. CFW

Design Quality; The design quality of products is a critical determinant of consumer response and product success. Judgments are often made on the elegance, functionality and social significance of products based largely on visual information that relate to the perceived attributes of products and frequently center on the satisfaction of consumer wants and desires, rather than their needs. Design is an important tool to communicate messages and information to the consumers by using the semantic power of sign/signifier/signified trilogy (Crilly et al. 2004).

The quality of design of a product offered to the market has a great impact on the market share that companies will have by satisfying consumers. This is the reason why customer satisfaction is said to

be the only weapon for companies to increase the sales of their product, growth and profit (Gangurde *et al.*, 2016).

A general definition of design quality as a match between product characteristics and customer needs can be specified by invoking the concept of a zone (A tolerance zone is the distance between desired and adequate levels of expectations) of tolerance in customer expectations (Zeithaml *et al.*, 2003).

Product quality is regarded as one of the most important factors that consumers consider while purchasing products. However, contrary to objective, perceived product quality includes consumer's judgment about the overall design superiority or excellence of a product (Gülay, 2010).

Functional product design refers to the basic functionality of a product and/or what a product is supposed to do. The symbolic design focuses on specific meanings or signs that communicate status, self-image, and/or social roles on the basis of visual elements). Aesthetics refers to how a product looks feels, tastes, smells, or sounds, and is considered to be highly subjective. Both consumer scholars and brand managers have noted the importance of product design. Thus, research has revealed that beautifully designed products or aesthetic design may create the initial impression and gain recognition in a crowded market It may provide sensory pleasure and please one or more of consumers' senses, which may lead to improving product/brand preference, repurchase intention, sales growth, turnover and market share which are the main objectives of practitioners today (Homburg *et al.*, 2015), (Prod, 1995), (Mar, 2011), (Malewitz, 2008), (Rubera, 2014), (candi, 2010), (Jinda *et al.*, 2016), (Gila *et al.*, 2017) (Luchs *et al.*, 2016) and (Belk, 1988).

Customer requirement; To keep business successful, firms must have to know who their ultimate customers are and what their needs are. The only way to satisfy customers is done through the understanding of customer needs for a product. The voice of the customer (VOC) is the first step and can be captured in a variety of ways such us direct discussion or interviews, online feedbacks, surveys using questionnaire, direct observation, field reports, focus groups discussion, etc.

It also is a specification that originates with customers as opposed to internal stakeholders. This can include both functional and non-functional requirements for products, services and experiences. Customer requirements may be documented directly by customers themselves or collected and refined by an internal business analyst or market research team. The common types of customer requirements are;

Voice of customer: - identifying customers that represent your target market and collecting needs, expectations and ideas with methods such as a focusing group or ladder interview.

Lead user: -engaging lead users who represent your customers with cutting edge needs. For example, a snowboard manufacturer may engage professional snowboarders to capture ideas for design or on our case a goods SMEs could engage fashion models, chosen students influential people around the village and the media.

Intermediaries: - collecting requirements from customers other than end customers such as wholesalers, retailers, manufacturers or value-added resellers.

Large Accounts: - products and service that are sold on a business basis may directly collect requirements from large account. for example, a software company that get 40% of its revenue from five customers might allow those customers to directly submit requests for features.

Customer satisfaction; Satisfaction as a term means the feeling an individual gets when his or hers wishes, expectations or needs are fulfilled, and the pleasant feeling that follows from it. As satisfaction is a feeling, it resides in the user's mind and differs from other observable behaviors, such as complaining, product choice and repurchasing. According to ISO, "ISO 9000:2015, customer Satisfaction is customer's perception of the degree to which the customer's expectations have been fulfilled. Customer satisfaction is simply the customer's perception that his or hers needs and expectations are met. Zeithaml, (1990), stated that, it is a collective outcome of perception, evaluation and psychological reactions to the consumption experience with a product or service. P. Kotler (2005), Mentioned that customer satisfaction is "the level of one's feelings after comparing the performance (or outcome) that he felt compared to his expectations". Accordingly, when performance exceeds expectations, consumers will feel satisfied and vice versa. He recognized that customer satisfaction as the overall attitude of the individuals toward the bought product. Hence, Customer satisfaction has a strong positive effect on customer loyalty intentions through a wide range of product and service classifications. A satisfied customer means good word of mouth and more business share and this increases company's profitability. A satisfied customer plays a great role as a free advertiser for every organization. Although customer satisfaction alone is not enough to be proficient in today's competitive market, it plays a great role. Hence, identifying customer's current needs and wants and predicting what they could be in the future is important to have satisfied customer. According,

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customer satisfaction is formed by the quality and varied factors of sold product and by the customer service experience.

The long-term success of a corporation is closely related to the company's ability to adapt to customer needs and changing preferences and its ability to create and maintain loyal customer relationships. If the customers are fulfilled, they do more business with you, purchase more and frequently. When customers make more purchases, it translates to more sales and through sales usually to profit. However, if the customer is not happy, they are more likely to take their business somewhere else and could engage in negative word-of-mouth.

Product quality; quality is "fitness for use", which varies from one customer to another. His concept reflects meeting customer's needs and is based on the following five quality characteristics: technological (strength), psychological (beauty), time oriented (reliability), contractual (guarantee), and ethical (sales staff courtesy).

Other Author defined quality in terms of costs and prices. Quality for him is a product or a service to be provided to a customer with a certain characteristic at an expectable cost or price.

While most writers argue that product quality is difficult and hard to define, they tend to agree that it is based on product requirements that are largely defined by the customers. Garvin D. (1984), he advocates deeper understanding of the customers' perspective as a necessary first step in defining product quality. Accordingly, quality is not a single recognizable characteristic; rather it is complex and appears in many different forms. He also proposed eight dimensions of product quality.

Table 2. Dimension of product quality

S/N	Dimension of product quality	Definition
1	Performance	Performance is the primary operating characteristics of the product. It is defined as referring to a product's primary operating characteristics which can be measured and ranked
2	Features	Features are known as "the bells and whistles" of products and services as characteristics which supplement basic functions.
3	Reliability	Reliability is the probability that a product will fail or malfunction within a certain time period.
4	Conformance	Conformance is the degree to which a product's characteristics meet established standards.
5	Durability	Durability is a measure of product life, or the amount of use the product offers before it breaks down.
6	Serviceability	Serviceability is defined as speed, courtesy, competence, and ease of repair.

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7	Aesthetics	Aesthetics refers to how a product looks feels, tastes, smells, or sounds, and is considered to be highly subjective.
8	Perceived	Perceived quality is primarily reputation of a product.

Advertisement: is a method of communication about the promotion of a product in attempt to induce potential customers to purchase the product. the general objective is to increase brand awareness or to demonstrate the difference between product and competing products in order to sell them.

Brand image: is how customers think of a brand. it can be defined as the perception of the brand in the minds of the customers. This image develops over time. customers form an image based on their interactions and experience with the brand.

The brand image includes product appeal, ease of use, functionality, fame, and overall value. Brand image is actually brand content when the consumer purchases the product, they are also purchasing its image. Brand is the objective and mental feedback of the consumers when they purchase the product

Age; of the customer who buy the product and the producers who design and produce the product has a huge factor the final product and buyer's requirement

Sex; a male and female consumers or producers have a different view both in manufacturing and buying the products separately.

Behavior: the behavior of a person in both manufacturers and end users view their cognitive ability to create and read their customer requirements differs from one person to another also the ability to choose and by what end-users wants also can be affected with what has been created and delivered by the producers;

Market share: represents the percentage of an industry or markets total sales that is earned by a particular company over a specific time period

Therefore, the conceptual framework tried to show the constraint between customer requirement and customer satisfaction which is a gap of perceived design quality in terms of functionality, aesthetics and symbol to be considered by the producers. in order to help survey customer wants and eliminate factors which works against, SMEs not producing leather products based on customers requirement on the Design quality perspective resulting consumers shifting to imported goods market over the domestic ones which is not seen in the literatures extensively. The other point found in the literatures is a gap of indicating an easy way of linkage between the whole supply chain read each other in order

for the final outcome be superior in the market. A producer which puts customer requirement first will get a loyal customer and a satisfied customer will help the economy revive by buying from the local market. A mutually benefit will be gained in creating SMEs linkages through Common platform of ICT, depends on the combined factors among the supply chain when we say the supply chain it means the hide and skin Tanneries, producers, wholesalers, retailers and consumers. in order to get a very well-designed product at end a very good raw material is important with a required texture, color, type, quantity, quality, accessories, etc therefore the whole supply chain linkage is important to meet the demand. Also, the producers could sell, Advertise, get feedback and rating about the item from consumers in terms of design and other related issues and find out what customer requirement is. Also, they can evaluate themselves comparing to others business both nationally and globally. Consumers also benefit from this concept because it basically reduces physical effort, will give a chance to choose variety of products, will have a chance to give feedback whether its compliant or encouragement, and etc. similarly the whole supply chain will benefit from it. This has non ridicule contributions on meeting design quality that the customers craving for, also sectoral as well as national economic growth will be achieved.

- The quality of design of a product offered to the market has a great impact on the market share that companies will have by satisfying consumers. This is the reason why customer satisfaction is said to be the only weapon for companies to increase the sales of their product, growth and profit. Since a 94% of a purchase decisions are based on the design, a product produced considering customer design requirement will have a significant role on being consumers' first choice. QFD is a tool which will be used on this study to understand consumers design quality requirement.

Local SMEs will definitely benefit from customer detailed assessment because it smoothens the relation between Consumers and producers so much easier and helps consumers to get variety of striking designs.

Then again since domestic enterprises following copying strategy rather than creativity, they needed institutional support both in governmental and nongovernmental level which will help to remove skill gap between enterprise to enterprises and get benefited equally.

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Most importantly consumers will buy local products, this concept ensures that money that has been used for purchases by the consumers within a country revolves in the country. Such money can be used in other developments by the government or it may filter down to other producers who want to join the sector as a beginner. Had the money been used and went in to another country, a vacuum ensues which to fill it will take the citizens producing more or seeking buyers from outside the country.

It is common that when people buy locally, the price of products reduces. This concept emanates from the fact that locally produced goods do not need specialized processing and packaging. These in turn if done increases the cost of a product remarkably as well as transporting the product does. Eventually a locally produced and consumed product becomes cheaper in comparison to those sourced from outside the country. At the end of it, all the consumers benefit due to low prices and the country if it increases production attains economic growth.

The government on the other hand has its share when consumers opt to buy locally produced goods. As more and more of these products are created, so does the business grow and in turn the taxes remitted to the government. Also, when employee's salaries and wages increase, the taxes they remit to the government increase and thus the government makes more revenue. In countries and especially those seeking industrialization to promote local buying, they are in fact building a base for economic growth.

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.1. Introduction

This chapter discusses the methods in which data is being collected and analyzed. Both qualitative and quantitative data collection and analysis methods have been used in this research. It also explains the research design and the data collection areas in Addis Ababa city with the selected sub cities SMEs. This chapter generally deals with over all approach of the research including research design, source of data, data collection instruments and data analysis method that the investigation used.

3.2. Research design

Research approaches for data analysis are of two types which are inductive and deductive approach. Qualitative data requires an inductive approach of analysis while quantitative data uses deductive approaches. In mixed type of data, both deductive and inductive approaches of analysis are utilized.

In this study both qualitative and quantitative research designs were used. The research was based on information gathered through a questionnaire given to domestic leather producing enterprises and end product consumers of those SMEs. In order to reach the respondents, questionnaires were given to the manufacturers, sellers and end users by the researcher. Samples of 106 from these respondents were obtained.

3.3. Data source and Data Collection Instruments

3.3.1. Data Source

The study used both primary and secondary data sources. The primary data source was gathered through; interview, questionnaires and expert group discussion with informants and long-term users of local product. The secondary data was obtained from customer complaint collected both product manufacturing enterprises and from users as well as different literature (published and unpublished materials, books, journals, reports and related websites). Therefore, the analysis has been made after all the necessary information gathered from the different enterprises and from the answers that have been provided by the respondents, consumers and employees.

3.3.2. Data Collection Instruments

3.3.2.1. Primary Data Collection Instruments

Preliminary assessment was done by observing the case enterprises in order to have a general overview about the environment. Following the observation and preliminary literature review, factors were stated with the objective of investigating the manufacturing process of leather product as a whole. The study used a semi-structured interview to gather data and information from employees and manufacturing enterprise owners. Also consumer focused group discussion was held with volunteers. This approach assisted the study to gather additional information related problems faced by consumers' choice on the local products. The expert group discussion was guided using a well prepared leading question based on consumers requirement and their brand choice on design quality view. On the other hand producers willingness and readiness to participate in ICT based platform to overcome a gap of consumer requirement and manufacturing considerations and challenges faced by the enterprises. The expert group discussions were made to assure information forwarded by participants to scrutiny the authenticity of the information given and was also made to present adequate evidence and to make genuine arguments on all raised points. The open ended questions were used to help the respondents explain without any restraint. The closed ended question was rating of local and foreign brands in terms of the different design aspects with five point Likert rating scale 1-Very poor, 2-Poor (disagree), 3-Fair (Neutral), 4-Good (agree), and 5- Very Good (strongly agree).

3.3.2.2. Interview

First, to obtain the voice of customers (VOC) interview was conducted. The interview was face to face conversation and through communication media with consumers. The interview was basically made to determine the customers who have experience of using the local leather product.

The interview was basically made to determine the customer requirement in terms of design quality. In addition, retailers/producers have been interviewed in order to assess the common complaints raised by consumers while buying the products and if they have a mechanism to collect consumers feedback or compliant.

For consumers:

1. What are the main design attributes you consider while buying local leather products?
2. What do you expect the leather product design to fulfill?
3. What is the main characteristic of the product that makes you prefer the imported goods?

For producers/retailers

1. What are the main complaints of consumers about the leather products?
2. What are your focus areas or consideration while manufacturing those goods?
3. How do you assess your consumers need?

3.3.2.3. Senior experts

In this study, senior experts' group discussions were conducted to find the customer and technical requirements for leather products design requirements. The expert discussion group were composed of 3 designers 2 production engineers 5 professionals from footwear, goods and garment of LIDI. Also selected willing customers who have a better view on fashion have been participated on the requirement identification process.

3.3.2.4. Questionnaire

To conduct this research three consecutive questionnaires were developed (Appendix). Once the questionnaires were developed, they were translated in to Amharic language in order to help the respondents easily understand the idea of each question. Then a pilot test with 20 questionnaires was conducted to assess the questionnaire in order to eliminate possible problems created as a result of translation. The preliminary questionnaires of the pilot test were administrated to senior, As a result of the pilot test made, several questions were reworded, and a few statements were made easily to understand. Once the questionnaires were tested and were proven to be easily understood they were distributed to the respondents step by step.

3.3.2.5. Secondary Data Collection Instruments

The basis of this study is initiated from different literatures. Therefore, the use of secondary source of information has been used during this study.

In addition, published and unpublished materials, books, journals and reports related with the study were obtained from a reliable source from the internet as well as from Addis Ababa university digital library.

3.4. Research Approach

The nature of this study is an exploratory investigation. The research was centered on SMEs in Addis Ababa with the highest density of leather producing SMEs and consumers.

The study was conducted in two stages: preliminary pilot interviews, a survey and interviews with SME intermediary support organizations. According to Mingers (2000), the use of such multiple methods is widely accepted as providing increased richness and validity to research results, and better reflects the multidimensional nature of complex real-world problems. Besides, a multi-method approach allows for the combination of benefits of both qualitative and quantitative methods, and permits empirical observations to guide and improve the survey stage of the research (Gable 1994; Gallivan 1997).

The preliminary pilot interviews brought in barriers imperative Leather institute and macro and microenterprise support offices and the survey instrument, forming outcome from interviews and observations supported by an extensive literature review. The survey and interviews with intermediary support organizations followed. Face-to-face interviews were semi-structured to gather qualitative observed data and provide flexibility (Sekeran, 2000) as they allow researchers to explore issues raised by respondents, generally not possible through questionnaires or telephone interviews.

3.4.1. Research Population

A sampling plan basically comprises of different sample units or sample population which are going to contact to collect research data. Sampling is an important component of a research design. It is the process of using a small number of parts of a larger population to make conclusions about the total population (Bhasin, 2017).

In order to collect information from the population/ Leather SMEs found in Addis Ababa, which are product users and producers were selected and used. End users, producers, Designers and leather institute experts total of 106 respondents were used as a primary source of data.

This research data were collected from Arada, Yeka, Bole, Addis Ketema sub city different SMEs that produce leather goods and footwear's.

Table 3. Number of SMEs producing Leather goods in Addis Ababa in each sub city (2010 E.C)

	Name of the sub-city	Number of leather Enterprises
1	Bole	30
2	Lideta	14
3	Addis ketema	106
4	Gullele	46
5	Kolfekeranio	27
6	Nefasilk	25
7	Kirkos	29
8	Arada	51
9	Yeka	35
10	Akakikaliti	12
Total		363

Source: Industry Development Office document till June 2010E.

The sample for each population was estimated considering 95% confidence interval and 5% error

$$n = \frac{N}{1 + N(e)^2}$$

Where n is the sample size, N is the population size, and e is the level of precision or expected error. By using this formula at 95% confidence level and 5% level of precision the sample size was as follows: -

$$n = 363 \div (1 + 363(0.05)^2)$$

n=106 samples

From the selected 106 SMEs only one loyal customer (recommended by the enterprises)from each enterprises were selected and used. The questioners were distributed to Slitemeheret leather goods and garments SMEs, SMEs around Kebena, (Yeka subcity) around stadium SMEs (Arada sub city), around Sebategna, Kuwas meda(Addis ketema) Nyala leather good and garments, producers and retailers and their loyal customers.

Regardless of the size of a company, customer loyalty is essential(Thomas and Tobe,2013). customer’s loyalty is regarded as a long-term asset (Kandampully et al., 2015) Dick and Basu (1994)

conceptualized customer's loyalty based on the relationship between relative attitude and repeat patronage (buying from one business or brand) behavior. In other words, customer's loyalty includes attitudinal and behavioral dimensions, where relative attitude refers to attitudinal dimension of loyalty and repeat patronage behavior refers to behavioral loyalty. It has been argued that integrating attitude dimension into the loyalty model (patronage behavior) would enhance its predictive ability (Dick and Basu, 1994). More specifically, attitudinal loyalty refers to customer's emotional attachment while behavioral loyalty refers to customer's actual behavior. Based on the above concept the producers recommended loyal consumers.

In order to collect information from the population/ Leather SMEs found in Addis Ababa, which is product users and producers were simply selected and used. End users, producers/retailers and leather institute experts total of 106 respondents were used as primary sources of data.

This research data's were collected from Arada, Yeka, and Addis ketema different SMEs that produce leather goods and footwear's and randomly selected consumers in the different Sub cities of Addis Ababa. Addis Abeba was selected because it has mostly populated producers.

3.4.2. Target customer

The target customers of the research were both male and female who uses goods and garment and footwear leather product users also owners and management of manufacturing enterprises. Even though there are a lot of shoe producing enterprises, the study focused on SMEs which produces and sells both good and garments and footwear's at one place.

3.5. Methods of Data Analysis

In this study, data analysis method were ground theory, since the research design is qualitative research method and the questioners prepared were open ended. ground theory refers to using qualitative data to explain why a certain phenomenon happened. it does this by studying a variety of similar cases in different settings and using the data to drive casual explanation. The collected data through questionnaires were organized through tabular form. Also, customer requirement in terms of design quality was shown using QFD.

As designated in the above, the purpose of this study was to find out the basic effects that makes consumers buy foreign products in terms of design. In order to do this, respondents were asked to

evaluate the Design attribute of imported products based on what makes them preferred to buy imported good than the local ones and what they think must be improved so that they can buy local products. open ended questions were used so that the respondent doesn't have bounded ideas and could explain as much as they can. Producers were interviewed by making a basis on a semi-structured interview question. The semi-structured questions were starters for the conversation. And when they started answering additional questions were included and asked at the scene of the interview session. Consumer responses were summarized using affinity diagram.

Affinity Diagrams are primarily used to organize information compiled during a brain storming, interview and written questions sessions. Problems and solutions are often analyzed through affinity diagram. It is also called KJ method named after Kawakita Jir, who popularized the method in quality improvement circles.

At the end all the data's collected from all parties were interpreted and possible solutions and suggestion were given.

3.6. Ethical Consideration

The study was conducted by considering ethical responsibility. This includes providing information to the respondents which helps them to identify the purpose of the study and the use of the information as well. Informing clearly the data obtained was held in strict confidentiality by the researcher. Respondents 'anonymity will be kept so that participants were feeling free and safe to express their ideas.

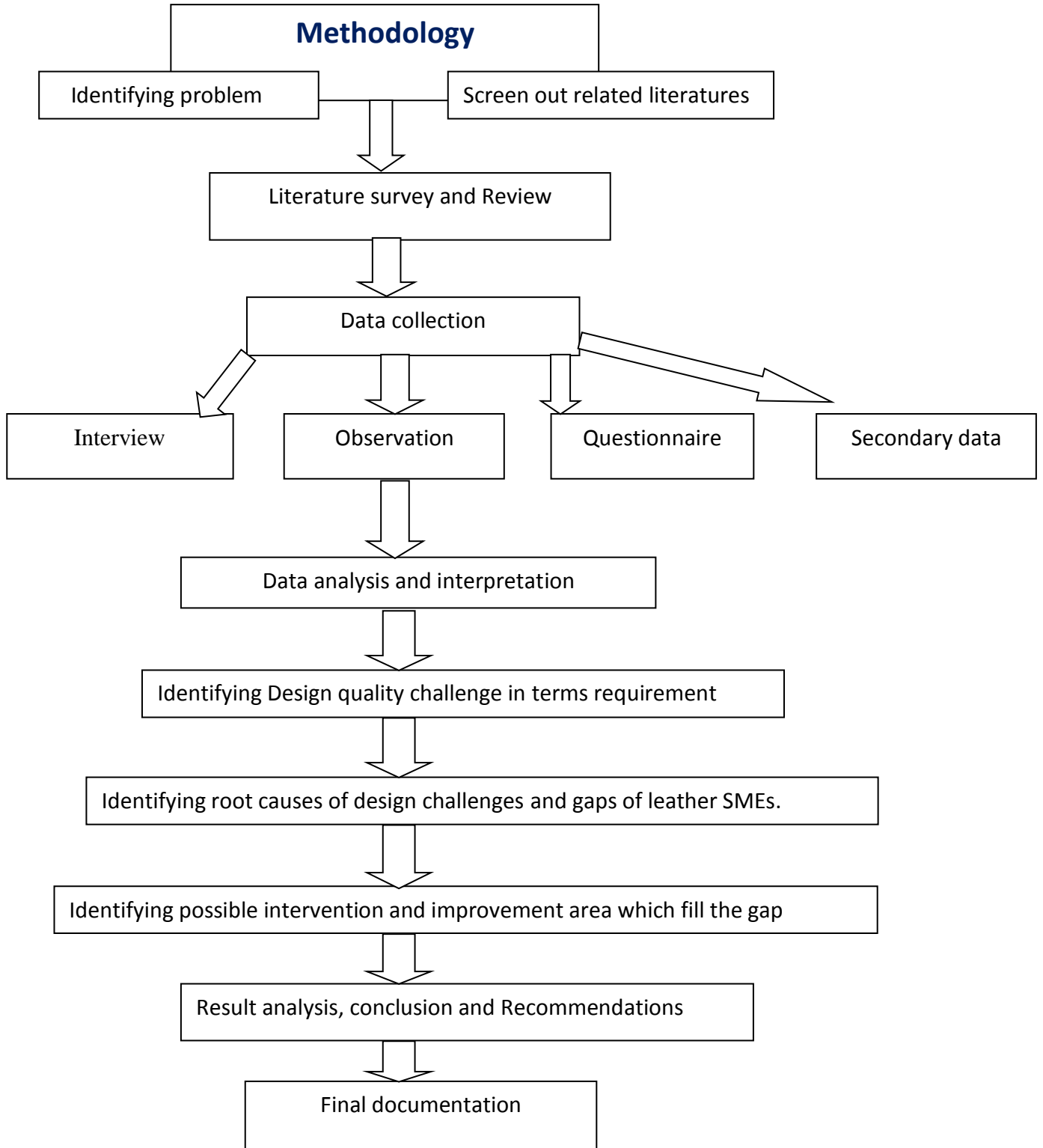


Figure 3. Research methodology

CHAPTER FOUR

4. RESULT AND DISCUSSION

4.1. Introduction

In chapter three the description of the study area, the research design, sampling plan, the data and data source used and the data analysis were defined and explained. In this chapter the results obtained using the methods explained in the previous chapter were presented and discussed briefly. The results of the customer requirements identified in a way that puts every single respondent's response of the questions for both end users, manufacturers and retailers.

This chapter is concerned with analysis and interpretation of data collected by using open-ended questions, close-ended questions as well as using interview. of the total questionnaires distributed 106 were filled and returned with response rate of 90.91 percent. The following discuss the customer personal information and their requirement analysis.

4.2. Respondents' demographic data (customer)

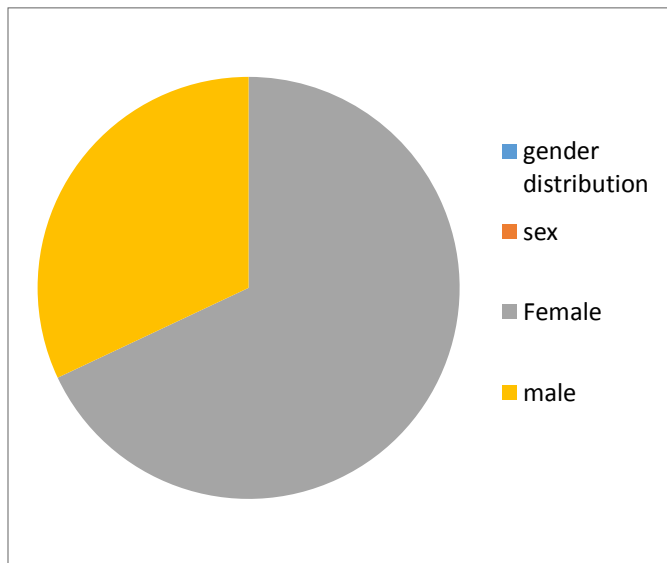


Figure 4. Respondents Gender distribution

Figure 4 Represents the gender distribution of the respondents that 66% were females and 34% were males.

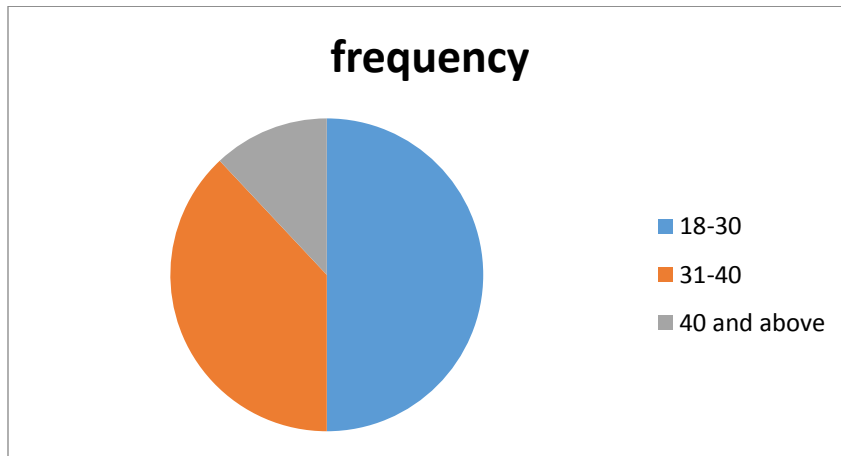


Figure 5: Respondent's age

Figure 5 represents respondents' age. Accordingly, 50(64%) of respondents is within age range of 18-30, 38(20%) of respondent is within age range of 31-40 and 12(16%) of respondent is within age range of 40 and above. Therefore, the majority of respondents are within the age range of 18-30.

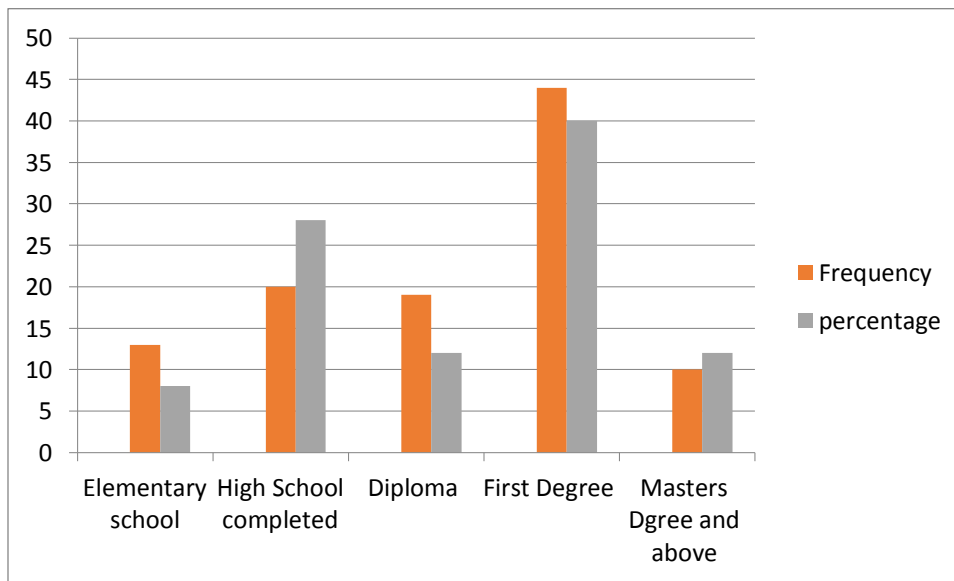


Figure 6: respondents' educational level

Figure 6. Indicates the educational level of respondents. 8%(13respondents) were from Elementary school , 28%(respondents) were High school completed ,12%(20 respondent) were Diploma holders, 40%(44respondents)were 1st degree holders , The rest of the respondents 17.43 %(10respondents) were with degree and above educational background. most respondents were first degree holders .

Table 4. Customer satisfaction level in terms of design quality

Responses level	Frequency	Percentage
Excellent	3	2.83
Very good	5	4.71
Good	7	6.60
Satisfactory	10	9.43
Poor	81	76.41

With respect to the level of consumer fulfillment on leather items, out of 106 total respondents 81(76.41%) agreed the leather products design quality is very week. 10(9.43%) of the total respondents responded that the leather products are at satisfactory level. Customers that reacted the design quality of leather products are good 7(6.60%), 5(4.71%) responded the design is very good and the rest only 3(2.83%) replied domestic leather products design quality is excellent. This implies that most of the respondents believed that a local leather product does not satisfy their requirement regarding to design.

Consumers' response summery

V1. According to most respondents on the open-ended question the imported products win over the domestic leather products mainly because of having a better design aesthetics, style, variety, shape, elegance, chic, availability and color than the domestic ones. Product style simply describes the appearance of the product. A sensational style may grab attention and produce pleasing aesthetics, but it does not necessarily make the product perform better. Unlike style, design is more than skin deep – it goes to very heart of a product. Good design contributes to a product's usefulness as well as to visual attraction (Kotler and Armstrong, 2010). Style is visual appearance, which includes line, shape and details affecting consumer perception towards a brand (Frings, 2005). According to Abraham and Littrell, 1995 (cited in Department of Management and Marketing, 2008) a composite list of apparel attributes has been generated and one of the conceptual categories is style. Consumer' judgment depends on the consumers' level of fashion consciousness, so judgment will be conditioned by their opinion of what is currently fashionable.

V2. For second question on the weakness of domestic products, users responded that the basic problem is the design (physical appearance) unattractiveness, color similarity and lack of variety. According to Kotler et al. (2005), Companies recognize that design is one of the most powerful competitive weapons in a company's marketing arsenal. Many companies, however, lack a design touch. Their product designs function poorly or are dull or common looking which affect the products selling power. The other point mostly raised by users is product unavailability especially different garment and luggages styles aren't widely designed and supplied to the market demand. According to Dalebrg (2013), Ethiopia has a revealed comparative advantage in leather, while not yet in footwear or gloves or garments and other goods. The development strategy of the footwear and leather goods industries is a good one from the point of view of achieving greater product complexity and diversity. Currently, Ethiopia is exporting mainly finished leather followed by growing shoe exports. Other leather items including gloves, bags and small leather articles have a large potential for exponential growth. The recent expansion in leather gloves production is proof of existing capacity as well as the potential to export with a steady growth of volume and value.

V3. The third question was about the strength of those products and most respondents mentioned that the durability and the material quality is undeniable and acknowledge that the best part of the local leather product is the leather itself that the product made of. According to Schroeder (2000), quality is defined as meeting or exceeding customer requirement in the future. Here if a given product satisfies customer wants or need it can be taken as quality product. In this case the product or service is fit for the consumer's use. The products fitness for use is connected with the value that the customer receives and to customer satisfaction.

The other strength mentioned mostly by users was its affordability in price specifically the leather footwear excluding leather garments. According to Kotler et al. (2005), in narrow sense, price is the amount of money charged for a product or service. More broadly, price is the sum of all the values that consumers exchange for the benefits of having or using the product or service. In the past, price has been the major factor affecting buyer choice. This is still the case in poorer countries.

V4. According to most respondents answer on the fourth question, which was about what should be improved for them to buy from the domestic market regarding to the leather products, most of the respondents indicated that the leather should give focus on involving trained professionals on the design that could meet customer requirement. And also, the finishing touch quality has to be taken

seriously to attract potential customers. According to Stevenson (1999), poor product design or defective goods or services may be a reason for loss of customer and one's business. Failure to give due emphasis to quality can hurt the goodwill of business organizations and can result in decline in market share or it may result in increased pressure from government or consumer unions.

V5. The fifth question was about if the users ever get the chance to comment on the leather products and most respondents responded that they did not get the chance to comment and a very few of them had the chance to comment on the product. Customer feedback is information provided by clients about whether they are satisfied or dissatisfied with a product or service and about general experience had with the company. This opinion is a resource for improving customer experience and adjusting the producer/service providers action to their needs.

4.3. Result

4.3.1. Customer requirement analysis

In order for any Business organization to stay in business, they must sell their products/services and be able to rely on a repeat business. This can only be achieved when companies are able to satisfy their customer. In turn, customer satisfaction can only be achieved if the SMEs can fulfill the customers' requirements. Customer requirements are the basis for this study, as the objective is to assess customer requirement on design quality and to enable the middle and small enterprises contract the dominance of imported goods. Based on information collected through interview, focus group discussion, customer complaint data obtained from the leather producing SMEs, user, and related of review literatures a questionnaire was developed and distributed. The following customer requirements were identified from the distributed questionnaire:

Table 5. Customers identified requirements

S/n	Customer requirement identified
1	Attractive design
2	Variety of Design
3	Color variety
4	Style variety
5	Features (prints, accessories)
6.	Chic
7	Good finishing touch
8	Comfortability
9	Size availability
10	Good finishing
11	Elegance
12	Odorless
13	Sole types for footwear
14	Texture
15	Good appearance
16	Brand image building
17	Product online accessibility
18	Luxurious
19	Classiness
20	None curly

4.3.2. Organizing the identified customer requirements

Customer requirement organizing is needed because customers tell their requirement on their own language and it needs to be translated in to technical and understandable terms for the QFD development later.

The identified customer requirements were organized in to three dimension of perceived quality of leather products using affinity diagram. Those are categorized in Aesthetics, functional, and symbolic design. In addition, the design principles and the derived principles will be discussed below.

Aesthetics	Functionality	Symbol
-Color -Features -Variety in shape -Choice -Size -Style -Elegance -Good finishing -Luxurious -Classiness	- variety of goods -Features -Comfort - Odorless -None curly for garments -Light weight -Durability -Availability	ICT support -Advertisement - online product Accessibility -brand image building -awareness creation

Figure 7. Affinity diagrams

In general, customer requirement could again be grounded and interpreted in terms of Design technical principles;

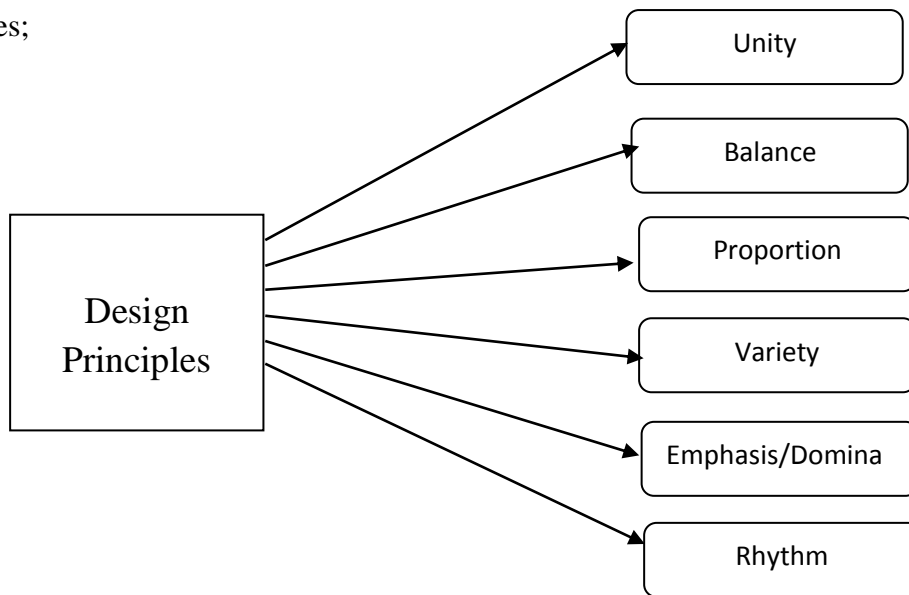


Figure 8: Design principles

As shown in the above figure 8, the customer importance rating has classified in to three basic factors which are Aesthetics, functional and symbolic Design in addition VOC re-grounded in terms of Design technical terms and principles. In order for the above factors achieved intuitional support is important Recommended by consumers for SMEs.

Improving the quality of local leather products

From customer requirement view, if those lists of Design quality and customer requirement are fulfilled the perceived quality of customers will be met. also, the design principles with its derived principles relation are discussed.

Table 6. Design principles and their derived principles

Principles	Derived principles
Unity (harmony of all principles)	1.shape 2.color 3.size 4.features (details)
Balance Equal visual weight)	1.shape 2.color 3.size 4.features (details)
Proportion (scale of parts)	1.size 2.haromney
Variety (complement s of unity and harmony)	1.Harmony and unity creating visual interest
Emphasis (adding features)	1.details 2.acesisories
Rhythm (smooth flow of line, color & pattern)	1.Color 2.pattern 3.Line

The principles of design are mechanisms of arrangement and organization for the various elements of design in product design.

-Unity; visual satisfying effect of combining similar, related elements.

-Balance; feeling of equality in weight, attention or attraction of the various visual elements as an accomplishment of organic unity.

-Proportion; the comparison of dimension or distribution of forms. it is the relationship in scale between one element and another, or between the whole object and one of its part.

-Emphasis/Dominance; the principle of visual organization that suggest that certain elements should assume more importance than others in the same composition.

Rhythm-suggest movement or action. rhythm is usually achieved through repetition of lines, shapes, colors, and more. it creates a visual tempo in artwork and provides a path for the viewers eye to follow.

In addition, the identified customer requirements were also organized as priority requirement and derived requirements. This will help the product designers/producers to easily understand the customer requirements and design better products. Priority requirements are the very basic customer wants.

4.4. Priority and Derived requirements

Table 7. Customer requirements

Priority req.	Derived req.
Aesthetics	<ol style="list-style-type: none">1. Color2. Style3. variety in shape4. Size5. Features6. Elegance7. Good finishing8. Features9. attractiveness
Functional	<ol style="list-style-type: none">1. Comfort2. Odorless3. None curly for garments4. Texture
Symbol	<ol style="list-style-type: none">1. Advertisement2. brand image building3. awareness creation

The table 8 below shows the technical requirements developed from the brainstorming and detailed discussion with goods and garments Designer in IELD are presented.

Improving the quality of local leather products

Table 8. Technical Requirement to meet Customer Requirement

s/n	Customer requirements (WHATs)	Technical requirements (HOWs)
1	Shape	Inspiration
2	Size	Anthropometric standard
3	Color	Row material color
4	Texture	Accessories and details
5	Comfort	Ergonomics
6	Good finishing	Machines and tools technology
7	Availability	Inspired designs on different goods and garments
8	Variety	RM, demography & psychology aspire
9	Elegance	Stimulation
10	Advertisement	Demography based
11	Image building	First hand customer
12	Thermal comfort	E-communication
13	Durability	Balance
14	Features and details creating visual interest	Rhythm
15	Style variety	Emphasis/Dominance
16	Line and shape	Unity
17	Visual interest	Variety
18	Color, line. shape	Proportion

Table 9 below shows the weight of customer requirement with their percentage values for the selected requirement from the planning matrix.

Table 9. Weight of customer Requirement in percentage(%)

S/n	Customer requirement	Customer requirements weight (%)	Overall importance (calculated by QFD software)
1	Shape	5.0	8.0
2	Size	3.5	4.6
3	Color	5.0	9.0
4	Texture	5.0	9.0
5	Comfort	3.0	4.2
6	Good finishing	5.0	7.2
7	Availability	4.5	6.8
8	Variety	5.0	9.1
9	Elegance	4.0	6.9
10	Advertisement	5.0	9.1
11	Thermal comfort	4.0	4.9
12	Features and details creating visual interest	4.5	3.9
13	Style variety	4	7.7
14	Attractiveness	5	9.0

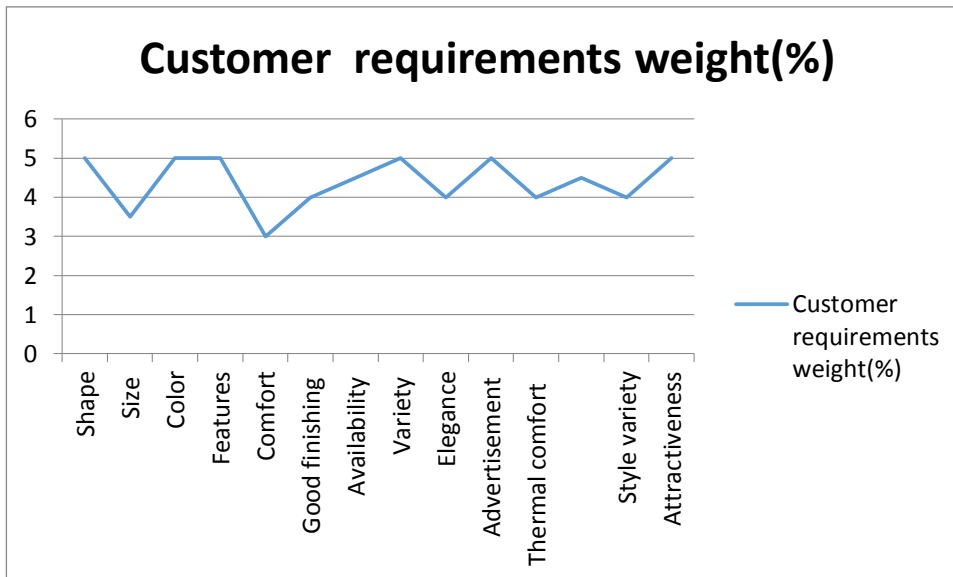


Figure 9. Customers importance rating

Customers gave higher priorities of design factors such as color, features, shape , good finishing, elegance, variety and advertisement or brand image building as the main factors for buying decision.

4.5. Respondents summary

This part of the questioner and interview responses were summarized and written in the form that indicates the dominant idea on the leather products design requirement.

4.5.1. Producer's personal information

Respondents' demographic data (producers)

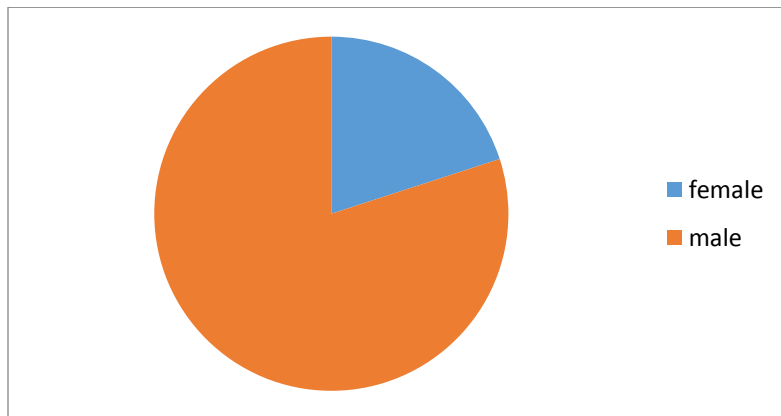


Figure 10. Respondents Gender distribution

Figure 10. represents the gender distribution of the respondents that 20% were females and 80% were males which shows males are most dominant in number on the leather goods and garments manufacturing sector.

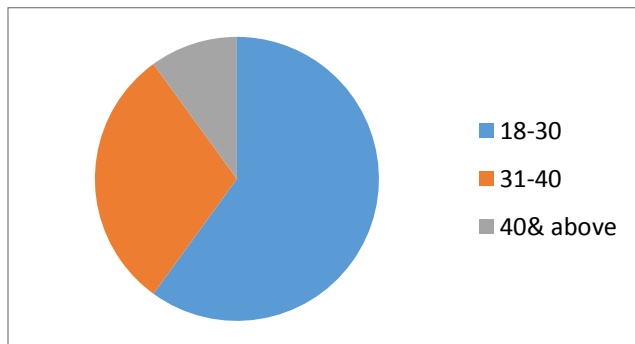


Figure 11: Respondent's age

Figure 11 represents respondents' age. Accordingly, 6(60%) of respondents is within age range of 18-30, 3(30%) of respondent is within age range of 31-40 and 1(10%) of respondent is within age range of 40 and above. Therefore, the majority of respondents are within the age range of 18-30 which

shows most producers are young and has lesser experience on the sector on the other hand young class is easier to be trained and close to technology therefore the concept of E-commerce for assessing their customer requirement and updated trainings on the sector won't be too strange for them.

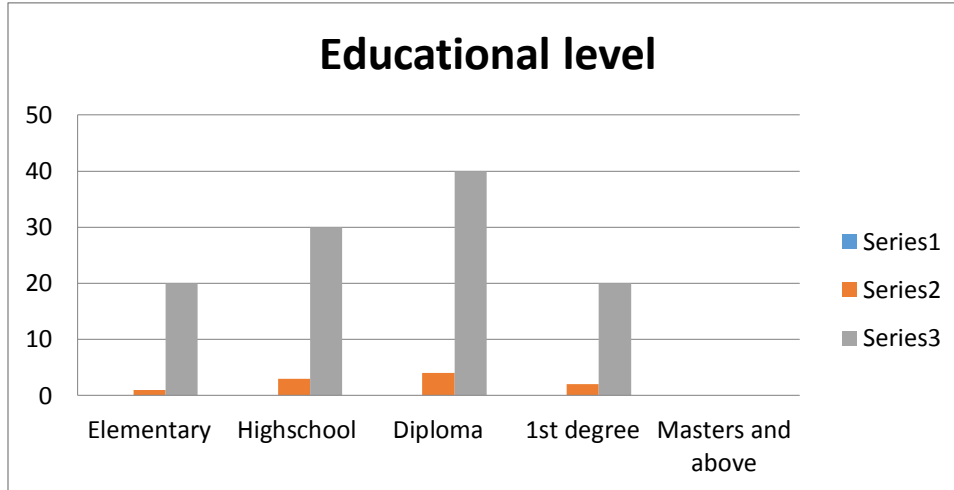


Figure 12: Respondents' educational level

Figure 12 indicates the educational level of respondents. 10% (1 respondent) were from Elementary school, 30% (3 respondents) were High school completed, 4% (3 respondents) were Diploma holders, 20% (2 respondents) were 1st degree holders were the educational background. Most respondents were Diploma holders shows that the respondent's academic readiness to exercise Design creativity.

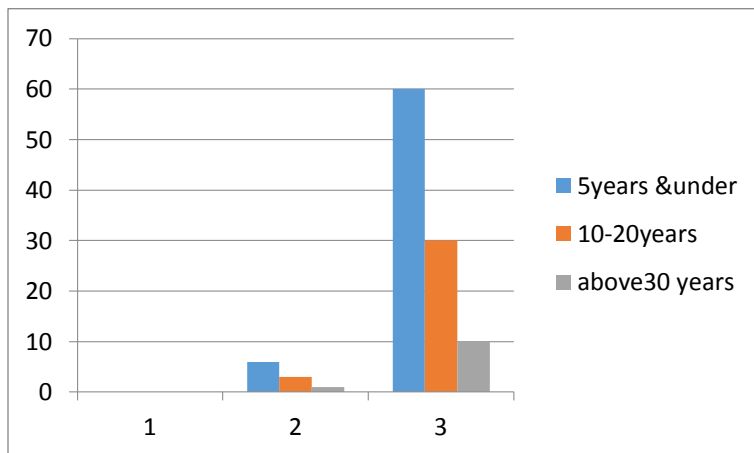


Figure 13: Respondent's year of experience on the sector

As shown on figure 13, manufacturers who has 5 years and under five years are dominant in number (60%) which indicates the sector accepted a newly established enterprises even though it needs to

work more and more on them, such as on technology transfer and supporting with upgraded machineries, skill appraisal to fill the gap, training and support etc.

4.5.2. Producers Response summery

V1. According to respondents on what the main reason is that makes local customers prefer the imported products in terms of Design than the domestic leather goods, producers mentioned that the finished product quality of imports are better and also the design and the machineries used by the foreign producers are modern and better in every way which makes the final products better looking for local consumers. In addition designing capacity of local producers vs. foreign producers , unavailability of accessories in the local market, lack of variety of raw materials in the market, lack of support and training from the government, low supply of raw material, has been raised as a challenge by the producers to come up with a competitive product with the imported ones.

V2. The second inquiry was if the producers consider customer requirement and their feedback while producing the leather products and most respondent's responses was almost all consider what customer wanted specially lowering the price has been the main focuses they gave. According to Rose L., (2012), To keep business successful, enterprises must have to know who their ultimate customers are and what their needs are. The only way to satisfy customers is done through the understanding of customer needs for a product. The voice of the customer (VOC) is important. and can be captured in a variety of ways such us direct discussion or interviews, surveys using questionnaire, direct observation, field reports, focus groups discussion, etc. so that the producers would know the real customer wants and need

V3. The third question was if the producers believe the imported good has an impact on the local market and they all agreed that it has an impact on the domestic market, the imported products are the most preferable products as a whole because they are better than the local products in many ways therefore the customer prefer to buy the imports and this will push the domestic products out of the market. A study made by Endalew, (2015) was the impact of cheap and low-quality imported products specially shoes on small and medium footwear producers.

V4. According to producer's responses the main influence from all those challenges for producing a product competent with imported ones, the whole process isn't supported with modern technology and

every single production process is done manually and unavailability of different accessories are the major roles for the domestic products controlled over by the imports on the market. Acc. to Yadeta (2014), The imported shoes are fashion design and attractive, are of strong sol, are synthetic, they have finishing quality the production cost can be low since the foreign exporter uses high technology, consumers prefer imported shoes to domestically produced shoes and their ability to offer wider selection. Respondents also responded in similar manner for an interview whether imported shoes are a threat to domestic producers. Imported shoes are more of a fashion and have design superiority compared with domestically produced shoes.

V5. The fifth question was if the producers ever used ICT to survey customer wants, to sell, advertise and develop their business or products and almost all of the respondents has not tried some of them used social medias to advertise but no other kind of websites and a very few have tried but never have the awareness how to do upgrade further. ICT has become an integral part of Ethiopians development programs over the last decade. The country faces a substantial gap between interest in the ICTs and the policy and regulatory instruments available to enable its development. ICT is one of the major components of Plan for Accelerated and Sustainable Development to End Poverty (PASDEP) that runs between 2005 and 2010(Federal Democratic Republic, 2005).

V6. The sixth questions were about if there is a web platform that puts micro, small and medium scale enterprises and the whole supply chain including consumers, will this help the sector to develop the domestic leather demand was the raised question for the respondents and all agreed that it will definitely have a biggest role on creating the communication between the whole supply chain to customer feedback. Meeting the customer's desire for high quality and quick service has added pressures not historically present. Also, advanced hardware and software technology have increased manufacturing flexibility, transportation speed, and information availability, along with increased management complexity " (Asli, 2007). Firms in a textile and apparel agglomeration also benefit from a network of suppliers, customers, and competitors, which result into knowledge of supply chain management (Chapple, 1999; Deringer&Crean, 2006; Inogushi, 2011; Ross, 2004). Companies in textile and apparel agglomerations accumulate knowledge about business management, coordinating "the scattered abilities and resources" (Inogushi, 2011).

V7. The last question was what should be done by the government to support producers to be enable to produce based on customer requirement, and producers mainly pointed out to work on capacity

building and material such as new machines and technologies has to be introduced and sustainable financial support, tax has to be reduced for imported machineries, raw materials has to be supplied and working places should be given for the interested investors on the sectors were the main things raised by producers. Acc.to Tegene (2007), There are, several constraints that need to be addressed in order to provide a push for the leather product sector. Skills and technology are the key ingredients missing from the sector in Ethiopia. Institutional support is needed to facilitate training and use of technology. The recently established Leather and Leather Product Technology Institute will play a key role with regard to training. The focus of the institute to date however is largely on training regular students, with less emphasis on the job skill upgrading which is much needed by small-scale enterprises. There is strong need to strengthen the incipient association, and address the needs of the stakeholders in policy formulation, implementation and formulation.

4.5.5. Summary of producer's requirement from the government

Support Institute for SMEs
<ul style="list-style-type: none">-Financial support- Developing the culture of assessing VOC-Training and capacity building-New machineries and technology introduction-Awareness creation-Brand building strategy

Figure 14. Producer requirement summary

4.6. Government institute interview summery

According to the director of media and communication in Leather Industry Development Institute (LIDI) said that the main reason for the SMEs not to satisfy the domestic consumers is basically a skill gap. According to him assessing VOC customers on what kind of Design and overall quality importance is basic before going for manufacturing and creating a common platform using ICT is a very good and applicable idea to enhance the relation between buyers and sellers on the sector. Even though the institute is open for any producers consult and training a very few requests come from SMEs. According to him because there is no local quality standard of products to be followed as a guide product quality variety and design weakness occurs, the products produced by the enterprise will be depending on the skill and experience of the manufacturer also the level of material quality that they can afford to buy in order to produce whether Garments, Gloves, or footwear's. mostly said the director, higher quality standard hides and skins are required for export market than the local market the standards are based on the requirement of the foreign customers. As a solution to be able local producers competent and survive the market, trained producers has to be invited to the sector if not imports going to be a trait for local producers cause they might take them out of the market and hurts the local market development.

According to IELD leather Garments and goods design director, the main reason for customers choice are higher for the imports are because of the strategy that the local producers follows local producers prefer copying strategy than creating an impressive and stylish products based on customer requirement and through the copying process because of the availability of material in the market they couldn't come up with a very good finishing, to overcome this problem being able to create based on the local culture and materials available they can come up with a better design that can attract the local demand of the products also owners who has not the knowledge and skill for design should higher designers. On the other hand, there are a very good producers with best designers who also suffer from the imports. This is just because of lack of awareness of the consumers about the quality standard of the local leather goods which needs work on consumer attitude shift about it.

The following summarizes governmental institutes' data through Case and effect diagram.

Poor Design Aesthetics

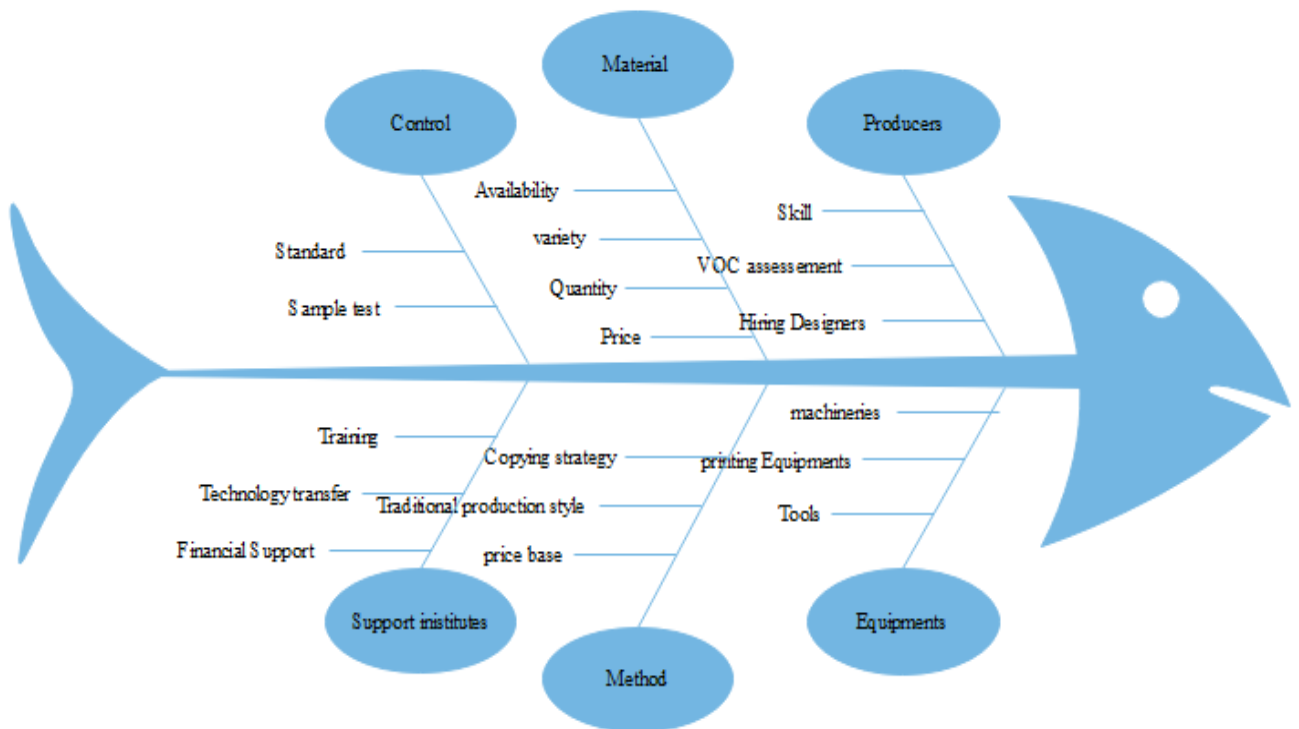


Figure 15. Fishbone diagram for reason to poor design

4.7. Relationship matrix

Once the customer requirement, customer competitive analysis and the technical requirements were completed, then a relationship matrix was constructed. The 'relationship matrix' rates the importance of the relationship between customer requirement and the provided ability to meet those requirements. A detail discussion with the designers "how important is the technical requirement in satisfying the

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customer requirement (Kivinen T.,2008). That was used to develop the relationship matrix. In the relationship matrix table, the rows shows the customer requirements (WHATs) and the columns shows the technical requirements (HOWs). The three types of relationship which were considered in developing the relationship matrix were adopted from (Razik M.et.al,2015).

● Strong: - with a value of 9 implies that the extent of satisfying of a customer requirement by a technical requirement is high.

○ Moderate: - with a value of 3 implies that the extent of satisfying of a customer requirement by a technical requirement is medium

▽ Weak: - with a value of 1 implies that the extent of satisfying of a customer requirement by a technical requirement is low. Figure 4.5 below shows the relationship matrix developed

Standard 9-3-1		
Strong	●	9.0
Moderate	○	3.0
Weak	▽	1.0

		Importance of the WHATs															
		1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
			Inspiration	Anthropometric standard	Raw material color & type variety	Accessories and details	Ergonomics	Machine and tools technologies	varied product types	considering demography & psychology	Demography based Adds	Unity	Balance	proportion	Variety	Emphasies	E-commerce & communication
Direction of Improvement	1		↑	↑	↑	↑		↑	↑	↑	↑		↑	↑	↑	↑	↑
Shape	1	5.0	●	●	○	▽	●	●	●	●	●	●	●	○	●	▽	●
Size	2	3.5	▽	●	○	●	●	○	○	●		●	●	●	○		
Color	3	5.0	●	○	●	●	●	●	●	●	●	●	●		●		●
Features	4	5.0	●	●	●	●	●	●	●	●	○	●	●				○
Comfort	5	3.0	○	●	○		●	○		○							▽
Good finishing	6	4.0	●	●	▽	●	●	●				●	●	●	●	●	○
Availability	7	4.5			●	●		●	●	○							●
Variety	8	5.0	●		●	●	▽	●	●	●		●	●	●	●	●	●
Elegance	9	4.0	●	○	●	●	●	●		●	●	●	●	●	●	●	●
Advertisement	10	5.0			▽	○	●		●	●	●						
Thermal comfort	11	4.0	▽	○	●		●	○			●	○					
features and detailes visual intrest	12	3.5	●		●	●	●	○	●	○		●	0	●	●	●	●
style variety	13	4.5	●	○	●	●	○	●	●	●	○	●			●	●	○
attractiveness	14	5.0	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

Figure 16. Relationship matrix

4.8. Technical correlations matrix

After the identifications of customer requirement, customer competitive analysis, the technical requirements and relationship matrix were completed, then a technical correlation matrix was constructed. The technical correlation matrix is always roof of the House of Quality. The rooftop maps the associations and interdependencies among the technical requirements. It helps in developing relationships in between the technical requirements and it also helps to examines how each technical requirement impacts the other requirements. A detail discussion with the QFD team especially with designers and production engineers as well as a question prepared with a symbolic representation were

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provided to the team as, "whether the improvement of one technical requirement causes deterioration or improvement on the other requirement?" (Kivinen T., 2008) and was used to develop the technical correlation matrix using an QFD capture software. In the correlation matrix, if a requirement causes positive/improvement effect on another requirement it is expressed as '+' while a negative/deterioration impact is represented by '-' (Johnson T.,1997). Figure 17 shows the roof of the HOQ.

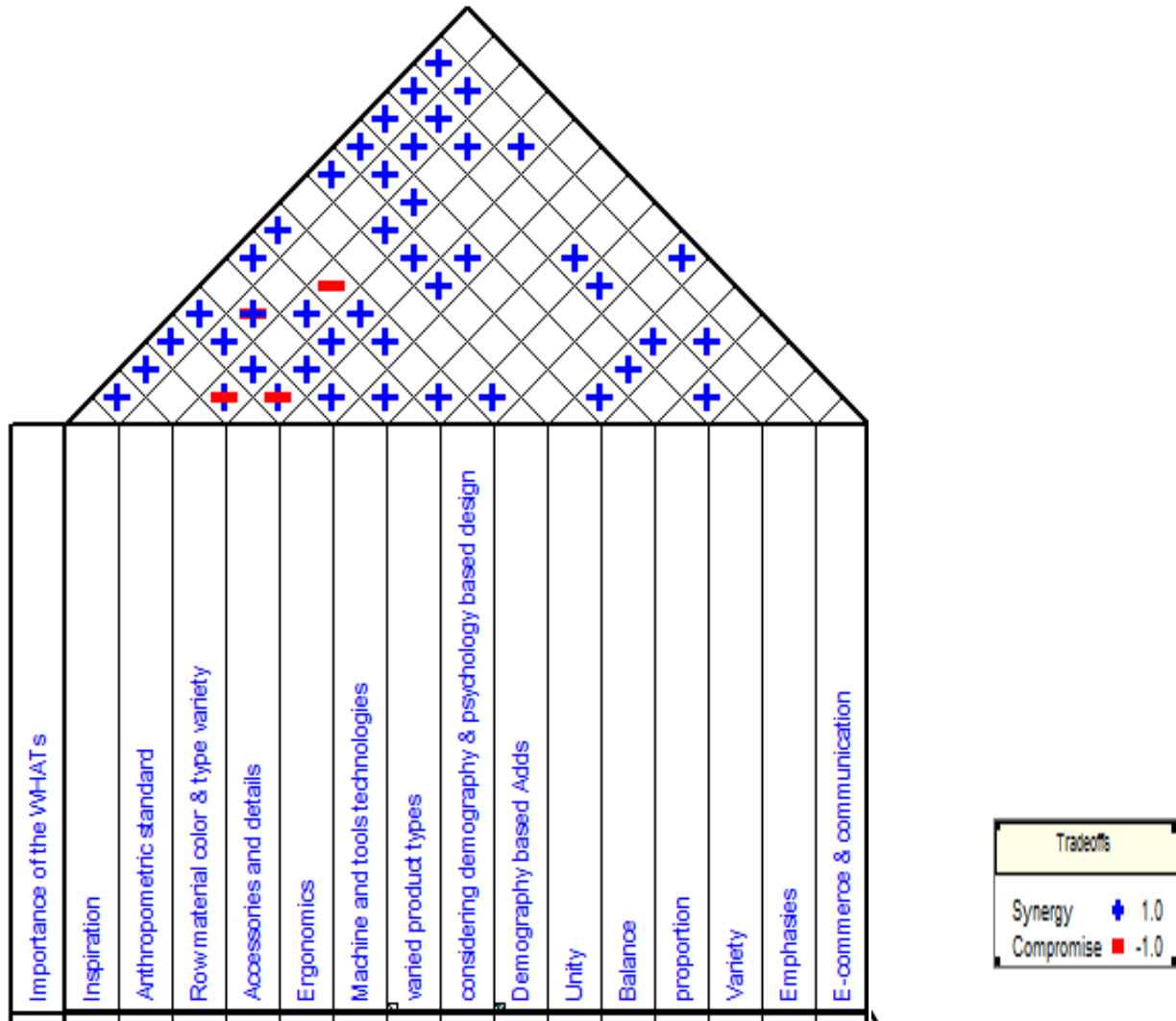


Figure 17: The roof of the HOQ.

Table 10. Customer competitive analysis

	Customer requirement	Our Current Products	Competitor 1 China	Competitor 2 Turkey	Competitor 3 Italy	Local products Future goal	Overall importance	Percent importance
Customer requirement	Shape	2.0	4.0	4.5	5.0	5.0	8.0	8.1
	Size	3.0	3.5	5.0	5.0	4.5	4.6	4.6
	Color	1.0	5.0	4.8	4.8	5.0	9.0	9.1
	Texture	1.0	4.2	3.8	4.9	5.0	9.0	9.1
	Comfort	2.5	1.5	4.5	5.9	5.0	4.2	4.3
	Good finishing	1.0	5.0	5.0	5.0	5.0	7.2	8.9
	Availability	2.0	4.5	4.0	4.5	5.0	6.8	6.8
	Variety	1.0	3.0		5.0	5.0	9.1	9.1
	Elegance	1.0	3.0	4.0	5.0	5.0	6.9	8.9
		Advertisement	1.0	2.5	3.0	4.0	5.0	9.1
Thermal comfort		3.0	1.0	3.8	4.6	4.5	4.9	7.7
Features and details creating visual interest		1	4.5	4.0	4.7	4.5	3.9	9.1
Style variety		1.5	4.0	4.7	5.0	5.0	7.7	7.7
Attractiveness		1.0	4.5	4.9	5.0	5.0	9.0	9.1

The above table shows the customer competitive analysis on the current product weight and the three competitors weight difference in different design factors and the overall importance with the selected benchmarking countries such as China, Turkey and Italy of the different imports .

Competitive technical benchmarking: is a process of comparing own product technically with competitors product to obtain technical competence. An existing product can be benchmarked technically with rivals' products on high priority product characteristics. In many cases, companies

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should not be surprised to learn that rivals are superior at a given task or characteristic. QFD helps business organization to pinpoint technical areas and to develop areas where they can attain the most cost effective customer satisfaction. The product design process to ensure the satisfaction of the customers. For each technical requirement, the overall leather product design was compared to its competitors by the designer and engineers to give it a professional view. .

Reasons of competitors selection; China, Turkey and Italy are the selected countries as a benchmark to compute with local leather fashion wears because most fashion wears comes from mainly from china turkey, India, Vietnam, and Italy china is the leading exporter to Ethiopia for fashion wears 20% and the next country and the other two countries known for their best leather products turkey 2% importer and Italy and both export leather fashion wear to Ethiopia.

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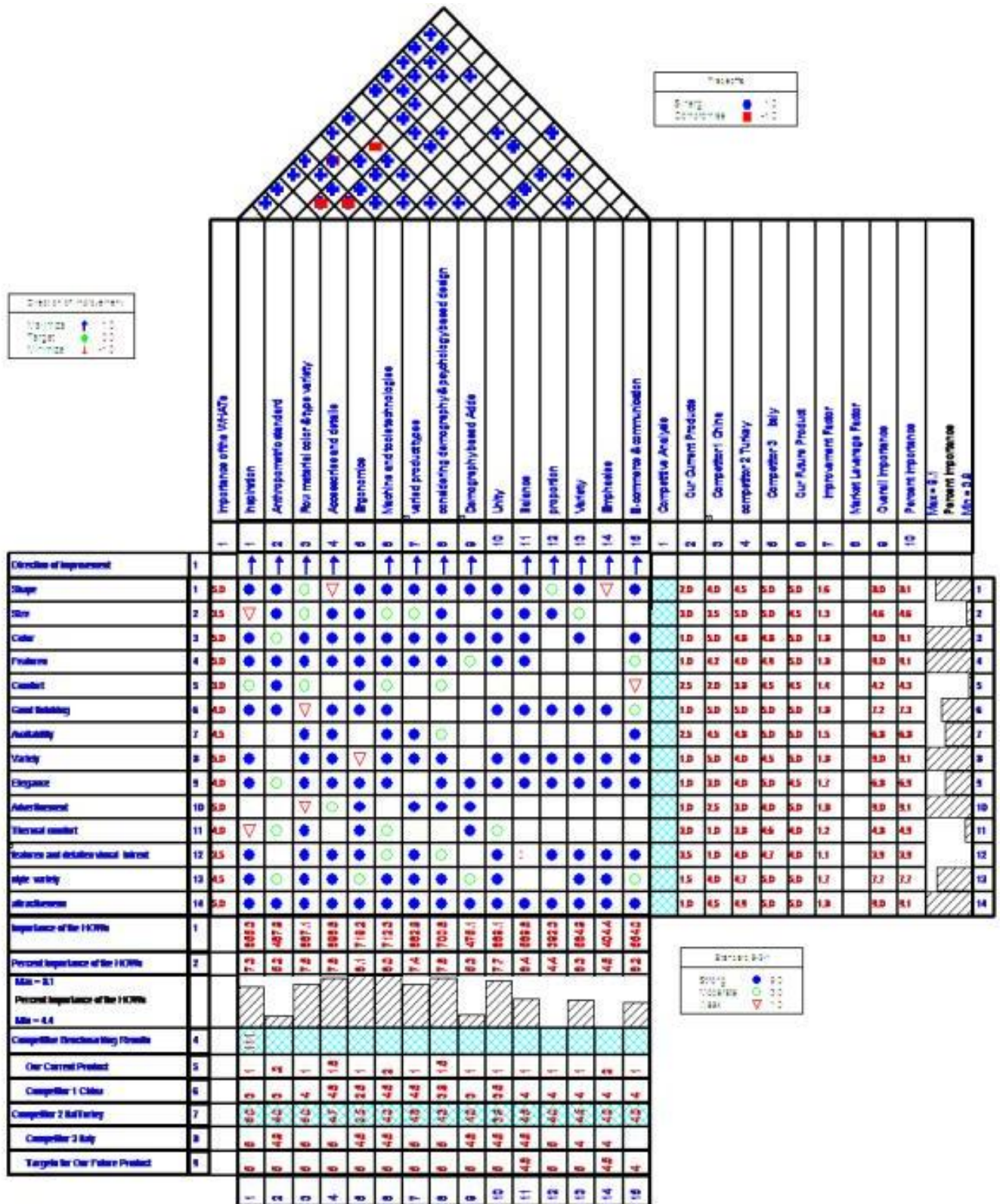


Figure 18. The House of Quality for the local leather products design

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The set of key inputs influencing the applications of customer requirements and technical attributes were determined to satisfy the customers, and detailed technical attributes determined by engineers and designers to reach the goal of meeting consumers demand and which creates satisfied consumers counteracting the imports dominance.

The customer requirement priority and importance identified shows that the color, feature, variety, Textures and attractiveness are the highly and equally important factors with the weight value of 9.1. This is because customers are extensively facing similar and dull color leather products, low variety of product in terms of appearance and product type, low artistic value and low effort of brand name building. Thus producers starting from raw material color selection to offering a variety types of products which has attractive physical superiority.

Second priorities weighted by customers are elegance, advertisement, and good finishing all has equal weight of importance which is 8.9. Customers complained about the products being way far from stylishness and the visual appearance of products is a critical determinant of consumer response and product success. Judgments are often made on the elegance, functionality and social significance of products based largely on visual information that relate to the perceived attributes of products and frequently centre on the satisfaction of consumer wants and desires, rather than their needs (Crilly, *et.al*, 2004). Therefore luxurious and chic products and massive commercials using first hand customers will be the best option to meet customer priority aspects on the perspective of symbolic representation.

The third highest priority of customer requirement is shape which has a weighted value of 8.1. consumers complained about the shape of leather goods specially bags and luggage's, foot wears being unattractive shape. Different geometrical shapes existing in nature have always fascinated mathematicians, scientists, architects, engineers, chemists, and artistic designers. The admiration for shapes has also influenced the era of aesthetic design. shapes may also symbolisms or represent a concept, provide depth or texture and a lot more. Thus, the shape of the products design has a great impact on decision behavior of consumers.

The fourth customer requirement identified was style variety and thermal comfort. Consumers complained about redundancy of the type of product design available in the market and the thermal

discomfort of certain products. Kalev, 1998, stated that, to reduce heat crated on wearable products and to design thermally comfortable product, choosing materials with proper permeability in the designing stage is an important factor. On the other hand, to produce a varied product with variety of forms of styles required the skill and creativity of the designer or the producer on the SMEs and most of those enterprises follows copying strategy rather than creating their own design.

The Fifth customer requirement identified was luck of availability. most consumers pointed out the unavailability of different products makes them dissatisfied and shift to other market options. poor availability means dissatisfied customers and poorer finical performance over the long term. often, availability ignored because it is not well understood. Product availability is measured using the cycle on the level of the supply chain (www.oliveryman.com). Thus producers and the whole supply chain should work together in order to offer a better and variety of products to the market, to meet the consumer need regarding to in receipt of the type of product desired to have.

The six customer requirement priority is size. Products' not being available in the required size is the other issue raised by consumers identified as their priority. Size is simply how small or big an element is in relation to other objects within a design. Generally, we use size to make a particular element stand out or to give it importance. However, size becomes a much more powerful design tool when it is considered alongside scale. Thus, considering the anthropometrics standards to reach every segment of the users is important to achieve customer satisfaction.

4.9. Incremental improvements to existing leather products

The study successfully investigated the strength; weakness and suggestion for improvement in the future of the existing leather products. Based on the result and discussion, the QFD team believes it is necessary to add incremental improvements to the existing leather goods and garments with a major constraints and its aim to satisfy and exceed customers expectation, as customers are a backbone of a business.

CHAPTER FIVE

5. CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

In this study, it is concluded that the main reason behind customer inclination to buy foreign products are mainly the Aesthetics design factors such as product color, attractiveness, feature, variety and Textures are the highly and equally prioritized important factors identified by consumers. Secondly symbolic design factor is the other priority of consumers as symbolic design focuses on specific meanings or signs that communicate status, self-image, and/or social roles on the basis of visual elements thus, elegance, chic and stylishness of a product are the other priorities. Also the functional design regard Luck of Advertisement, and luck Brand image building have found the basic attributes. . Due to this reason domestic leather products are not competent with imported leather products

Customers believed that the quality of domestic leather goods and garments by raw material quality dimension are very good. In general the result shows critical effort is required on those factors which need improvement.

producers agreed that assessing what their customer wants before production in terms of Design is an important factor also ICT is an important tool for all that boost the competitiveness of enterprises by enabling them to focus on customer requirements based on their response to the product they are producing through electronic commerce which makes the communication between the whole supply chain very easy.

5.2. Recommendation

As consumer requirement is the major part of the market mix for any business, Enterprises should assess what their customer wants before delivering their product to the market in order to be competent with the market. Leather and leather goods producing enterprises could attract potential consumers with minimal effort of creating an inspirational and chic design to their consumers by giving emphasis on aesthetic design as priority, symbolic design and functional design in their priority order. on the other hand Also enterprises could assess their customers requirement through ICT by creating a common platform that put or links the whole leather supply chain together. This makes the entire process easier which has a significant role in the development and economic growth of a country, also

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it helps smoothen the buying and selling process and eliminate middle man cost in between. Most importantly the producers will have the chance to recognize the real customer requirements and could work on customer satisfaction. Likewise, leather producing SMEs will be able to satisfy its customer and attract new customer as well as compete globally and locally. When producers assess their customer requirements and improve their products based on that. Based on the major findings of the study the following recommendations are forwarded.

- Since customer requirement and existed facts has shown gap in all three dimensions of design quality, implying that the customer's needs falls short of their expectations and prefer to by imports. Producers should strive promptly to close these gaps by identifying and eliminating the different factors. In order to close these gaps customer assessment through ICT is a very easy cost effective and helpful way.
- Shareholders of the leather factory need to work on improving leather good products to fulfill customer requirements. This can be achieved through capacity building and investment on new advanced technology has to be implemented. There could also be a tax reduction in order enable producers to import necessary machineries. The government should also create opportunity for SMEs to upgrade themselves through innovative training supports.
- Investors related to the leather industry should be supported and more need to be invited to this area in order to modify the inputs for the manufacturing that in turn result in better outputs.
- The responsible institute should intervene on making sure that the leather goods producers are well trained and with adequate required skills before being issued a license.
- Producers should be aware about the great potential of producing attractive and comfortable designs. And brand images and quality advertisements should be run in order to create awareness to customers to make them see that local brands are indeed preferable than imported ones.
- There should be a follow up in place to monitor training provision and putting in to implementation.
- Producers need to focus on customer needs and complains such as design and variety rather than merely reducing price of their products.
- There should be market assessment for raw material accessories and tanneries since raw materials have a great contribution to product design.

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- A healthy business environment needs to be formed in the country to fully benefit from ICT platforms. The business framework should provide a transparent, open and competitive network that has clear and simple regulations that allows producers to thrive in their transactions.

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Appendix

Appendix (A)

Addis Ababa University

School of Mechanical and Industrial Engineering

Dear respondent,

This questionnaire is intended to collect data on “factors affecting consumer choice of imported products over domestic products” by repressing on the basic aspects of customer requirements. The intention is design quality for the study to fulfill a thesis requirement for the Master’s of Science (MSc) at AAIT. Your idea and response is fundamental to the conclusion of the study and you are kindly requested to completely and responsively answer all questions. The information that you provide will be used only for academic purpose and will be kept strictly confidential. Writing your name won’t be necessary. Finally, I would like to extend my deepest gratitude in advance for giving me your precious time.

NB: Please kindly tick “” or circle “” or any possible to provide your own applicable answer.

Part I: Personal Information

1. Sex Male Female
2. Age Under 20 20- 29 30 -40 Above 40
3. Educational level High school complete 1st level high school completed
Diploma Degree Master’s degree and above
4. How do you weight the design quality of Ethiopian leather products on the subject of satisfying your needs? on the scale of
5-Exeellent, 4-very good, 3-good,
2- satisfactory, 1-poor

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5. How do you weight the quality of Ethiopian leather products on the subject of satisfying your needs?

In terms of Design quality	5	4	3	2	1
Availability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shape	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall aesthetics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Verity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Size	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Brand image	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Advertisement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Part II: QUESTIONS ON THE DIFFERENT ASPECTS OF ETHIOPIAN LEATHER PRODUCTS

The following questions are prepared to evaluate the customer's perception in relation to the design aesthetics and online customer assessment aspect of Ethiopian leather products. You are kindly requested to genuinely answer the questions based on your opinion based on your consumption/experience.

1. Do you think that the imported goods, garments and footwear's are better in terms of design quality and all over esthetics than the domestic ones?

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2. You as a user what do you suggest to be improved on the producer side?

3 .Have you ever get the chance to comment or complain about the products that you think is better to be improved?

4. Which leather products such as Purse, shoes, Back bag, Garment, Belt, Wallet etc..do you prefer most? Why?

Customer importance rating

Customer requirement	Item	very important	Important	Neutral	less important	unimportant
		5	4	3	2	1
	Shape					
	Size					
	Color					
	Texture					
	Comfort					
	Good finishing					
	Availability					
	Variety					
	Elegance					
	Advertisement					
	Thermal comfort					
	Features and details creating visual interest					
	Style variety					
	Attractiveness					

Appendix (B)

Addis Ababa University

School of Mechanical and Industrial Engineering

Dear respondent,

Questionnaire is intended to collect data on “factors affecting consumer choice of imported products over domestic products” by repressing on the basic aspects of customer requirements. The intention is Design quality for the study to fulfill a thesis requirement for the Masters of Science (MSc) at AAIT. Your idea and response is fundamental to the conclusion of the study and you are kindly requested to completely and responsively answer all questions. The information that you provide will be used only for academic purpose and will be kept strictly confidential. Writing your name won't be necessary. Finally, I would like to extend my deepest gratitude in advance for giving me your precious time.

NB: Please kindly tick () or circle () or also possible to provide your own applicable answer for the first part of the questions.

Part I: Personal Information

1. Sex Male Female
2. Age Under 20 20- 29 30 -40 Above 40
3. How many years did you spend on the leather and leather goods manufacturing sector?
- Under 5 years 5-10years 10-20years Above 20
4. Educational level reading and writing 1st level High school complete
- Diploma Degree Master's degree and above

Part II **QUESTIONS ON THE DIFFERENT ASPECTS OF ETHIOPIAN LEATHER PRODUCTS**

1. What do you think is the main reason why customers prefer imported products than the locally produced leather products?

2. As a manufacturer did you consider the customer requirement? If so, what are the things you considered?

3. Do you think Cheep imported leather good and garments especially from Asia are making the competition stiff? How?

4. You as a leather manufacturer, what do you think is the main impact of local leather products demand is lower than the imported ones?

Improving the quality of local leather products

5. If there is a common platform that could put together Micro, Small and Medium leather and leather good and garment enterprises, do you think it will benefit the producers? How? And if you think it doesn't benefit explain how?

6. What support did you need from the government to improve Design quality and variety and other requirements by customers to fulfill customer satisfaction?

Interview questions to be answered by product manufacturers

1. What are the main customer complaints while buying leather products in terms of design quality?
2. How do you manage customer feedback?
3. Do use any software application to sell or to link your business with other business?
4. Do you think finding both the supply chain and final product consumers?