ALIGNMENT OF THE SUCCESS FACTORS OF MASS CUSTOMIZATION WITH THE MARKETING ENVIRONMENT OF THE ETHIOPIAN LEATHER GARMENT INDUSTRY

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ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

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Thesis Submitted to Addis Ababa University School of Commerce Marketing Management Graduate Program in Partial Fulfillment of the Requirements for the Degree of Masters of Arts in Marketing Management

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By: Muzeyen Siraj

Approved by Board of Examiners

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Statement of Certification

This is to certify that Muzeyen Siraj has carried out his research work on the topic titled as **"Alignment of the Success Factors of Mass Customization with the Marketing Environment of the Ethiopian Leather Garment Industry".** The work is original in nature and is suitable for submission for the award of Masters Degree in Marketing Management.

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List of Abbreviations

AMT: *Advanced Manufacturing Technologies*

B2C: *Business to Consumer*

CAD: *Computer Aided Design*

CAM: *Computer Aided Manufacturing*

LIDI: *Leather Industry Development Institute*

PLC: *Private Limited Company*

S.C: *Share Company*

WRI: *World Resources Institute*

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Abstract

This research was conducted to look in to the concept of mass customization and the alignment of the success factors of mass customization in the context of Ethiopian leather garment marketing environment. The main purpose of the research is investigating the Ethiopian leather garment industry condition on the success factors of mass customization. The researcher was used descriptive research design to gather and analyses the questioner and interview data in order to answers the research questions. The data was collected from five of Ethiopian leather garment companies located in Addis Ababa. The salespersons, leather garment operators and marketing managers were participated to acquire the research empirical verifications. The data was analyzed using descriptive statistical methods. The descriptive analysis shows that the Ethiopian leather garment companies operating both mass customization and mass production and they are operating transparent mass customization approach. Farther more the result shows the Ethiopian leather garment marketing environment is compatible with some of the success factors of mass customization and not-compatible with some of the success factors of mass customization. The participants of the research agreed that all of the success factors of mass customization should be present to acquire the success of mass customization except market condition. Finally the study try to identify the appropriate business strategy that the Ethiopian leather garment companies better to follow mass customization in order to get customers satisfaction as well as firms profitability.

Key words: Mass Customization, Success Factors, Compatibility,

CHAPTER ONE
INTRODUCTION

1.1 Background

Ethiopia has the largest livestock production in Africa, and the seventh largest in cattle, the ninth in sheep and eighth in goats in the world, with 40.9 million cattle, 25.5 million sheep and 23.4 million goats at current estimates (LIDI, 2010). It is the share of its livestock population worldwide 3.1%, 1.8%, and 14% of the world cattle, goat, and sheep population respectively (WRI, 2004). Ethiopia has a long tradition in processing and exporting of leather and leather products. The modern leather products industry dates back to the time when the modern tanning industry was established in mid 1920s. The high fiber structure of the highland sheepskins and goatskins of the Country has given these products a very high acceptability on the world leather market. But, Ethiopia, has little leather products were exported but also it can not currently satisfy the growing domestic demand. As a result, the country imports leather products from abroad.

These shows the country could not exploit its huge livestock resource. Various factors are responsible for the level of using this resource; low level of investment in this sector, backward technology, lack of skilled work force in modern leather technologies, traditional use of hid and skin and less attention given to the leather output (Mekonnen and Gezahegn 2008).

Today's business environment is described with extremely tense competition between companies, countries and even entire world. Companies are forced to constantly reduce costs and outperform when following efficiency and effectiveness at the same time. Moreover, companies are struggling to reach effectiveness to retain customer loyalty, and customers are becoming increasingly demanding customized products. Generally, the traditional approach which is 'one size fits all' or at least 'one size fits one segment' are limited to satisfying the average needs of customers.

While Toffler coined the term "mass customization" in (1971), the concept attained wide popularity with Pine's book in 1993. In Pine's opinion, to retain customer loyalty companies should serve every customer as an individual offering customized products and services at a

reasonable price. According to Hart the goal of mass customization is not “anything-at-any-time” but is establish, from the customer's perspective, the range within a given product or service can be meaningfully customized for that customer, and then facilitate the customer's choice of options from that range.

Actually mass customization is a win-win proposition. It is a remarkably attractive proposition both for consumers and producers. Consumers get a reasonably priced, tailor-made product reflecting their personal selection of colors, features, functions, and styles. Producers, for their part, get to reduce their inventories and manufacturing overhead costs, to eliminate waste in their supply chains, and to obtain more accurate information about demand (Codoni and Martinelli 2006). On the other side the combination of advances in information and technology makes increasingly possible to mass customize and by consequence rapidly respond to consumers with customized products at mass production prices.

As the one developing industry, the Ethiopian leather garment industry needs such studies to facilitate the process. The approach of mass customization is considered as an important concept in management field. In order to implement the concept of mass customization in Ethiopian leather garment firms the companies should made an assessment on the success factors of mass customization (Altonen 2011, Silveira et al. 2001 and Kotha 1996a).

1.2 Statement of the Problem

The basic formation of mass customization is similar to that of mass production, but there are important differences. Mass customization is a mixture of mass production and customization. Pine (1993) in his book, defines mass customization as “the mass production of individually customized goods and services”. In addition, Hart (1996) defines mass customization as “using flexible processes and organizational structures to produce varied and often individually customized products and services at the price of standardized mass-produced alternatives.” In todays marketing scenario the interests and preferences of consumers are changing from time to time. On the other side, the introduction of pioneering product strategies, highly developed manufacturing technologies, and organizational structures have minimized the traditional limitations of customized products. This has lead scholars to claim that mass customization

offers superior customer value compared to other strategies (Gilmore and Pine 2000; Tu et al. 2001).

However, a study on theory of mass customization, performed by Silveira et al. (2001), reveals that, while there is debate on theoretical aspects of concepts and objectives, there are several pending issues regarding its practical implementation. Many customers are still reluctant to buy customized products and companies are also skeptical about the feasibility of the strategy in practice (Kamali and Loker 2002, Dellaert and Stremersch 2003, Franke and Piller 2003). Especially in the Ethiopian leather garment sector there is a deficit exists in analyzing both the firm's and consumer's perspective on mass customization. As far as the knowledge of the researcher there is no research made in Ethiopian leather and garment sector, on critical success factors of mass customization have not been systematically identified.

If companies attempt to pursue mass customization for the first time that may risky with out investigating the success factors of mass customization. For the reason that, these success factors are viewed as the necessary building blocks for the successful implementation of mass customization. Altonen 2011, Silveira et al. 2001 and Kotha 1996a identify six success factors of mass customization these are customer demand for variety, market conditions, functioning value chain, technology, products modularity and knowledge sharing.

Therefore the purpose of this research is to provide comprehensive information about the Ethiopian leather garment companies in the implementation of mass customization. In particular, the main purpose of this research is empirically assess the compatibility of success factors of mass customization in the Ethiopian leather garment industry. In general the research will help both academician and practitioners of the sector. From the perspective of management practice, our research contributes to a better understanding of the mass customization practices in Ethiopian leather garment industries. From the perspective of management research, the paper provides an extensive literature review on the subject matter and a starting point for further research on mass customization approaches.

1.3 Research Questions

Within the context of the above background discussed the following research questions are identified by the researcher to be answered at the end of the study. These are;

- What is the most commonly used business strategy in the Ethiopian leather garment industry?
- Which mass customization approach is most commonly used in the Ethiopian leather garment industry?
- Does all success factors of mass customization are compatible to implement mass customization in the Ethiopian leather garment industry?
- What are the most important success factors of mass customization?
- Which business strategy, mass customization or mass production, appropriate for the Ethiopian leather garment industry?

1.4 Objectives of the Study

1.4.1 General Objective

The general objective of this research was to look in to the concept of mass customization and to verify the compatibility of the success factors of mass customization in the context of Ethiopian leather garment marketing environment.

1.4.2 Specific Objectives

Besides the general focus area of the research, there were specific problems that reviewed by this research work. Such as:

- To empirically assess the most commonly used business strategy in the Ethiopian leather garment industry;
- To empirically assess which mass customization approach is most commonly used in the Ethiopian leather garment industry;

- To investigate the compatibility of the factors of a mass customization in the Ethiopian leather garment companies;
- To identify the most important success factors of mass customization;
- To verify the appropriate business strategy, mass customization or mass production, for the Ethiopian leather garment industry.

1.5 Significance of the Study

This research document has a significant value in terms of different aspects for different stakeholder of the industry. The outcome of this study will able to assess the concept of mass customization of the Ethiopian leather garment industry. Hence the end result will give a comprehensive overview about mass customization and the success factors of mass customization.

Secondly, the outcome of this research can also implicate the performance of the industry in terms of those identified success factors of mass customization. This helps the firms of the industry to decide which business strategy, mass customization or mass production, is appropriate for the industry.

The outcome of this research can also be used as a springboard for further studies in the mass customization area of the Ethiopian leather garment sector.

1.6 Scope of the Study

Because most of Ethiopian leather garment producers are located in Addis Ababa, the study is geographically limited to leather garment manufacturers located in Addis Ababa, Ethiopia. The study was limited to study the perspectives of the company's only the study does not include the customer's perspectives.

Our identified success factors are linked to the existing literature on mass customization. However, we recognize that success of mass customization can be influenced by other conditions that are not characteristic to mass customization. We keep in mind that there are more factors positively affecting overall success of mass customization businesses.

1.7 Organization of the Research Report

This study is divided into five chapters the remainder of the research report is structured as follows. The second chapter will provide the review of literatures of the study area. The third chapters will introduce the Methodology that the research uses to conduct the research. The third chapter followed by the research Result and Discussion and this is the forth chapter. The final chapter presents the Conclusion and Recommendation of the study.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

In this section, the theoretical foundation for this study will be established. The literature review will begin with an overview of mass production and mass customization theories and a further exploration of our chosen definition. Next, the levels of mass customization will be discussed. The final and major part the literature review is the research conceptual framework. This framework is developed from the research gap, research objectives, and the literature review. Those six success factors are supported by different scholars of the study such as; Da Silveira et al. 2000, Hirsch et al. 1998, Kim 1998, Magretta 1998, Feitzinger and Lee 1997, Adamides 1996, Hart 1996, Kotha 1996b, Lau 1995, Pine et al., 1993.

2.2 Concepts and Definitions of mass customization

2.2.1 Defining Concepts

The objective of mass customization is to produce goods and services meeting individual customer's needs with near mass production efficiency (Tseng and Jiao, 2001). Mass customization is a hybrid manufacturing concept existing to provide highly value added products. It is about delivering the desired product after the needs of an individual customer have been expressed (Piller, 2004). A standard product that bears certain flexibility, so that the retail or customers themselves can customize it, can be regarded as a mass customized product. In addition, providing a set of individual value added services around a standard product could also be regarded as a form of mass customization. On the other hand, a service can be constructed in a way where it is partly 'pure customization' and party mass customization, in which some of its components are standardized and some custom made for each customer (Blecker and Friedrich, 2006).

It is important to note that in mass customization, where customers are presented with a variety of choice, they are not involved in the specification of that variety (Duray et al., 2002). Depending on the situation, customers can be involved in specifying features of the product during phases of design, fabrication, assembly, or use (Zipkin, 2001; Broekhuizen and Alsem,

2002). Different authors define mass customization in different ways and perspectives some of them are presented as follows.

Davis (1987: 169)

"When the same large number of customers can be reached as in mass markets of the industrial economy, and simultaneously treated individually as in the customized markets of pre-industrial economies".

Kotler (1989)

"Mass customization is a kind of scope economies application, through single manufacturing process modularization, providing tremendous variety and individual customization, at prices comparable to standard goods and services."

Pine (1993a)

"Providing tremendous variety and individual customization, at prices comparable to standard goods and services with enough variety and customization that nearly everyone finds exactly what they want".

Kay (1993)

"Use information technology oriented production and delivery system to meet individual customer need efficiently at cost of mass production."

Lau (1995)

"Mass customization is a capability of rapid design, production and delivery of products that meet the customer's need at prices similar to mass production. Basically, mass customization is to meet customer's feedback, cost effectiveness and higher productivity by releasing scale production customized products without compromising effectiveness."

Joneja and Lee (1998)

"The practice of mass customization by using information technology, flexible manufacturing and organizational structures in offering diversified yet individualized products and services at prices similar to that of mass production."

Silveira et al. (2001)

"Mass customization is an ability providing customized product or service by high volume flexible process and reasonably low cost."

Tu et al. (2001)

"Businesses of mass customization must not only be able to design, produce and deliver products in a rapid and reliable fashion, but also to meet specific demands of the customer at the similar cost of mass production. If we take mass customization as a capability, its basic law would mean meeting customer's demand, cost effectiveness and mass production at the same time."

Tseng and Jiao (2001)

Mass customization corresponds to "the technologies and systems to deliver goods and services that meet individual customers' needs with near mass production efficiency."

The difference between mass customization definitions, presented in the above, is that some are broader, more visionary (Davis, 1987; Kotler (1989); Pine, 1993), while other scholars (Kay, 1993; Lau, 1995; Silveira et al., 2001) use narrower, more practical concepts. They introduce specific tools, such as information technology and organizational structures that are essential building parts of mass customization system. However, almost every definition mentions individual customer needs and economic of scale in one formulation or another.

Despite numerous attempts to conceptualize the term, Piller (2004) argues that in practice, mass customization is "not there yet" and not all agile manufacturing strategies that involve customer interaction can be classified as mass customization. Today the term is mistakenly used for all kind of strategies connected with high variety, personalization, direct deliveries, and flexible production (Broekhuizen and Alsem, 2002).

2.2.2 Operational Definition

Piller, Europe's leading expert on mass customization, has been revising the definition of MC several times within the last decade in order to focus on issues that are relevant and distinguish mass customization from similar concepts. The researcher chooses to concentrate on the most definition by Piller (2004), which will guide this study. In this paper we refer to mass customization as:

*"**Customer co-design process of products and services**, which meet the **needs of each individual customer** with regard to certain product features. All operations are performed within a **fixed solution space**, characterized by stable but still **flexible and responsive processes**. As a result, the **costs** associated with customization allow for a **price level** that does not imply a switch in an upper market segment."(Piller, 2004, p. 315)*

The main elements used in the definition are customer co-design and integration, meeting the needs of each individual customer, fixed solution space and adequate price and cost levels and explained in the following paragraphs.

Customer co-design and integration

Customer co-design and integration are key to mass customization (Kumar, 2007); this is the core element that differentiates mass customization from other strategies like lean management or agile manufacturing (Piller, 2004). With today's information technology, MC customers can be included into the value creation chain by defining, configuring or modifying an individual order. It is essential for customization that consumers contribute to specification of the product by communicating their needs and desires. Different than a do-it-yourself approach, which is an autonomous creation by consumers; this is done through "co-creation". It is a mode of interaction with the manufacturer, who is responsible for providing the custom solution (Ramirez, 1999).

Customer co-design also establishes an individual contact between the manufacturer and customer, which offers possibilities for building up customer integration. Customer integration plays a key importance in a mass customization strategy (Piller, 2004; Kumar, 2007; Kumar and Stecke, 2007). Integration means getting the customer involved in designing or configuring a product, which is by definition, an essentially central element of mass customization. Successful customer integration depends on many factors. The following is an outline of the ones the researcher consider to be the most relevant to this study, as presented in Kumar and Stecke (2007):

Demand flexibility: it can be understood as product/service flexibility, because the manufacturer or service provider offers alternative configurations of the product/ service that fall within the range of the offering. (Chen and Tseng, 2007)

Supply flexibility is another essential element of customer integration, permitting the execution of customer's choice. Supply flexibility is enabled by the presence and use of advanced manufacturing systems, such as flexible manufacturing systems (FMS).

Smart information system is needed for negotiations between a customer and company to be successful, where both parties engage in a dialogue until the negotiations are concluded.

Affective design: As markets become efficient, customers tend to look for products that not only serve their needs, but also appeal to their emotion.

Meeting the needs of each individual customer

A major success factor of mass customization is the ability to match the level of customization offered with customers' needs (Piller, 2004). Referring to Chamberlin's (1950) theory of monopolistic competition, mass customization is a consequence of a differentiation strategy. From a managerial point of view, customization can be carried out with regard to *fit*, *style*, and *functionality*. Take the example of a leather jacket. Here, fit is mostly defined by its size, style is the option to influence the aesthetic design of the product, the functionality of a shoe can be defined by its cushioning, form of heels, or the structure of cleats. To match the level of customization offered with customers' needs is a major success factor of mass customization.

Fixed solution space

The term solution space represents "the pre-existing capability and degrees of freedom built into a given manufacturer's production system" (von Hippel, 2001). Correspondingly, a successful mass customization system is characterized by *stable* but still flexible and responsive processes that provide a dynamic flow of products (Pine, 1995). Value creation within a stable solution space is the major differentiation of mass customization versus conventional (craft) customization. The mass customizer uses stable processes to deliver high variety goods (Pine,

Victor, and Boynton, 1993). This allows a mass customizer to achieve "near mass production efficiency," but also implies that the customization options are limited to certain product features. Customers perform co-design activities within a list of options and pre-defined components.

Tolerable price and cost levels

Often, the definition of mass customization is supplemented in the literature by the requirement that individualized goods do not carry the price premiums connected traditionally with (craft) customization (Davis, 1987; Hart, 1995; Pine, 1993b; Victor and Boynton, 1998;Westbrook and Williamson, 1993). However, mass customization practice shows that consumers are frequently willing to pay a price premium for customization to reflect the increment of utility they gain from a product that better fits their needs than the best standard product attainable (see Franke and Piller, 2004; Levin, Schreiber, Lauriola, and Gaeth, 2002; Piller, H¨onigschmid, and M¨uller, 2002).

From the manufacturer's perspective, this price level demands for a cost level that allows such affordable premium. Piller, M¨oslein, and Stotko (2004) discuss the value creation mechanism of mass customization. They show that customized production can allow for economies of integration, cost saving potentials resulting from better planning conditions, a reduction of fashion risks, a drop in distribution stock-keeping, or higher customer loyalty.

2.3 Theoretical and Empirical review

2.3.1 Theoretical Review

This section of the thesis contains the theoretical foundation which will form the basis for the analysis and the conceptual framework. There will be a thorough review of the existing literature on mass customization where the goal is to illustrate the important success factors of mass customizations and different levels of customization.

2.3.1.1 Origins of Mass Customization

The concept of mass customization was anticipated by Toffler (1971) and the term was coined by Davis (1987). “Mass customization of markets means that the same large number of customers can be reached as in mass markets of the industrial economy, and simultaneously they can be treated individually as in customized markets of pre-industrial economies” (Davis 1987). Pine (1993) documented its place in the continuum of industrial development and mapped out the management implications for firms that decide to adopt it. Mass customization is a new paradigm for industries to provide products and services that best serve customer needs while maintaining near-mass production efficiency. In other words, mass customization combines the best of the order to made era, where products were individualized but at high cost, with the best of mass production, where products were affordable but highly standardized (Fralix 2001).

This movement may lead to significant impact on the organizational structure of company in terms of new methods, education, division of labor in marketing, sales, design, and manufacturing. The technological roadmap of mass customization can also lead to redefinition of job, methodology, and investment strategies as witnessed in current practice (Mitchell et al. 2002).

In a real world marketing environment, firms increasingly engaged in mass produce standardized goods as efficiently as possible to gain both customer satisfaction and economies of scale (Meredith et al. 1994). The justifications of shifting towards mass customization are based on three main reasons. First, there has been a fall down in mass markets (Kotler 1989; Heumann 1992; Hart 1995; Kara and Kaynak 1997). The beginnings of customers are no longer satisfied with a “one size fits all” product (Pine 1993). Instead, they demand increased levels of variety and personalization (Firat and Schultz 1997). Second, new production and information technologies enable firms to produce to customer specification at the low cost and high speed of standardized offerings. The introduction of modularization and standard component interfaces have facilitated the decoupling of customer specification along different points of the production process (Duray et al. 2000), while e-commerce has changed the way firms interact with customers and suppliers, providing a quick and efficient means of introducing customization (Lee et al. 2000; Bhat and Emadad 2001). Finally, the shortening of product life cycles and

expanding industrial competition has led to the breakdown of many mass industries, increasing the need for production strategies focused on individual customers.

2.3.1.2 Success factors of Mass Customization

The industries that practice mass customization are not entirely successful in maintaining a low inventory and satisfying all their consumers. There are so many factors that affect the process of implementing mass customization as well as its successfulness. The success of mass customization systems depends on both external and internal factors. The existence of these factors justifies the use of mass customization as a competitive strategy and supports the development of mass customization systems. The most commonly emphasized factors in different literatures are; customer demand for variety, market conditions, functioning value chain, technology, products modularity and knowledge sharing.

1. Customer demand for Variety

The need to deal with increasing customer demand for innovative and customized products is the fundamental justification for mass customization (Pine et al., 1993; Lau, 1995; Kotha, 1996b). The success of mass customization depends on the balance between the potential sacrifice that customers make for mass customization products and the company's ability to produce and deliver individualized products within an acceptable time and cost frame. i.e. how much they will to pay and wait for the delivery of mass customized products; Hart, 1996 and Kotha, 1996b.

2. Market Conditions

In the development of mass customization the first mover advantage works. According to Kotha (1995), a company's ability to transform mass customization potential into actual competitive advantage greatly depends on the timing of this development. In other words, being the first to develop mass customization system can provide substantial advantage over competitors, since the company may get well entrenched in this position. This starts being seen by people as innovative and customer-driven.

3. Functioning Value chain

Mass customization is a value chain-based concept. The supply network must be at close proximity to the company to deliver raw materials efficiently (Kotha, 1996b; Feitzinger and Lee, 1997). Most important manufacturers, retailers, and other value chain entities must be part of an efficiently linked information network (Kotha, 1996b; Haglind and Helander, 1999; Kim, 1998; Magretta, 1998). The success mass customization depends on the willingness and readiness of suppliers, distributors, and retailers to attend to the system's demands.

4. Technology

One could argue that the very concept of mass customization appeared only after some companies were able to successfully integrate a series of information and process flexibility technologies. The implementation of Advanced Manufacturing Technologies (AMTs) is fundamental to enable the development of mass customization systems (Pine et al., 1993; Lau, 1995; Kotha, 1996b; Hirsch et al., 1998; Adamides, 1996).

5. Product Modularity

The nature of the product offer has to support the strategy of mass customization. The product must be modularized in a way that it is possible to be assembled into different forms (Feitzinger et al., 1995). Successful mass customization products must be modularized, versatile, and constantly renewed. Even though modularity is not the fundamental characteristic of mass customization, it enables simpler and lower-cost manufacturing of products with similar effectiveness if compared to true customization. True mass customization products are individually made. Also, mass customization processes need rapid product development and innovation capabilities due to typical short life cycles presented by mass customization products (Pine et al., 1993; Lau, 1995).

6. Knowledge Sharing

Mass customization is a dynamic strategy and depends on the ability to translate new customer demands into new products and services. To achieve that, a culture that emphasizes knowledge

creation and distribution across the value chain must be pursued by companies. That requires the development of dynamic networks (Pine et al., 1993) along with manufacturing and engineering expertise (Kotha, 1996a), and in-house development of new product and process technologies (Kotha, 1995). depend on the existence of the success factors.

2.3.1.3 Level and Approaches of Mass Customization

Determining the level of individualization characterizing truly mass-customized products seems to be a major point of contention in the mass customization debate. According to Hart the solution for this contention lies in careful determination of the range in which a product or service can be meaningfully customized, and how individuals make options upon this range. Several authors propose a continuous framework upon which mass customization may be developed; namely, mass customization can occur at various points along the value chain, ranging from the simple adaptation of delivered products by customers themselves, up to the total customization of product sale, design, fabrication, assembly, and delivery.

Pine (1993) suggests five stages of modular production: customized services (standard products are tailored by people in marketing and delivery before they reach customers), embedded customization (standard products can be altered by customers during use), point-of-delivery customization (additional custom work can be done at the point of sale), providing quick response (short time delivery of products), and modular production (standard components can be configured in a wide variety of products and services).

Gilmore and Pine (1997) have identified four distinct approaches to mass customization, which they call collaborative, transparent, cosmetic, and adaptive.

1. Collaborative Customization

Firms talk to individual customers to determine the precise product offering that best serves the customer's needs. This information is then used to specify and manufacture a product that suits that specific customer. In fact the main phase of collaborative customization focuses on design, but companies can apply this approach not only in this place of the value chain. In the case of collaborative delivery services, customers specify exactly where, when, and how to place goods,

which then drives the entire flow of work processes. Collaborative customizers not only deliver the product to the customer but also customize that delivery. Raw materials or component parts are stocked, and finished products are made only in response to the actual needs of individual customers (See Fig 2.1). Moreover, a given product is transported only to those places where it is needed. This makes in collaborative customization there is a minimization of costs by not keeping inventories of finished products.

2. Transparent Customization

Firms provide individual customers with unique products, without explicitly telling them that the products are customized. In this case there is a need to accurately assess customer needs. Instead of requiring customers to take the time to describe their needs, transparent customizers observe behaviors over time, looking for predictable preferences (See Fig 2.1). Businesses ripe for transparent customization are those whose customers do not want to be bothered with direct collaboration.

3. Cosmetic Customization

Firms produce a standardized physical product, but market it to different customers in unique ways. A company should adopt the cosmetic approach when its standard product satisfies almost every customer and only the product's form needs to be customized. When managers design or redesign a product, a process, or a business unit, each of the approaches for possible insights should be examined in order to test to serve their customers. In some cases, a single approach will dominate the design. Often, however, managers will discover that they have to mix some or all of the approaches to serve a particular set of their customers.

4. Adaptive Customization

Firms produce a standardized product, but this product is customizable in the hands of the end-user. Adaptive customization create standard goods or services that can easily be tailored, modified, or reconfigured to suit customer's needs without any direct interaction with the company. Each customer independently derives his or her own value from the product because

the company has designed multiple permutations into a standard, but customizable, offering (See Fig 2.1). It is the product itself that interacts with customers.

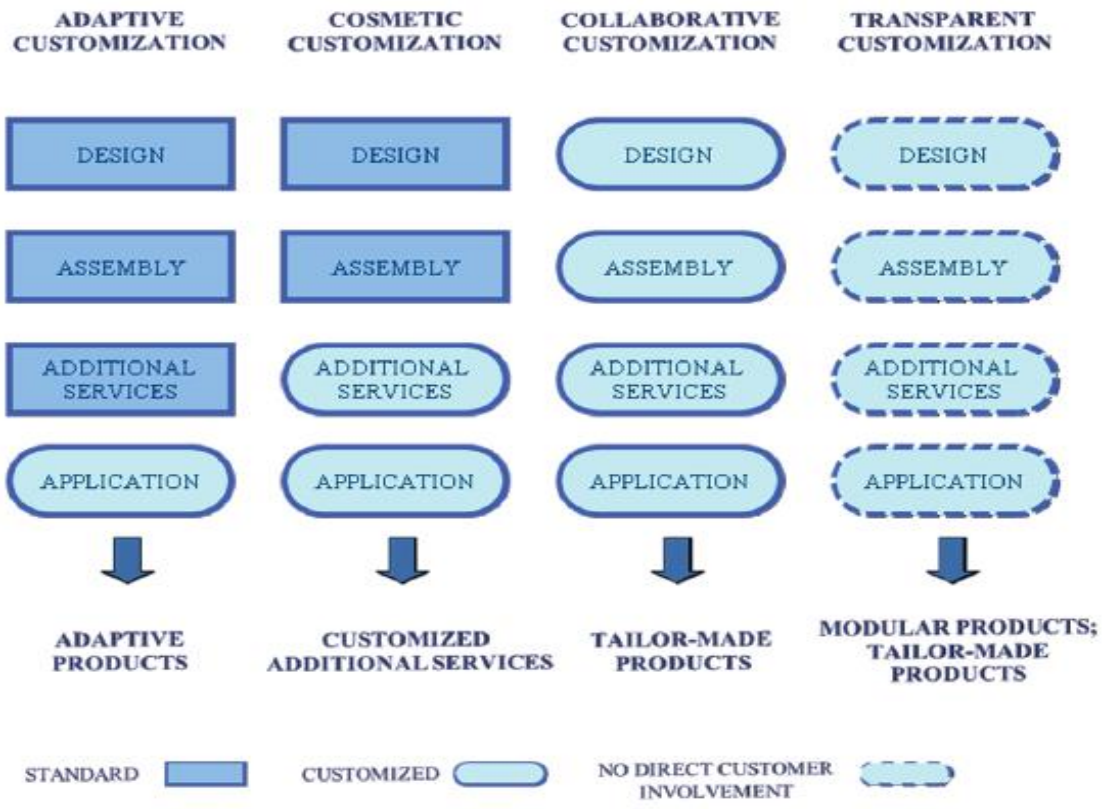

Fig 2.1: *Adapted from Lamper and Mintzberg (1996); Broekhuizen and Alsem (2002)*

2.3.2 Empirical Review

2.3.2.1 The Paradigm of Mass Customization

The disagreement within the literature is regards the difference between mass customization and mass production. This question branches into aspects such as whether mass customization and mass Production are both parts of a continuum, their operational and strategic differences, and the feasibility of pursuing both strategies within the same company.

Some scholars suggest that mass customization and mass production are essentially different and incompatible within the same organization such as Pine, Victor and Boynton (1993). These differences concern fundamental aspects such as focus, goal, key features, and structure of each

approach. The way products and processes are developed in the two approaches: in Mass production products are created first and then a coupled process is designed to produce them; in mass customization the process is created first and remains de-coupled from products this makes them different Taylor and Lyon (1995). Farther more, Lampel and Mintzberg (1996) argue that customization and standardization are not alternative models of action but rather pole in a continuum of real world strategies.

However, some authors suggest that mass customization is not very different from mass production. Rather, Kotha (1996a) is likely to be the author most supportive of combining both strategies, if not within the same production system, at least within the same firm. Depending on his case analysis, Kotha (1995; 1996a; 1996b) suggests exploring the interaction between mass customization and mass production factories to encourage organizational learning, improve the utilization of work skills, enhance strategic flexibility, refine engineering and manufacturing capabilities, and improve market responsiveness. Such integration may offer opportunities such as sharing of design and process engineers and workers between the two factories, training of mass customization workers at the mass production factory, and transferring of process knowledge and information on market trends from the mass customization to the mass production plant.

Rather, most scholars conclude that the major differences between mass customization and mass production are; instead of customers selecting one variety of a product, the product can be tailored to there requirements. The production process must be very flexible in order to meet those requirements. There is no finished goods inventory if the product is really customized. It also involves a delivery capability that reaches directly to the customer (Pine (1993), Victor and Boynton (1993), Taylor and Lyon (1995), Lampel and Mintzberg (1996)).

The rationalization for the development of mass customization systems is based on several central ideas (Hart, 1995; Kotha, 1995; Pine, 1993a; Silveira et al., 2001):

- Due to decreasing productivity in 1970s, the ability of Mass Production system to lower real costs and therefore prices inhibited its expansion across markets.

- More accessible international markets lead to a gradual change in consumers' needs and wants. What used to be a stable demand for standard goods has fragmented into a demand for differentiated goods.
- Large, homogeneous markets have become heterogeneous due to the fragmenting demand. Therefore niche businesses are emerging, shifting power to buyers who prefer individualized higher quality goods.
- Companies realize new ways to generate profits, hence they enter niches to try to meet the changing needs. First it can be done through tailoring the end product after production, but this method being costly, customization during production becomes an option.
- Creating high levels of individualized production requires flexibility in manufacturing process, which is a challenge to mass production.
- Hence manufacturing processes and machinery need to change. Driven by markets and customers, high-quality customized products need to be produced at mass production capacity via short production runs and short changeover times.
- As a result of better addressing customers' needs, a premium price can be charged. This additional margin covers for a loss of volume. After some experience is gained from MC processes, goods with many variations can be produced at the same costs or lower than MP.
- Due to the dynamic nature of new niche markets, continuous success can be achieved by quickly producing a greater variety of goods. As the rate of technology change increases sharply, product development cycles must be shortened accordingly.
- Shorter product development cycles are followed by shorter product life cycles, which means that products and technologies are constantly improved and/or replaced.
- This results in demand fragmentation (less demand for each individual product), and a higher demand for the company and its products relative to the old system and to its competitors. Niche markets become attractive avenues due possibilities to fulfill ever-growing demand fragmentation (Pine, 1993) as well as due to new distributions channels and information technologies that allow direct contact between customers and manufacturers.

2.4 Theoretical and Conceptual Framework

2.4.1 Theoretical framework

Based on the research gap, research objectives, and the literature review about mass customization, the researcher come up with the following conceptual framework shown in Figure 2.2. In this framework the above identified six success factors; customer demand for variety, market conditions, functioning value chain, technology, products modularity and knowledge sharing, are viewed as the necessary elements for a successful mass customization implementation. As we can observe from the figure the compatibility of the success factors of mass customization helps companies to employ different levels and approaches of mass customization; adaptive, cosmetic, transparent and collaborative.

2.4.2 Conceptual Framework

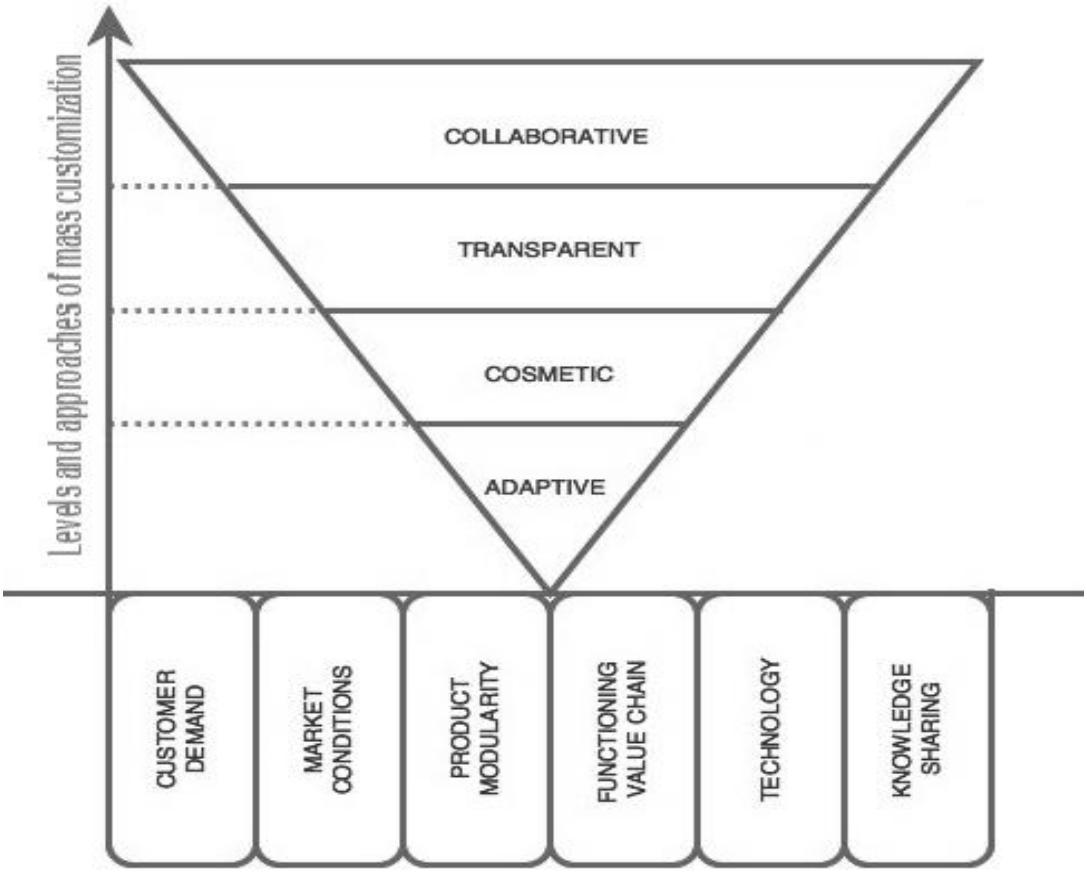

Fig 2.2: *Conceptual framework:*

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This research was conducted in order to provide information about mass customization in the Ethiopian leather garment industry. In order to answer these research goals, the researcher opted to obtain the view of human resource employees in line with this topic. Specifically, a total of 112 respondents from 5 companies within Addis Ababa Ethiopia were selected to make up the sample by using proportional stratified sampling. Selected participants answered a survey questionnaire structure in Likert format and the researcher conduct an interview for marketing managers of the five companies. Data gathered from these research instruments were then computed for interpretation. Along with primary data, the researcher also used secondary resources in the form of published and unpublished articles, books and different literatures to support the survey results.

3.2 Research Design

According to Creswell (1994), the descriptive method of research is to gather information about the present existing condition. This study utilized the descriptive method of research. As widely accepted, the descriptive method of research is a fact-finding study that involves adequate and accurate interpretation of findings. Descriptive research describes a certain present condition. Relatively, the method is appropriate to this study since it aims to describe the present condition of the firms with regard to mass customization. Farther more, the researcher opted to use this kind of research considering the desire to acquire first hand data from the respondents so as to formulate rational and sound conclusions and recommendations for the study.

3.3 Research Approach

When choosing between research approaches, the researcher came across several approaches. Malhotra and Birks (2001) argue that research can be quantitative, qualitative or a combination of both. The quantitative research data was collected in a standardized structured way and statistical methods are used in the data analysis. In qualitative research, data is verbal or visual

and it aims to provide insight and understanding of the given phenomena. This thesis does include both numerical and textual data; therefore the combination of quantitative and qualitative approach was an option. The study employed the combined approach so as to overcome the limitations of both approaches.

The researcher use concurrent nested model to handle both quantitative and qualitative approach. It can be identified by its use of one data collection phase, during which both quantitative and qualitative data are collected simultaneously but the priority is given for the quantitative approach. The integration of the two types of data occurs at the data analysis and interpretation of the research process.

3.4 Research Method

There are many types of non-experimental methods, the most widely used approaches: case studies, naturalistic observation, surveys, and focus groups. The technique that was used under descriptive method is the normative survey approach, which is commonly used to explore opinions according to respondents that can represent a whole population. According to Brubaker & Thomas, (2000) direct-data survey is used to reveal the status of some phenomenon within an identified class of people, organisations, or regions at a particular time through questionnaire and interview to directly collect information

The survey is appropriate in this study because it enables the researcher in formulation of generalizations. This method has since become a very popular method for quantitative research in the social sciences. Therefore it is convenience to use survey method since this thesis gives the priority to quantitative approach.

3.5 Source of data and Instruments

The study used two types of data: the primary and the secondary data. The primary data were derived from the answers respondents gave in the self-administered questionnaire prepared by the researcher. In addition, the information obtained from the interview also provided primary research data that supported the study. The secondary data on the other hand, will derive from the findings stated in published documents and literatures related to the research problem.

Two types of direct-data survey are included in this study. These are questionnaire survey and interviews. Interviews were conducted with marketing managers of the five Ethiopian leather garment companies because of marketing managers are more informed about the area. The interviews conducted to the manager's are semi-structured in order to guide the interviewees. The questionnaire survey respondents were given ample time to answers the questions and those are distributed toward to the salespersons and operators. The questioner incorporate both closed and open ended questions. The dissertation used self-administered questionnaire as the main tool in collecting data from a large number of respondents. The direct-data type of survey is a reliable source of first-hand information because the researcher directly interacts with the participants.

3.6 Sample Design

The target population of the research was companies of the Ethiopian leather garment industry which are located in Addis Ababa. According to LIDI there are more than twenty five (25) leather garment manufacturers in Addis Ababa operating in different levels. This research took five (5) of the companies which are; Bazera Leather Products PLC, Fikir Leather Products PLC, Kinaf Leather Products PLC, Modern Zege Leather Products PLC and Universal Leather Products S.C. The researcher was identify these five companies through their number of operators (directly participating in the production process) and outlets they have; more than 10 operators and more than 2 outlets. The research used these criteria for the reason that the operators are the core persons which have technical information about mass customization. On the other side the number of outlets is the major determinate for the number of salespersons and the salespersons are one of the major source of information about customers since the research does not include the customer perspective.

The total numbers of leather garment operators working in these five companies are 294; universal 164, Modern Zege 40, Kinaf 32, Fikir 32 and Bazera 30. Out of these 298 leather garment operators the researcher took 30% as a sample which means 90 operators using proportional allocation. On the other side, these five companies have a total of 17 outlets; universal 5, Fikir 3, Bazera 3, Kinaf 3, and Modern Zege 3.(LIDI, 2014) And they do have 34 salespersons out of these 50% of the salespersons were addressed by this thesis using

proportional allocation. Farther more the researcher was conducted an interview with five of the marketing managers of the five companies.

This research based on proportional stratified random sampling technique, the alternative use of non-probability sampling is not considered due to minimizing the biasness of the researcher in selecting experts. The researcher will make contact with potential respondents physically for the participation of this survey research.

The questionnaire developed in English and translates it in Amharic languages for the leather garment operators because most of the respondents may not capable of understanding English. The questions develop in simple and commonly used English and Amharic words.

3.7 Data Type and Measurement Scale

The data type that the research was collected is an ordinal data type. The measurement scale that the research was employed is five-point likert scale ranging from "strongly disagree" to "strongly agree". The range and interpretation of the five-point scale are shown in Table 3.1.

Table 3.1: The Five-point Likert Scale

Scale	Range	Interpretation
5	4.01 – 5.00	Strongly Agree
4	3.01 – 4.00	Agree
3	2.01 – 3.00	Uncertain
2	1.01 – 2.00	Disagree
1	0.01 – 1.00	Strongly Disagree

3.8 Unit of analysis

The unit of analysis may be a person, group, organization, country, object, or any other entity that you wish to draw scientific inferences about. The units of analysis determined by the

population that the study was approached. This thesis investigates and concludes from the view of the firms because the primary data were only collected from the employees of the firms.

3.9 Validity and Reliability Test

3.9.1 Validity Test

Content validity: refers to the extent to which a measuring instrument provides adequate coverage of the topic under study. In order to test the content validity, the researcher was test the questionnaire with five experts of LIDI. These respondents as well as their answers were not part of the actual study process and were only used for testing purposes.

External validity: refers to the degree to which the results of the study can be generalized to other settings or samples. The researcher was used stratified random sampling to select the participant's of the study and the allocation was proportional with number of leather garment operators and salespersons.

Statistical validity: the statistical validity of the study was used estimation of parameters. An interval estimate is referred to as a confidence interval and is a calculated range of values 95%. The analysis used for this test is one sample T-test.

3.9.2 Reliability Test

The researcher was used Cronbach's alpha to test the internal consistency reliability. Since, the research variables developed from summated scales; are an assembly of interrelated items designed to measure underlying constructs. According to Bhattacherjee, 2012 Cronbach's alpha is a measure of consistency between different items of the same construct. If a multiple-item construct measure is administered to respondents, the extent to which respondents rate those items in a similar manner is a reflection of internal consistency.

3.10 Method of Data Analysis

Both quantitative and qualitative methods of analysis were used to analysis the collected data. The quantitative data was analyzed by using SPSS (Statistical Package for Social Science)

version 17.0. After gathering all the completed questionnaires from the respondents, total responses for each item were obtained and tabulated. Descriptive statistical analysis was used to describe respondents' demographic characteristics and to assess the condition of mass customization and mass production in the Ethiopian leather garment firms. In order to use the Likert-scale for interpretation, weighted mean and one-sample T-test to represent each question was computed. Correlation analysis was made between the compatibility of the success factors of mass customization and the appropriate system; mass customization or mass production. And one-way ANOVA analysis was computed to see the difference of agreements among the five company's respondents.

The qualitative data collected through interviews were analyses and interpreted with the quantitative data by integrating both types of data.

3.11 Ethical Considerations

As this study utilized human participants of Ethiopian leather garment professionals, certain issues were addressed. The consideration of these issues is necessary for the purpose of ensuring the privacy as well as the security of the participants. These issues were identified in advance so as prevent future problems that could have risen during the research process. Among the significant issues that were considered included consent, confidentiality and data protection.

In order to secure the consent of the selected participants, the researcher relayed all important details of the study, including its aim and purpose. People who participated in the research were given an ample time to respond to the questions posed on them to avoid errors and inaccuracies in their answers. The respondents were given a waiver regarding the confidentiality of their identity and the information that they did not wish to disclose. The confidentiality of the participants was also ensured by not disclosing their names or personal information in the research. Only relevant details that helped in answering the research questions were included.

CHAPTER FOUR
RESULT AND DISCUSSION

4.1 Introduction

In this chapter, empirical findings collected through questionnaires, interviews, and secondary data are analyzed. In order to achieve the research objectives and to answer the research questions, defined in theoretical framework.

With a sample of 5 leather garment companies from 25 leather garment companies located in Addis Ababa, a total of 107 questionnaires were distributed for salespersons and leather garment operators. Of the 107 distributed questionnaires, 85 were returned back. This represents a response rate of 80%, which is quite reasonable for this type of survey. Moreover the research made an interview with marketing managers of the five companies.

4.2 Results of the Study

Data analysis is divided into five parts, which are based on the research questions. The first part is analyses of most commonly used system in Ethiopian leather garment industry; the second part is analyses of the most commonly used customization approach; the third part is analyses of the compatibility of all success factors of mass customization; the fourth part is analyses of the needs of all success factors of mass customization for the successfulness of mass customization; finally the fifth part is analyses of appropriate system for the Ethiopian leather garment companies.

The chapter also includes respondents' profile, reliability analysis, one-sample T-test, correlation analysis, and ANOVA results which were computed to see the difference of agreements among various groups of respondents.

4.2.1 General Profile of the Respondents

Table 4.1: *Demographic characteristics of respondents*

Company					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Universal	47	55.3	55.3	55.3
	Modern zega	12	14.1	14.1	69.4
	Kinaf	9	10.6	10.6	80.0
	Bazera	10	11.8	11.8	91.8
	Fikir	7	8.2	8.2	100.0
Total		85	100.0		
Educational level					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High school complete	40	47.1	47.1	47.1
	Diploma	39	45.9	45.9	92.9
	Other	6	7.1	7.1	100.0
Total		86	100.0		
Occupation/career					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Salesperson	12	14.1	14.1	14.1
	Designer	5	5.9	5.9	20.0
	Pattern maker	3	3.5	3.5	23.5
	Cutting man	21	24.7	24.7	48.2
	Assembler	39	45.9	45.9	94.1
	Other	5	5.9	5.9	100.0
Total		86	100.0		
Descriptive Statistics of years of experience					
		N	Mean	Std. Deviation	
Years of experience		81	14.07	10.548	

Source: Survey Data, 2014.

The response of each demographic profile is expressed as a percentage (%) of the total 85 respondents presented in *Table 4.1*. The majority of the respondents fall under Universal Leather Products Share Company because of the size of the company. 47 respondents which means more than 53% of the respondents from universal, 12 respondents from modern zega (14%), 10 respondents from Bazera (11.8%), 9 respondents from Kinaf (10.6%) and 7 respondents from Fikir (8.2%).

The educational level of respondents was expressed as High school complete, Diploma holder, degree holder, post graduate and other. Out of the total respondents; 40 respondents were High school complete (47%), 39 respondents were Diploma (45%) and 6 respondents were others (7%). There were no degree and post graduate holders of respondents. (See *Table 4.1*)

One of the elements of general profiles of the respondents is occupation/career presented in *Table 4.1*. The researcher tries to group the respondent's occupation in to; Salesperson, Designer, Pattern maker, Cutting person, Assembler and others. From the 85 respondents; 45.3% were assembler (39 respondents), 24.4% were cutting persons (21 respondents), 14% were salespersons (12 respondents), 5.8% were designers (5 respondents), 5.8% were others (5 respondents), and 3.5% were pattern makers (3 respondents).

The descriptive statistics result shows that the respondent's years of experience score a mean value of 14.1. This indicates that the average years of experience of the participant of the study are more than 14 years. (See *Table 4.1*)

4.2.2 Reliability Analysis

Table 4.2: Scale Reliability (Cronbach Alpha)

Dimensions	**Alpha coefficients**
Most commonly used system; mass customization or mass production	.676
Most commonly used mass customization approach	.817
Compatibility of the success factors of mass customization	.830

All of the success factors need to be compatible	.664
Overall	**.875**

Source: Survey Data, 2014.

The Cronbach alpha coefficient was computed to check the reliability of the questionnaire which was used as the data collection instrument. Nunnally (1978) has suggested 0.60 as the acceptable level for reliability measure. The result of Cronbach's alpha in each dimension indicates that no values of coefficient α were less than 0.6 as reported, thus indicating an acceptable level of reliability. (See *Table 4.2*)

4.2.3 Most commonly used Business Strategy

RQ1: What is the most commonly used business strategy in the Ethiopian leather garment industry?

This research question addressed by both types of data i.e. primary as well as secondary data.

Table 4.3: Customized and Standardized products distribution

Company name	Daily actual production (piece)	Customized products (piece)	Standardized products (piece)
Universal	50	20	30
Modern Zega	24	12	12
Kinaf	20	15	5
Bazera	18	9	9
Fikir	20	8	12
Total	**132**	**64**	**78**

Source: LIDI's marketing directorate, 2014.

From the secondary data (Table 4.2), the aggregate daily actual production of standardized leather garment products are computed 78 which means 59%. On the other side the rest 64 leather garment products (41%) were customized. (LIDI, 2014)

Table 4.4: Descriptive Statistics and One-Sample Test of most commonly used business strategy

	N	Mean	Std. Deviation	One-Sample Test (Test Value = 3) t	df	Sig. (2-tailed)
Products are customized	85	3.45	1.006	4.097	84	.000
The functional strategy support mass customization	85	3.21	.940	2.077	84	.041
Handles each customer individually	85	3.38	.988	3.514	84	.001
Most commonly used business strategy	**85**	**3.3451**	**.76265**	**4.171**	**84**	**.000**

Source: Survey Data, 2014.

From the primary data, all the three questions were used to identify the most commonly used business strategy in the Ethiopian leather garment industry scored above the average mean values (mean score value of 3.3451and p-value of .000). "Handles each customer individually" scored mean value of 3.38, "Products are customized" scored mean value of 3.45 and "The functional strategy support mass customization" scored mean value of 3.21. This indicates that the respondent argue with mass customization is the most commonly used business strategy in the Ethiopian leather garment companies.

4.2.4 Most commonly used Mass Customization Approach

RQ2: Which mass customization approach is most commonly used in the Ethiopian leather garment industry?

Table 4.5: Descriptive Statistics and One-Sample Test of most commonly used mass customization approach

	N	Mean	Std. Deviation	One-Sample Test (Test Value = 3) t	df	Sig. (2-tailed)
Serves the customers needs fully	84	3.33	1.022	2.990	83	.004

Directly interacts with customers about their needs	85	3.29	1.021	2.655	84	.009
Has standardized products and easily customizable	84	3.46	1.092	3.898	83	.000
Serve its customers need starting from the design stage	85	3.78	.956	7.489	84	.000
Produce standard product that satisfies almost every customer	85	3.47	.881	4.925	84	.000
Has designed a multiple version to satisfy individuals customers needs.	85	3.58	1.073	4.952	84	.000

Source: Survey Data, 2014.

For identifying which mass customization approach is commonly used, five questions were forwarded to the respondents. All the five questions scored above the average mean score; "Serve its customers need starting from the design stage" mean score of 3.78, "Has designed a multiple version to satisfy individuals customers needs" mean score of 3.58, "Produce standard product that satisfies almost every customer" mean score of 3.47, "Has standardized products and easily customizable" mean score of 3.46, "Serves the customers needs fully" mean of 3.33 and "Directly interacts with customers about their needs" mean score of 3.29.

The above mean score values imply that the most commonly used mass customization approach is collaborative customization with a p-value of .000. From the interview data collected, it emerged that majority of marketing mangers' believes that their company interact customers individually and participate them starting from the design stage and this supports the data what the research got from the questioner empirical data.

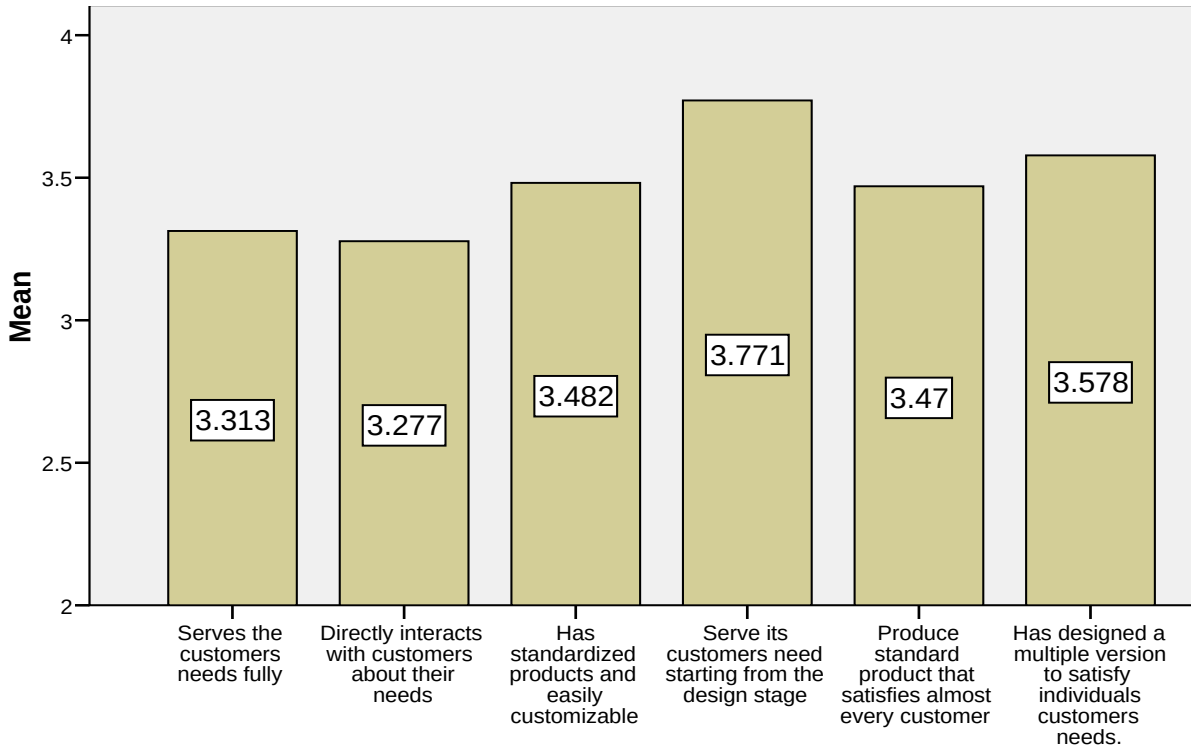

Fig 4.1: *Descriptive Statistics of most commonly used mass customization approach*

4.2.5 The Compatibility of the success factors of Mass Customization

RQ3: Does all success factors of mass customization are compatible to implement mass customization in the Ethiopian leather garment industry?

Table 4.6: Descriptive Statistics and One-Sample Test of compatibility of the success factors of mass customization

	N	Mean	Std. Deviation	One-Sample Test (Test Value = 3) t	df	Sig. (2-tailed)
Customers order shows the needs of customized product	85	3.38	1.154	3.007	84	.003
Work in process products shows customized products	85	3.24	1.031	2.104	84	.038

Has a first mover advantage compare to competitors with in the sector	84	3.60	1.214	4.495	83	.000
Suppliers, distributors, and retailers have the willingness and readiness to implement mass customization	85	3.34	1.086	2.896	84	.005
Has efficiently linked information network	85	3.27	1.084	2.301	84	.024
Raw materials delivery is efficient	85	3.40	1.146	3.217	84	.002
Has Advanced Manufacturing Technologies like internet facility, body scanner, CAD CAM and related technologies.	85	2.49	1.201	-3.882	84	.000
Characteristics of leather garment products can be versatile and constantly renewed	85	3.27	1.138	2.192	84	.031
Characteristics of leather garment products can be easily modularize	85	3.80	1.056	6.987	84	.000
Value creation and distribution across the value chain is well-established	84	3.23	1.010	2.052	83	.043
Has an active network system that facilitates the knowledge sharing process.	84	3.35	1.266	2.500	83	.043
Compatibility of the success factors of mass customization	**85**	**3.2779**	**.68461**	**3.742**	**84**	**.000**

Source: Survey Data, 2014.

The compatibility of the success factors of mass customization in the Ethiopian leather garment industry were investigated by eleven questions. The total mean score value of "The compatibility of the success factors of mass customization" is 3.2779 with a p-value of .000. The first two questions used to know the customers needs for customized products. The mean score value of the questions are above the average mean score value; "Customers order shows the needs of customized products" mean score of 3.38 and "Work in process products shows customized products" mean score of 3.24. Therefore, these shows customers demand more on customized products. The marketing managers of the five companies believe that customers most of the time asks to do their own products were different from what we are producing.

The next question given to the respondent is "Has a first mover advantage compare to competitors with in the sector". The mean score of the question is mean value of 3.6 this implies that all of the Ethiopian leather garment companies are operating mass customization. The data

what the researcher got from the marketing managers were support the empirical result by bolding all companies are under the implementation of mass customization with in the same way.

Table 4.7: ANOVA result of functionality of value chain

		Company						
		Universal	Modern Zega	Kinaf	Bazera	Fikir	Total	Sig. (2-tailed)
Suppliers, distributors, and retailers have the willingness and readiness to implement mass customization	Mean	3.57	2.25	2.78	3.50	2.43	3.34	.039
	Std. Deviation	1.016	.754	1.202	1.509	.535	1.086	
Has efficiently linked information network	Mean	3.11	3.50	3.78	3.30	3.29	3.27	.472
	Std. Deviation	1.202	.522	1.302	1.059	.488	1.084	
Raw materials delivery is efficient	Mean	3.70	2.17	2.67	3.30	2.14	3.40	.031
	Std. Deviation	1.041	1.193	1.323	1.287	1.90	1.146	

Source: Survey Data, 2014.

In order to check the value chain well-functioning or not the researcher provide three questions for respondents. The mean value of; "Suppliers, distributors, and retailers have the willingness and readiness to implement mass customization" 3.34, "Has efficiently linked information network" 3.27 and "Raw materials delivery is efficient" 3.40. So, these shows the industry value chain is well-functioning. At this point the researcher do have two different interview data one from Universal leather products share company and the other one from the rest of four leather garment companies. The data from universal implicate that their value chain is well-functioning because of they do have their own tannery. However, the other four companies face so many challenges to get raw materials.

The respondents answer for "Has Advanced Manufacturing Technologies like internet facility, body scanner, CAD CAM and related technologies" question show a mean of 2.49. This mean value conform the technological infrastructure of the industry is weak. All the marketing

managers also agree with the weakness of the companies as well as the industry in terms of technological infrastructures.

The means result of the two questions "Characteristics of leather garment products can be easily modularize" and "Characteristics of leather garment products can be versatile and constantly renewed" are 3.80 and 3.27 respectively. According to the mean scores the nature of the leather garment products support customization. Marketing managers of the five companies said that the characteristics of leather garment products by itself push companies to implement mass customization because of the flexibility nature the product.

The last factor is the knowledge sharing culture of the companies. The two questions, "Has an active network system that facilitates the knowledge sharing process" and "Value creation and distribution across the value chain is well-established", score a mean value 3.35 and 3.23 respectively. Both means implies there is a good knowledge sharing culture in the companies. What the research got from the interview in this area is, the knowledge sharing process is fast and informal these makes the process good for mass customization.

4.2.6 Most Important success factors of Mass Customization

RQ4: What are the most important success factors of mass customization?

Table 4.8: Descriptive Statistics and One-Sample Test of most important success factors of mass customization

	N	Mean	Std. Deviation	One-Sample Test		
				Test Value = 3		
				t	df	Sig. (2-tailed)
Without the existence of customers demand for variety mass customization system will not successful	84	3.38	1.191	2.931	83	.004
The existence of companies which are already employ mass customization system in the market	84	2.64	1.147	-2.853	83	.005
The extinction of well functioning value chain in the industry	84	3.29	1.247	2.099	83	.039

Without the existence of technological infrastructure	84	3.43	1.175	3.343	83	.001
The customizability natures of leather garment products weak	84	3.29	1.168	2.243	83	.028
Not have a good knowledge sharing culture across the value chain of leather garment industry	84	3.42	1.143	3.341	83	.001
Most important success factors of mass customization	**84**	**3.2239**	**.72737**	**2.822**	**83**	**.006**

Source: Survey Data, 2014.

The question which refers to "Without the existence of technological infrastructure (i.e. internet facility, body scanning, CAD CAM and the like) in your company it is impossible to implement mass customization" scored the highest mean score of 3.43 while the question that refers to "The existence of companies which are already employ mass customization system in the market makes your company impossible to get the success of mass customization" scores the lowest mean value which is 2.64. However, the total mean score value of "Most important success factors of mass customization" is 3.2239 with a p-value of .006. This indicates that for the success of mass customization the technological infrastructure of the industry is the most necessary one among the six factors.

On the other side, the mean score of market condition is below the average mean, this indicates that the respondents gave the least necessary one. The other five factors mean values are above the average value and not that much far from the mean of "technological infrastructures". This indicates that the customer demand for variety, functioning value chain, products modularity and knowledge sharing are important for the success of mass customization implementation.

Most of the company's marketing managers agreed that the well-functioning supply chain and technological infrastructure is the most determinants of the success of mass customization implementation. Yet, they also said that the other factors also relevant for the success of mass customization.

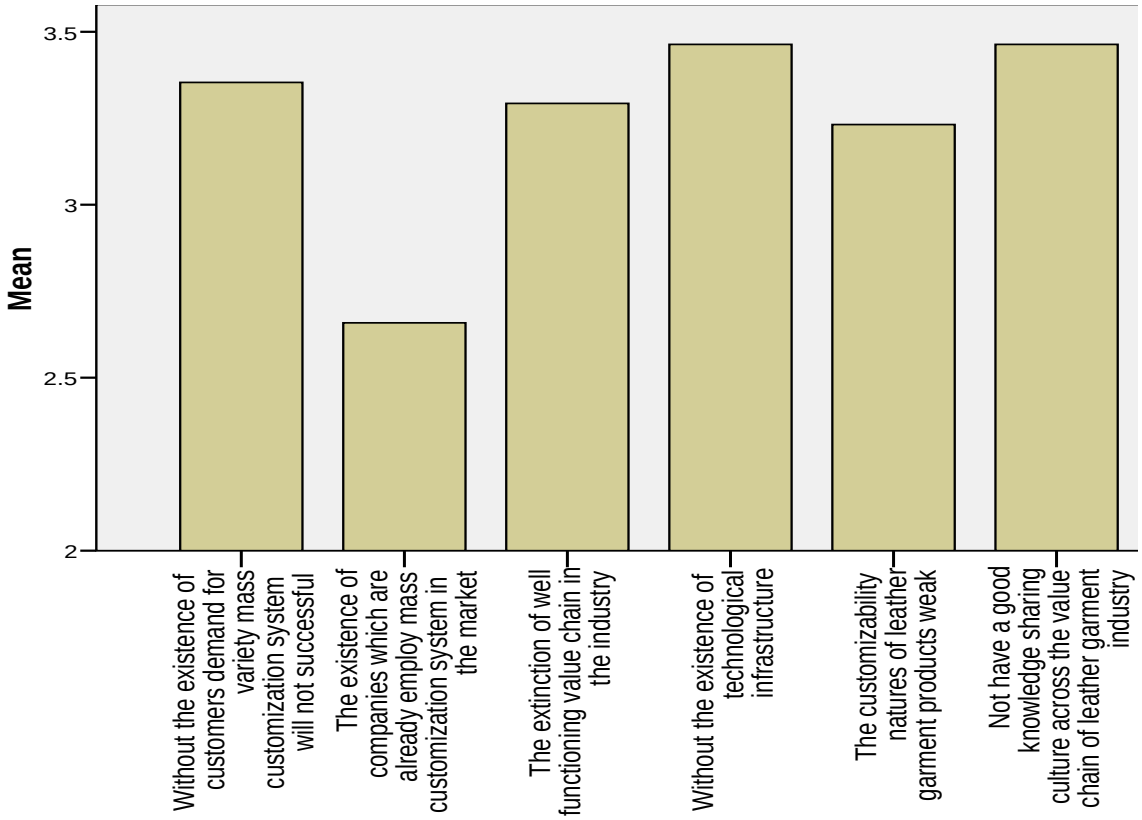

Fig 4.1*: Descriptive Statistics of most important success factors of mass customization*

4.2.7 The appropriate Business Strategy

RQ4: Which business strategy, mass customization or mass production, appropriate for the Ethiopian leather garment industry?

Table 4.9: Frequency distribution of mass customization is the appropriate business strategy

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	4.7	4.8	4.8
	Disagree	14	16.3	16.7	21.4
	Neutral	20	23.3	23.8	45.2
	Agree	35	40.7	41.7	86.9
	Strongly Agree	11	12.8	13.1	100.0
	Total	84	97.7	100.0	

Missing	Missed value	2	2.3		
Total		86	100.0		

Source: Survey Data, 2014.

Among the 85 respondents 35 respondents (more than 40%) agree that mass customization is appropriate rather than mass production, 20 respondents (23%) agree both mass customization and mass production appropriate, 14 respondents (16%) disagree with mass customization is appropriate rather than mass production, 11 respondents (13%) strongly agree with mass customization is appropriate rather than mass production and 4 respondents strongly disagree with mass customization is appropriate rather than mass production.

Those respondents agreed with "mass customization is appropriate" put their different reasons. Such as; customer's needs are variety, the fashionable nature of leather garment products, and mass production needs huge capital.

Those respondents disagreed with "mass customization is appropriate" put their different reasons. Such as; customized products are difficult to produce in bulk, customers sometimes have confused needs, the supply chain is bad and the technology is not supportive. Moreover, all marketing managers also support mass production rather than mass customization because of the above reasons that the salespersons and leather garment operators stated.

4.2.8 Correlation Analysis between the compatibility of the success factors of mass customization and mass customization is the appropriate business strategy

Table 4.10: Correlations result of compatibility of the success factors of mass customization and mass customization is appropriate business strategy

		Compatibility of the success factors of mass customization	**Mass customization is appropriate business strategy**
Compatibility of the success factors of mass customization	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	85	
Mass customization is appropriate business strategy	Pearson Correlation	.232*	1
	Sig. (2-tailed)	.034	
	N	84	84
*. Correlation is significant at the 0.05 level (2-tailed).			

Source: Survey Data, 2014.

In this study, Pearson correlation were used examine the relationship between the compatibility of the success factors of mass customization and Mass customization is the appropriate business strategy. From the results in *Table 4.9*, there is positive association among the compatibility of the success factors of mass customization and mass customization is appropriate business strategy with r-value of .232 and p-value of .034.

4.3 Discussion of the Findings

Under this sub section, the major findings of the study were discussed and summarized. It is strategically important for leather garment companies to understand the concept of mass customization. This study first understands what the present Ethiopian leather garment companies doing with regard to mass customization. In what level of customization they are doing it. Then the study try see the compatibility of the six identified success factors in the Ethiopian leather garment companies and identify which are more important and which are less important. Lastly the study try come up with professionals believes on mass customization appropriateness for the Ethiopian leather garment companies.

From the result of the secondary data, 59% of the garments are standardized and 41% of the garments are customized. This implies that more than half of the garments produced through mass production. However, the interview data shows some of the standardized products came back to the production unit for small adjustments. The small adjustments might be shortening the sleeve length, adding additional buttons and the like. This data were supported by the result what the researcher got from the questioner with the mean value of greater than the average. The salespersons and leather garment operators believe that most of the garments are produced through mass customization.

Products can be customized in different ways the study used the Gilmore's and Pine's (1997) identification, they try to divide them in to four namely collaborative, transparent, cosmetic, and adaptive. The study result (mean score value of 3.29 to 3.78) shows that the Ethiopian leather garment companies fully depend on the customer needs. If the customers needs drive them to change the design they are willing to make the change on the design stage. The customers relationship level also high and this indicate to the collaborative mass customization approach. The collaborative delivery services; customers specify exactly where, when, and how to place goods, which then drives the entire flow of work processes. (Gilmore and Pine, 1997)

The other investigation of the study was the compatibility of the success factors of mass customization. According to different literatures six success factors were most redundantly mention namely customer demand for variety, market conditions, functioning value chain, technology, products customizability nature and knowledge sharing. Different researchers

explore customer demand for an innovative and customized product is the fundamental justification for mass customization (Pine et al., 1993; Lau, 1995; Kotha, 1996b). Therefore, the study try to see the demands of customers of Ethiopian leather garment companies and the result shows customer need more customized products with mean score value of more than 3.08. This implies that the Ethiopian leather garment companies better to follow mass customization in order to satisfy the customers.

The other two success factors of mass customization are market condition and functioning value chain. The past studies recommend that the first mover advantage is one of key success factor of mass customization. (Kotha, 1995) The result explains with a mean score value of 3.6, all of the Ethiopian leather garment companies are operating mass customization. This implies there is no first mover advantage for any of the company that shift to or start with mass customization. The value chain status of an organization is one of the factors that affect the organizational profitability. The Ethiopian leather garment company's value chain is well-functioning according to the mean score result of the survey. However, there are differences among the five leather garment companies, Universal leather products Share Company has its own tannery and this makes the company makes advantageous. Sideways, the other four companies named Modern Zega, Kinaf, Bazera and Fikir are confronting so many difficulties according to both the empirical and interview data.

Advanced Manufacturing Technologies (i.e. internet facility, body scanner, CAD CAM and etc) are the critical factors that influence the success of mass customization. There are no any available technologies in leather garment industry because the mean value shows the technological infrastructure of the industry is weak. The marketing managers of the five leather garment companies also agree with the weakness of the industry in terms of technological infrastructures. However, the implementation of Advanced Manufacturing Technologies (AMTs) is fundamental to enable the development of mass customization systems (Pine et al., 1993; Lau, 1995; Kotha, 1996b; Hirsch et al., 1998; Adamides, 1996).

Mass Customization has gained momentum over Mass Production in the apparel & footwear industry. (Bhatia A. and G Asai R., 2007) One of the reasons mass customization became a driver of the apparel industry is the customizability characteristics of product. Similarly, the

mean score value and the marketing managers interviews showed the customizability nature of leather garment products are supported for customization.

The company's knowledge sharing culture is one of the determinants that have an effect on mass customization implementation. According to Blecker T. and Abdelkafi N. the input of customers should be managed effectively and translated into products and services, since the strategy aims to fulfill individual requirements. The mean score value of knowledge sharing culture is 3.35 with a P-value of .014, these implies that there is a good knowledge sharing culture in the Ethiopian leather garment companies.

In this study, the result shows except "market condition" all of the success factors of mass customization score greater than the average mean values. This indicate other factors; customer demand for variety, functioning value chain, technology, products modularity and knowledge sharing are significantly important for the implementation of mass customization. Out of the six factors of mass customization technology, knowledge sharing, customer demand for variety and functioning value chain score mean values of 3.43, 3.42, 3.38 and 3.29 respectively. On the other side the mean score of market condition is below the average mean (2.64), this indicates the respondents gave the least necessary one. All marketing managers of the five companies agreed with the questioner respondent by explaining why the existence of companies which are already employ mass customization system in the market did not affect the success of mass customization implementation. Their argument is what ever the rivals do, this may create some challenges but contrarily this makes their companies strong and work hard. However, Kotha (1995) agreed that the timing of the development of mass customization is the company's potential and transform into actual competitive advantage.

The percentage distribution of the respondents show more than 40% and 13% of the respondents agreed and strongly agreed with mass customization is appropriate business strategy respectively. Furthermore, the participants of the study put their motives why mass customization proffered from mass production; customer's needs are variety, the fashionable nature of leather garment products, and mass production needs huge capital. Likewise, Blecker T. and Abdelkafi N. said the critical factors for leading mass customization to success refer to the

necessary conditions that if satisfied, the implementation of the strategy has a great chance of to be beneficiary for the company.

On the other side, the percentage distribution of the respondents show 16% of the respondents disagree and 5% of the respondents strongly disagree with mass customization is appropriate business strategy. Customized products are difficult to produce in bulk, customers sometimes have confused needs, the supply chain is bad and the technology is not supportive. These were the motives of the respondents which said mass customization is not appropriate. Similarly, according to Blecker T. and Abdelkafi N. before shifting to mass customization, it is important to examine if the identified success factors of mass customization are fulfilled or not.

CHAPTER FIVE
CONCLUSION AND RECOMMENDATION

In earlier chapter data were presented, analyzed and interpreted. In this chapter conclusions were drawn from the empirical and interviews data. In the final part, recommendations, research limitations and future research suggestions in the area were forwarded.

5.1 Conclusion

This study attempted to use theoretical studies and empirical analysis to attain the five research objectives. Thus, the outcomes of the objectives were discussed and conclusions were drawn with considering each research questions.

The organizational reports of the five Ethiopian leather garment companies' shows that leather garment products are both customized and standardized. But those standardized leather garment products sometimes may comeback for small adjustment basing customers demand. The mean value of the respondents as well as the interview data supports the above issue. So that, the research concludes that the Ethiopian leather garment companies operate more on mass customization.

As of the mean score value of the research questions as well as the interview data show that the companies' are letting customers to participate in designing their own styles. Therefore, it is logical to say that the Ethiopian leather garment companies are operating the transparent mass customization approach.

One of the objectives of the research was investigating the compatibility of the six identified success factors. An empirical study by Franke and von Hippel (2003) on customer need shows that users in fact have very unique needs, and leaving many displeased with standard goods. Similarly, the empirical data collected by questioners as well as interview support the conclusion of Franke and Hippel that the customers needs are heterogeneous and they demand more customized products. Market condition is the second factor which the finding shows, all leather garment companies uses mass customization. This implies that there is no a first mover advantage for any of the company that shift to or start with mass customization.

The third factor that assessed was the supply chain of the companies, the aggregate result of the research showed that there is well functioning supply chain and good for mass customization implementation. However, this result came from the influence of Universal leather products share company's respondents. This resulted due to the company's supply chain which is upward vertical integration. On the other side, the result on the companies which are not vertically integrated shows that they are facing so many difficulties to get raw materials from suppliers. The forth factor is technological infrastructures that supports the implementation of mass customization. All the participants of the study agreed that there are no such supported technological infrastructures available to implement mass customization.

The fifth factor of mass customization is product customizability nature. The study finding showed that the characteristics of leather garment products can be versatile, constantly renewed and easily modularize. Therefore, the nature of leather garment products support to follow mass customization. Finally, the sixth success factor was the knowledge sharing culture of the companies. On this dimension the result reveled that there is maintained knowledge sharing culture among functioning departments and employees, and this implies that the knowledge sharing culture of the companies are supported for mass customization.

Based on the data that the researcher collected from five leather garment companies, the researcher realized that the indications towards the claim that the six identified success factors should be present in a successful implementation of a mass customization business. This is also supported by Blecker and Abdelkafi (2006) who believe that if necessary conditions are satisfied, the implementation of mass customization strategy has great chances of success. Before a company decides to shift to or start with mass customization, it is important to investigate those conditions and see if they can be compatible with the requirement of mass customization. However, according to the analysis result both operators and salespersons did not put an emphasis on investigating market conditions of Ethiopian leather garment to achieve the success of mass customization.

The final objective of the study was to identify the appropriate business strategy (i.e. mass customization or mass production) for firm's profitability and customer's satisfaction. According to the percentage distribution of respondents and the interview data, mass customization is an

appropriate business strategy. However, all of the participants of the study said that the implementation of mass customization is successful only if advanced technologies, functioning supply chains and advanced manufacturing process are existed.

5.2 Recommendation

Recommendation is a part or subsection under which possible suggested solutions are provided for the major problems identified or investigated by the conducted studies. According to the study result out of the six identified success factors of mass customization, technology and functioning value chain are weak and the researcher recommend the following solutions to enhance the two success factors of mass customization. These recommendations go to different stakeholders of the industry.

- The researcher recommends that the government should develop the technological infrastructures of the country and facilitating the importing process of the Technologically Advanced Manufacturing machineries by providing different subsidization tools such as duty free and the like.

- On the other side, companies should increase the digital content of everything the company does. In particular, the firm should increase the digital content of its offerings, and of the customer's shopping and consumption experiences.

- Mass customization needs an interrelated techniques and programs that require integrated working through different groups inside or outside of the organization. Therefore, to be truly successful at mass customization, a company must bring together the value chains of the supply and demand sides of a market. Through vertical and horizontal integration, with long term contract and building reputation between the channel.

- Additionally, the government should develop and implement different rules and regulations regarding to the value chain of the industry for controlling the manipulations made by the members of the channel.

In general, the implementation of mass customization have so many advantages in order to use these advantages companies better to employ their efforts on mass customization and on the success factors of mass customization.

5.3 Limitation and Suggestions for further research

As mass customization still is a fairly new area of research, and as technological advancements quickly pave way to new alterations and modifications of existing business models, there are various paths of research that could be worth exploring further. Here the researcher has discussed some of the ideas that arose during research but that the researcher was unable to explore due to limited resources.

Since, this research limited in the perspectives of the Ethiopian leather garment companies further research may conducted in the perspectives of customer's of the Ethiopian leather garment products.

Concentrating to one industry only, and thus limiting the variables influencing the research, could also offer an interesting viewpoint to mass customization. This study concentrates to B2C ventures, as the data was more readily attainable, but B2B enterprises could offer an equally attractive alternative.

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Appendix

Appendix 1

Addis Ababa University School of Commerce, Masters of Marketing Management

A questionnaire to be filled by leather garment operators and salespersons of the five Ethiopian leather garment companies

Dear Sir/Madam,

My name is Muzeyen Siraj, a postgraduate student of Addis Ababa University School of Commerce. This questionnaire is designed to assess the Ethiopian leather garment firms with regard to mass customization. Therefore, I kindly request you to take some time and respond to all the questions, honestly. Your participation is voluntarily, and you are not required to disclose your name. All data obtained will be analyzed collectively on an aggregate basis, and confidentiality with personal data will be maintained. I assure you that all the responses will be treated confidential and will only be used for this study.

Your cooperation is very crucial for the success of this research. I thank you in advance.

Part I: Personal data

Please ***tick*** in the appropriate box below

Company:	1. Universal	☐	2. Modern zega	☐
	3. Kinaf	☐	4. Bazera	☐
	5. Fikir	☐		
Education:	1. High School	☐	2. Diploma	☐
	3. Degree	☐	4. Post Graduate	☐
	5. Other	☐		
Occupation/career:	1. Salesperson	☐	2. Designer	☐

3. Pattern maker ☐ 4. Cutting man ☐

5. Assembler ☐ 6. Other ☐

Years of experience: Specify _____

Part II: Please Rate the ***extent/level*** of your argument on the statements listed in the table below? Use these responses from 1 to 5 to answer where: 1.Strongly disagrees; 2. Disagree; 3. Neutral; 4. Agree; 5. strongly agree

Statement		**Level of perception**				
		Strongly Disagree	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*
Most commonly used business strategy						
1	Most of your company's products are customized.	1	2	3	4	5
2	Your company's functional strategy support mass customization rather than mass production.	1	2	3	4	5
3	Your company handles each customer individually.	1	2	3	4	5
Most commonly used mass customization approach						
1	Your company serves the customers needs fully.	1	2	3	4	5
2	Your company directly interacts with customers about their needs.	1	2	3	4	5
3	Your company has standardized products and easily customizable.	1	2	3	4	5
4	Your company serve its customers need starting from the design stage.	1	2	3	4	5
5	Your company produce standard product that satisfies almost every customer.	1	2	3	4	5
6	Your company has designed a multiple version to satisfy individuals customers needs.	1	2	3	4	5
Compatibility of the success factors of mass customization						

1	Your company's customers order shows the needs of customized products.	1	2	3	4	5
2	Your company's work in process products shows customized products.	1	2	3	4	5
3	Your company has a first mover advantage compare to competitors with in the sector.	1	2	3	4	5
4	Your company's suppliers, distributors, and retailers have the willingness and readiness to implement mass customization	1	2	3	4	5
5	Your company has efficiently linked information network.	1	2	3	4	5
6	Your company raw materials delivery is efficient.	1	2	3	4	5
7	Your company has Advanced Manufacturing Technologies like internet facility, body scanner, CAD CAM and related technologies.	1	2	3	4	5
8	The characteristics of leather garment products can be versatile and constantly renewed.	1	2	3	4	5
9	The characteristics of leather garment products can be easily modularize.	1	2	3	4	5
10	Your company value creation and distribution across the value chain is well-established.	1	2	3	4	5
11	Your company has an active network system that facilitates the knowledge sharing process.	1	2	3	4	5
Most important success factors of mass customization						
1	Without the existence of customers demand for variety mass customization system will not successful.	1	2	3	4	5
2	The existence of companies which are already employ mass customization system in the market makes your company impossible to get the success of mass customization.	1	2	3	4	5
3	The extinction of well functioning value chain in the industry makes your company impossible to implement mass customization.	1	2	3	4	5

4	Without the existence of technological infrastructure (i.e. internet facility, body scanning, CAD CAM and the like) in your company it is impossible to implement mass customization.	1	2	3	4	5
5	If the customizability natures of leather garment products weak that there is no mass customization.	1	2	3	4	5
6	If your company not have a good knowledge sharing culture across the value chain of leather garment industry it is difficult to assure the success of mass customization.	1	2	3	4	5
The appropriate business strategy						
1	Mass customization is appropriate business strategy for Ethiopian leather garment industry.	1	2	3	4	5
	Please specify your argument for the answer that you gave for the above question:_____ _____ _____ _____ _____ _____					

Appendix 2

Addis Ababa University School of Commerce, Masters of Marketing Management

Interview guide to be followed by the researcher while conducting the interview with marketing managers of the five Ethiopian leather garment firms

1. Most commonly used business strategy; mass customization or mass production,
2. Most commonly used mass customization approaches; collaborative, adaptive, cosmetic, or transparent,
3. The needs and wants of customers; customized or standardized,
4. The market condition of Ethiopian leather garment industry with regard to mass customization,
5. The customizability nature of leather garment products,
6. The value chain network of the company,
7. The technological infrastructure of the company,
8. The most important success factors of mass customization,
9. The appropriate business strategy; mass customization or mass production.

Appendix 3

በአዲስ አበባ ዩኒቨርሲቲ የንግድ ሥራ ኮሌጅ

ይህ ማከይቅ የሚሞላው በአምስቱ የቆዳ አልባሳት አፕሬተሮች ነው፡፡

ከቡራን ተሳታፊዎች

ስሜ ማዘይን ሲራጅ ይባላል በአዲስ አበባ ዩኒቨርሲቲ የንግድ ስራ ኮሌጅ ሁለተኛ ዲግሪዬን እየስራሁ እገኛለሁ፡፡ ይህ ማከይቅ በኢትዮጵያ ቆዳ አልባሳት አምራቾች ዙሪያ ላይ ያለወን የእያንዳንዱን ደምበኛ ፍላጎት በጅምላ ሜሚት (mass customization) በተመለከተ የሜረጋ ዳሰሳ ነው፡፡ ስለዚህ ወድ ጊዜያችሁን በመሰዉድ በሃቅ ላይ የተመሰረተ አስተያየታቸሁን በማከይቁ ላይ እንድታሰፍሩ በትህትና እጠይቃለሁ፡፡ ስማቸሁን በማከይቁ ላይ መግለጽ ሳያስፈልግ በፈቀደኝነት ላይ የተመሰረተ አስተያየትዎን ይስጠኝ፡፡ እርስዎ የሰጡት አስተያየት ሌሎች ማከይቁን ከሞሉት ሰዎች ጋር በአንድነት ተዋህዶና ተጨምቄ የሜቀርብ በመሆኑ አርስዎ የሚሰጡት አስተያየት ሚስጥራዊነቱ የተጠበቀ መሆኑን ላረጋግጥልዎት እወዳለሁ፡፡

የእርስዎ መሉ ትብበርና ድጋፍ ለዚህ ጥናት ከፍተኛ አስተዋጽኦ እነደሜረው በመገንዘብ ለሰጡኝ አስተያየት በቅድሜዉ አመሰግናለሁ፡፡

ክፍል 1

የግል መረጃ

ከጥየቄዎቹ ፊት ለፊት የሚኙትን ሳጥኖች ምልክት በሜድረግ ይመልሱ፡ –

የሚሰሩበት ድርጅት፡ ነ. ዩኒቨርሳል ☐ 2. ሞደርን ዘጌ ☐ 3. ክናፍ ☐

4. ባዝራ ☐ 5. ፍቅር ☐

የትምህርት ደረጃ: 1.ሁለተኛ ደረጃ ያጠቀቀ ☐ 2. ኮሌጅ ዲፕሎማ ☐

3. የመጀመሪያ ዲግሪ ☐ 4. ሁለተኛ ዲግሪ ☐

5. ሌላ ☐

የስራ ድርሻ፡ 1. የሽያጭ ሰራተኛ ☐ 2. ዲዘይነር ☐ 3. ቅርጽ(ፓተርን) አወጪ ☐

4. የቆረጣ ሰራ ☐ 5. የመጠም (የስፌት) ስራ ☐ 6.ሌላ ☐

ያገለግሎት ዘመን _____

ክፍል 2፡ በሰንጠረዡ መስጥ ለተዘረዘሩት የተለያዩ ሃሳቦች ያለዎትን አስተያየት በእጅጉ እስማማለሁ' እስማማለሁ' መካከለኛ' አልስማማም እና በእጅጉ አልስማማም በማለት ከፊት ለፊት ባለው በሰንጠረዡ መስጥ ከ 1-5 የተሰጡትን ቁጥሮች በማበብ ይሙሉ፡፡

አስተያየት የሚነጥባቸው ሃሳቦች		መመዘኛ				
		በእጅጉ አልስማማም	አልስማማም	መካከለኛ	እስማማለሁ	በእጅጉ አስማማለሁ
በአብዛኛው እየተተገበረ የሚኝው የቢዝነስ ስትራቴጂ ፡ -						
1	በአብዛኛው ኩባንያው የሚጠቀሟቸው ምርቶች የግለሰባዊ ፍላጎትን ያሟሉ ናቸው፡፡	1	2	3	4	5
2	ኩባንያው የሚከተለው የአሠራት ስልት የእያንዳንዱን ደንበኛ ፍላጎት በጅምላ ለማሟላት የሚዳ ነው፡፡	1	2	3	4	5
3	ኩባንያው ደንበኞቹን በግል በመቀረብ ያስተናግዳል፡፡	1	2	3	4	5
በአብዛኛው እየተተገበረ የሚኝው የእያንዳንዱን ደንበኛ ፍላጎት በጅምላ የማሟላት አይነት ፡ -						
1	ኩባንያው የደንበኞችን ፍላጎት ሙሉ በሙሉ ባሟላ መልኩ አግልግሎት እየሰጠ ነው፡፡	1	2	3	4	5
2	ኩባንያው የደንበኞቹን ፍላጎት ለማወቅ ከደንበኞቹ ጋር በቀጥታ ግንኙነት ይፈጥራል፡፡	1	2	3	4	5
3	የኩባንያው ምርቶች ደረጃ የወጣላቸው ነባሪ እና በቀላሉ እንደ ደንበኛው ፍላጎት የሚለወጡ ናቸው፡፡	1	2	3	4	5
4	ኩባንያው የደንበኞቹን ፍላጎት ለሟርካት ከምርቱ ዲዘይን ጀምሮ ትኩረት ሰጥቶ ይሰራል፡፡	1	2	3	4	5
5	ኩባንያው የሚመረታቸው ደረጃ የወጣላቸው ነባሪ ምርቶች ባብዛኛው ደንበኞቹን የሟርካት አቅም የተላበሱ ናቸው፡፡	1	2	3	4	5
6	ኩባንያው የግለሰብ ደንበኞቹን ፍላጎት ለሟርካት የተለያየ ጥቅም ያላቸውን ምርቶች ያመረታል፡፡	1	2	3	4	5
የእያንዳንዱን ደምበኛ ፍላጎት በጅምላ ማሟላትን ስኬታማ የሚደርጉ ምክንያቶች ከኢንደስትሪው ጋር መጣጣ ፡ -						
1	የኩባንያው ደንበኞች ደረጃ ከወጣላቸው ነባሪ ምርቶች ይልቅ የግለሰባዊ ፍላጎትን ያሟሉ ምርቶች ላይ ያተኩራሉ፡፡	1	2	3	4	5
2	በኩባንያው የስራ ሂደት ላይ የሚኙት ምርቶች የሚሳዩት የግለሰባዊ ፍላጎትን ያሟሉ ምርቶችን ነው፡፡	1	2	3	4	5
3	ኩባንያው የእያንዳንዱን ደንበኛ ፍላጎት በጅምላ በማሟላት ዙሪያ ከሌሎች ተወዳዳሪዎቹ ጋር ሲነጻጸር ግንባር ቀደም	1	2	3	4	5

	ነው፡፡					
4	የኩባንያው ግብዓት አቅራቢዎች'አከፋፋዮችና ችርቻሮ ነጋደዎች ከድርጅቱ ወቅታዊ የአሠራረት ሂደት ጋር የተዋሃደና በፍቃደኝነት ላይ የተመሰረተ ነው፡፡	1	2	3	4	5
5	ኩባንያው ወጪቃማ የሆነ የኢንፎርሜሽን መረብ አጠቃቀም አለው፡፡	1	2	3	4	5
6	ኩባንያው በጥሬ እቃ አቅርቦት ረገድ ወጪቃማ ነው፡፡	1	2	3	4	5
7	ኩባንያው በላቀ ቴክኖሎጂ አጠቃቀም ረገድ ሚዛትም የሰዉት ስካነር ሜሽን'CAD,CAM 'የኢንተርኔት አገልግሎት እና ሌሎች ቴክኖሎጂዎችን ይጠቀሜል፡፡	1	2	3	4	5
8	የቆዳ አልባሳት ምርቶች ባህሪያት በቀላሉ ተጣምረው በአንድ ሞዴል ላይ ሊመረቱ ይችላሉ::	1	2	3	4	5
9	የቆዳ አልባሳት የምርት ወጪዎች ሀለገብ ጠቅሜታ ሊሰጡ የሚችሉና በየጊዜው ሊሻሻሉ የሚችሉ ናቸው፡፡	1	2	3	4	5
10	የካምፓኒው እሴት ፈጠራና (value creation) ክፍፍል በእሴት ሰንሰለት(Value Chain) ባግባቡ የተደራጀ ነው፡፡	1	2	3	4	5
11	እወቀትን በመጋራት ትስስር ወስጥ ኩባንያው የላቀና የነቃ ተሳትፎ ያደርጋል፡፡	1	2	3	4	5
በጣም አስፈላጊ የሆኑ የስኬት ማሳያዎች፡-						
1	የደንበኞች ፍላጎት በሌለበት የእያንዳንዱን ደንበኛ ፍላጎት በጅምላ መሙረት የሚይቻል ነው፡፡	1	2	3	4	5
2	በገበያው ላይ የእያንዳንዱን ደንበኛ ፍላጎት በጅምላ መሙረት የጀመሩ ድርጅቶች በመኖራቸው ምክንያት ድርጅቱን የጅምላ ምርት እንዳይከተል ያደርገዋል፡፡	1	2	3	4	5
3	በአግባቡ የተደራጀ የእሴት ሰንሰለት አለመኖሩ የእያንዳንዱን ደንበኛ ፍላጎት በጅምላ መሙረት አይቻልም፡፡	1	2	3	4	5
4	የላቀ የቴክኖሎጂ አጠቃቀም መዛትም የሰዉት ስካነር መሽን'CAD,CAM 'የኢንተርኔት አገልግሎት እና ሌሎች ቴክኖሎጂዎች አለመኖራቸው ድርጅቱ የእያንዳንዱን ደንበኛ ፍላጎት በጅምላ መሙረትን የሚይቻል ያደርገዋል፡፡	1	2	3	4	5
5	የቆዳ አልባሳት ምርቶች ባህሪ በደንበኞች ፍላጎት መለረት መቀያየርን የሚፈቅድ ከሆነ የእያንዳንዱን ደንበኛ ፍላጎት በጅምላ መሙረት የሚይቻል ነው፡፡	1	2	3	4	5

6	በድርጅቱ መልካ እወቀትን የሚጋራት ልምድ ከሌለ የእያንዳንዱን ደንበኛ ፍላጎት በጅምላ ሚሪት የሚይቻል ነው፡፡	1	2	3	4	5
አግባብነት ያለው የቢዝነስ ስትራቴጂ ፡-						
1	ለኢትዮጵያ የቆዳ አልባሳት አምራቾች በከተሉት የተሻለ የሚሆነው ደረጃ የውጪትን ነባሪ ምት በጅምላ ሚሪት ነው፡፡:	1	2	3	4	5
2	እባክዎ ለተራቁጥር 1 ለሰጡት ሚልስ ማበራሪያ ይስጡ ----------					

Appendix 4

Results of Cronbah alpha

1. Most commonly used business strategy

Reliability Statistics	
Cronbach's Alpha	N of Items
.676	3

2. Most commonly used mass customization approach

Reliability Statistics	
Cronbach's Alpha	N of Items
.817	6

3. Compatibility of the success factors of mass customization

Reliability Statistics	
Cronbach's Alpha	N of Items
.830	11

4. Most important success factors of mass customization

Reliability Statistics	
Cronbach's Alpha	N of Items
.664	6

5. Overall

Reliability Statistics	
Cronbach's Alpha	N of Items
.875	26

Appendix 5

ANOVA result for the compatibility of the success factors of mass customization

				Sum of Squares	df	Mean Square	F	Sig.
Customers order shows the needs of customized rather than standardized products	Between Groups		(Combined)	14.804	4	3.701	2.648	.052
		Linear Term	Unweighted	.608	1	.608	.501	.481
			Weighted	6.393	1	4.393	3.264	.054
			Deviation	8.412	3	2.804	2.309	.083
	Within Groups			97.149	80	1.214		
	Total			111.953	84			
Work in process products shows customized rather than standardized products	Between Groups		(Combined)	11.632	4	3.608	2.996	.063
		Linear Term	Unweighted	2.928	1	2.928	3.016	.086
			Weighted	8.290	1	2.990	2.540	.095
			Deviation	3.342	3	1.114	1.148	.335
	Within Groups			77.662	80	.971		
	Total			89.294	84			
Has a first mover advantage compare to competitors with in the sector	Between Groups		(Combined)	4.534	4	1.134	.761	.554
		Linear Term	Unweighted	.529	1	.529	.355	.553
			Weighted	1.700	1	1.700	1.141	.289
			Deviation	2.834	3	.945	.634	.595
	Within Groups			117.704	79	1.490		
	Total			122.238	83			
Suppliers, distributors, and retailers have the willingness and readiness to implement mass customization	Between Groups		(Combined)	11.597	4	2.899	2.650	.039
		Linear Term	Unweighted	4.964	1	4.964	4.538	.036
			Weighted	6.454	1	6.454	5.900	.017
			Deviation	5.143	3	1.714	1.567	.204
	Within Groups			87.509	80	1.094		
	Total			99.106	84			
Has efficiently linked information network	Between Groups		(Combined)	4.224	4	1.056	.894	.472
		Linear Term	Unweighted	.030	1	.030	.025	.874
			Weighted	1.095	1	1.095	.926	.339

			Deviation	3.130	3	1.043	.883	.454
	Within Groups			94.552	80	1.182		
	Total			98.776	84			
Raw materials delivery is efficient	Between Groups		(Combined)	11.146	4	2.787	2.246	.031
		Linear Term	Unweighted	1.673	1	1.673	1.348	.249
			Weighted	6.525	1	6.525	5.260	.024
			Deviation	4.621	3	1.540	1.242	.300
	Within Groups			99.254	80	1.241		
	Total			110.400	84			
Has Advanced Manufacturing Technologies like internet facility, body scanner, CAD CAM and related technologies.	Between Groups		(Combined)	8.077	4	2.019	1.427	.232
		Linear Term	Unweighted	3.343	1	3.343	2.364	.128
			Weighted	2.158	1	2.158	1.526	.220
			Deviation	5.919	3	1.973	1.395	.250
	Within Groups			113.170	80	1.415		
	Total			121.247	84			
Characteristics of leather garment products can be versatile and constantly renewed	Between Groups		(Combined)	9.758	4	2.440	2.032	.098
		Linear Term	Unweighted	1.513	1	1.513	1.260	.265
			Weighted	3.704	1	3.704	3.085	.083
			Deviation	6.054	3	2.018	1.681	.178
	Within Groups			96.054	80	1.201		
	Total			105.812	84			
Characteristics of leather garment products can be easily modularize	Between Groups		(Combined)	7.922	4	1.980	1.849	.128
		Linear Term	Unweighted	.276	1	.276	.258	.613
			Weighted	.968	1	.968	.904	.345
			Deviation	6.954	3	2.318	2.164	.099
	Within Groups			85.678	80	1.071		
	Total			93.600	84			
Value creation and distribution across the value chain is well-established	Between Groups		(Combined)	6.100	4	1.525	1.533	.201
		Linear Term	Unweighted	.440	1	.440	.443	.508
			Weighted	2.820	1	2.820	2.834	.096
			Deviation	3.280	3	1.093	1.099	.355
	Within Groups			78.602	79	.995		
	Total			84.702	83			

Has an active network system that facilitates the knowledge sharing process.	Between Groups		(Combined)	7.964	4	1.991	1.258	.294
		Linear Term	Unweighted	.706	1	.706	.446	.506
			Weighted	3.841	1	3.841	2.427	.123
			Deviation	4.123	3	1.374	.869	.461
	Within Groups			125.024	79	1.583		
	Total			132.988	83			

Declaration

I, Muzeyen Siraj, declare that this research paper titled as **"Alignment of the Success Factors of Mass Customization with the Marketing Environment of the Ethiopian Leather Garment Industry"** is the outcome of my own effort. I have produced it independently except for the guidance and suggestion of the research advisor, Dr *Yitbarek Takele. This* work has not previously submitted for a degree or diploma in any university. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

Full Name:_____

Signature: _____

Date: _____