

**DESIGN AND DEVELOPMENT OF OCCASIONAL
WEAR WITH ETHIOPIAN GEEZ NUMBERS**

BSC. FINAL PROJECT BY

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BSC IN FASHION DESIGN

UNDER THE SUPERVISION OF

MS. EMEYENESH A. AND MR. FIRAOL T. (MSC.)

COLLEGE OF ENGINEERING AND TECHNOLOGY

WOLKITE UNIVERSITY



Ethiopia, Wolkite

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A final project submitted to Department of fashion design

In partial fulfillment of the requirement for the degree of

Bachelor of Science In Fashion design

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DECLARATION

We declare that this thesis is an original report of our research, entitled “occasional wear with Ethiopian number.” We have undertaken the research work. Independently with the guidance and support of our research advisors Mr. FIRAOL T. (M.Sc.) and Ms. EMEYENESH A. (M.Sc.)

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APPROVAL BY ADVISOR

To the best of our knowledge and as understood by Misgana Sisay, Adinew Birhanu and Birhane Belachew, Biruk Alemayehu And this thesis adheres to the provision of guideline of the college of engineering and technology, department of fashion design. The thesis is complete and can be presented to the thesis evaluation juries.

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Signature: _____

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First and foremost, praises and thanks to God, the Almighty, for His showers of blessings throughout our research work to complete the research successfully.

We want to express our gratitude to the almighty (God), for providing us with the strength and fortitude to complete our studies. We would want to express our heartfelt gratitude to our advisor Ms. Emeyenesh A. and Mr. Firaol T. (M.Sc.). We owe him and her debt of gratitude for (his) and her thoughtful and constructive recommendations, contribution and criticisms that have helped to shape this work in to what is today. To our family, we wanted to express our deepest gratitude and affection. Finally, we have a lot of respect for the people that filled out our survey and helped finish our research.

ABSTRACT

This research investigates the innovative integration of Ethiopian Ge'ez numerals into the design and development of occasional wear. Ge'ez numerals, an ancient script with deep historical and artistic roots in Ethiopia, transcend mere linguistic function, serving as potent cultural symbols. The study aims to create a garment collection that thoughtfully incorporates these numerals, achieving both aesthetic appeal and cultural resonance. This research examined the design and production of occasional wear using Ethiopian Ge'ez numerals, an ancient script from Ethiopia, is not just a linguistic tool but also a richly loaded historical and artistic symbol. The research to design a collection of garments that incorporates these numerals in a way that is both aesthetically and culturally significant. The research methodology entails in-depth analysis of Ge'ez numeral patterns, their evolution, and their potential applications in modern fashion design. including surveys and interviews with local fashion designers and fashion artists cultural perception of Ge'ez numerals in fashionthe significance of Ge'ez numerals but also defined a feasible method towards integrating traditional elements in modern design strategies, which ultimately enhances Ethiopian culture's visibility on the international fashion platform.

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CHAPTER ONE

INTRODUCTON

1.1 Background of the title

Ethiopian number is derived from the ancient south Arabian script which originated in the region centered on what is now Yemen .Geez language, also spelled geez, liturgical language of the Ethiopian church. Geez is a Semitic language of the southern peripheral group, to which also belong the south Arabic dialects and Amharic one of the principle languages of Ethiopian. Both geez and the related language of Ethiopia are written and read from left to right, in contrast to the other Semitic language. Extinct as a vernacular language, geez is the ancestor of the modern Tigrinya and language of Eritrea and Ethiopian ((Ethiopian history and Heritage, 2004)



Figure 1: geez number product

The oldest known inscription in the language dates from the 3rd or 4th century and is written in a script that does not indicate vowels. Subsequent inscription found in the ancient Ethiopian capital of Aksum were written from the 4th through the 9th century in a script that does indicate vowels. (Daniels, David, The World's Writing Systems in Oxford University Press, 1996).

Ethiopic alphabet, writing system used to write the gee'z literary and ecclesiastical language and the Amharic and Eritrea.

1.1.1 General Problem Reflected by Geez Numbers

The Ethiopian Geez numeral system, an ancient Semitic script dating back to the 5th century BC, holds significant cultural and historical value but faces challenges in modern relevance and preservation. Key issues include: (Ethiopian Cultural Heritage Project, 2023)

Geez numerals, once central to Ethiopian liturgical and administrative practices, are now primarily confined to religious contexts, risking disconnection from younger generations. While tools like Geez-Arabic numeral converters exist, the system is underutilized in everyday applications, including education and design, limiting its visibility and accessibility. Schools often prioritize Western numeral systems, sidelining Geez numerals and contributing to a loss of linguistic and cultural identity among Ethiopian youth. (Ethiopian Ministry of Education, 2023).

Occasional Wear

Occasional Wear refers to apparel and clothes that are specially chosen for occasional events or festivities that are not part of daily routines. It is midway between casual daily wear and very formal wear, gravitating to the nature of festivities such as wedding parties, cocktail parties, dinners, ceremonies, or festive occasions. A few of the principal characteristics include: Purpose: Designed for occasional, special occasions and not for daily use. (FashionStyle Magazine, 15 March 2024)

Formality Range: Can vary from semi-formal (e.g., cocktail dresses, blazers) to formal (e.g., evening gowns, suits), depending on the occasion.

Examples:

Women: Cocktail dresses, dressy jumpsuits, dressy separate.

Men: Suits, blazers with dress trousers, tailored shirts.

Accessories: Statement jewelry, ties, clutch bags, or polished shoes.

Context: Featured regularly in retail as a category for event-based shopping, helping customers look for apparel to celebrate, galas, or upscale outings.

Differentiation: Defined apart from "formal wear" (black-tie, for instance) or "casual wear," it is positioned for versatility for occasions that demand elevated but not too formal styling.

In essence, occasional wear is the balance between sophistication and appropriateness, with wearers feeling elegant and contextually attired for special occasions. (Fashion Retail Trends, 2023)

1.1.2 Main Goal of the Work

Understand Cultural Meaning to explore the cultural and historical meaning of Ge'ez numerals within Ethiopian culture and how they can be represented in fashion.

Promote Cultural Identity to discuss how the incorporation of Ge'ez numerals in fashion can be used to instill a sense of cultural identity and pride in the wearer, particularly within the context of globalized fashion.

Redesign Fashion to discover new design methods that harmoniously incorporate traditional and modern elements to create new and appealing fashion items.

Assess Market Viability to measure the potential demand for clothing that features culturally appropriate designs, monitoring consumer trends and inclinations.

Promote Sustainable Practice to support sustainable design and manufacturing practices that are respectful of local tradition and resources and are in the interests of the fashion industry.

By reading this study, one can learn of the intersection of culture and fashion, the borrowing of historical pieces in new fashion, and the broader applications for cultural representation in the fashion industry.

1.1.3 The importance of this research

Preserve and Promote Ethiopian Cultural Heritage: By integrating Ge'ez numerals into contemporary fashion, the research actively contributes to the preservation of a significant aspect of Ethiopian cultural heritage. It brings an ancient script and its associated cultural values into the modern world, ensuring its continued relevance and appreciation.

Foster Cultural Identity and Pride: Showcasing Ge'ez numerals in fashion can instill a sense of cultural pride and identity, particularly among younger generations of Ethiopians. It allows them to connect with their heritage in a tangible and fashionable way.

Enhance the Visibility of Ethiopian Culture Globally: This research has the potential to elevate the visibility of Ethiopian culture on the international stage. By showcasing unique

design elements rooted in Ethiopian tradition, it can pique the interest of a global audience and challenge conventional notions of fashion and design.

Bridge the Gap Between Tradition and Modernity: Help transition the youth to be able to preserve the culture of the Geez number as well as making sure that they can move with modernity.

1.2 Statement of the problem

The Ge'ez numeral system, also known as the Ethiopic numeral system, is an ancient and unique numerical system that has been used in Ethiopia and Eritrea for over two millennia. Rooted in the Ge'ez language, which is a classical Semitic language, this system continues to play a significant role in Ethiopian culture, particularly in religious and traditional contexts. Below is a detailed exploration of its history, structure, and modern usage.

Base Numbers

1-9: Each digit has a unique symbol (e.g., 1 = ፩, 2 = ፪, 3 = ፫).

Tens (10-90): Symbols for multiples of ten (e.g., 10 = ፲, 20 = ፳, 30 = ፴).

Hundreds and Beyond: The symbol for 100 is ፷, and for 10,000, it is ፻፹፻.

Currently, the Ethiopian number is disappearing and as it is the number of Ethiopia. All Ethiopians should know. Currently, In our country, however no course is offered. Sometimes it works on traditional clothing or on orders but it's not enough. Ethiopian geez numbers, an integral part of the country's rich heritage, are gradually fading from everyday use. Also, there is no formal education on them. Rarely, they appear on traditional clothing or special orders, but this is not enough to preserve and promote them.(Ethiopian Heritage, 10 July 2004)

The traditional alphabets like Geez are not being prominently incorporated into modern apparel, with the risk of losing cultural identity among the younger generation.

Existing occasional wear is biased towards generic or westernized fashion that overlooks the possibility to pay tribute to Ethiopia's rich heritage through symbolic elements like numerals.

The study seeks to address these challenges through an exploration of how Geez numerals can be innovatively incorporated into occasional wear. It attempts to bridge the gap between tradition and contemporaneity by developing culturally relevant designs that uphold Ethiopian heritage while meeting present fashion demands. The study also consider ways of transforming

Geez numbers into textile pattern, print, or embroidery and assess their consumer acceptability, thereby contributing to cultural preservation as well as opening up creative possibilities in Ethiopian fashion design.

1.3 Objective of the project

1.3.1 General objective

- ✓ The main objective of this research is to design and develop occasional wear with Ethiopian geez numbers.

1.3.2 Specific objective

1. To study occasional wearing styles which fit to Ethiopian Geez numbers.
2. To assess and identify how Ethiopian Geez numbers applied on occasional wear.
3. To design and develop attractive occasional wear using geez numbers

1.4 Significance of the study:

Symbolization of Heritage: Incorporation of Ge'ez numbers in clothes assists in preserving and valuing Ethiopian heritage and culture.

Consciousness: It raises awareness about the past significance of Ge'ez, an ancient script used in Ethiopia

Creative Aesthetics: The incorporation of Ge'ez numbers can lead to novel and original designs, giving Ethiopian fashion an edge in a global marketplace.

Hybrid Culture: This approach may promote a fusion of ancient and modern design elements, which will appeal to diverse customers.

Local Craftsmanship: Periodic wear with cultural significance can possibly sustain local artisans and the textile industry in Ethiopia.

Design Principles: They can also provide insights into design principles that pay homage and incorporate traditional elements.

Expression of Identity: Wearing clothing that integrates Ge'ez numbers can be a symbol of personal and cultural identity for the wearer, encouraging expression of identity and pride.

Community Engagement: It can encourage community involvement and discussion of Ethiopian history and culture.

1.5 Scope and limitation of study

1.5.1 Scope of study

Geographical Focus Primary Focus: Ethiopia Addis Ababa(Bole area)

Secondary Focus: Ethiopian Diaspora & Global Markets

Diaspora Communities Ethiopian communities in the U.S. (e.g., Washington D.C., Los Angeles), Europe (e.g., London, Stockholm), and the Middle East (e.g., Dubai) where cultural wear is in demand for festivals (e.g., Timkat, Meskel).

Cultural & Linguistic Scope

Focus on numbers 1–100 (e.g., $\bar{\alpha}$, $\bar{\beta}$, $\bar{\gamma}$) and their symbolic meanings (e.g., religious, astrological, or calendar-based significance). Ensuring legibility and aesthetic appeal when integrating Geez numerals into apparel (e.g., embroidery, digital printing, and beadwork).

Design & Technical Scope

Traditional fabrics (e.g., shemma cotton, habesha kemis materials). Modern blends for durability and comfort. Production Techniques: Hand embroidery vs. digital printing for numeral application. Sustainable and ethical sourcing (e.g., partnerships with Ethiopian weavers). Market & Commercial Scope

Target Consumers: Ethiopians for cultural/religious occasions (e.g., weddings, holidays). Diaspora communities seeking heritage fashion. Global buyers interested in Afrocentric or unique numeral-based designs. Academic & Preservation Scope.

1.5.2 Limitation of study

Cultural & Linguistic Limitation Geez numerals ($\bar{\alpha}$, $\bar{\beta}$, $\bar{\gamma}$, etc.) have historical and religious significance, and improper use could be deemed disrespectful or inaccurate.

Limited Modern Usage: Geez is primarily a liturgical script; few Ethiopians outside religious scholars fully understand its numerical system, which may limit consumer recognition.

Design & Technical Limitations Fabric Constraints: Traditional Ethiopian textiles (e.g., shemma) may not be easily adaptable for modern apparel production, affecting durability and comfort.

Production Challenges: Hand-embroidered Geez numerals are time-consuming and costly. Digital printing may struggle with intricate script details.

Scalability Issues: Small-scale artisan production may not meet global demand if commercialized.

Competition: Existing Ethiopian traditional wear (habesha kemis, netela) dominates the occasional wear market, making innovation challenging. Research & Data Limitations

Limited Academic Sources: Few studies exist on Geez numerals in contemporary design, requiring reliance on oral histories or religious texts.

Consumer Behavior Data: Lack of existing market research on demand for Geez-based apparel.

Ethical & Preservation Concerns. Cultural Appropriation Risks: Non-Ethiopian designers entering this space must collaborate closely with local experts to avoid misrepresentation.

1.6 Benefit and beneficiary

1.6.1 Benefits

Cultural Preservation & Promotion

Revival of Geez Numerals – Integrates an ancient script into modern fashion, preventing its decline into obscurity.

Celebration of Ethiopian Heritage – Showcases Ethiopia’s rich history to global audiences through wearable art.

Market Opportunity – Creates a niche fashion segment appealing to:

Ethiopians for cultural occasions.

Diaspora communities seeking heritage-inspired wear.

Global buyers interested in Afrocentric designs.

Supports Local Artisans – Collaborates with Ethiopian weavers, embroiderers, and designers, boosting sustainable income.

Documentation of Geez in Design – Provides academic reference for blending ancient scripts with contemporary fashion.

Digital Adaptation – Develops scalable design templates for Geez numerals, aiding future digitization projects.

Unique Aesthetic Appeal – Stands out in the fashion industry with culturally meaningful numerals as decorative motifs.

Cultural Exchange – Introduces Ethiopian heritage to international audiences, fostering appreciation.

Diaspora Connection – Helps Ethiopians abroad maintain cultural ties through fashion.

Branding Ethiopia – Reinforces Ethiopia’s identity as a source of art, history, and innovation.

1.6.2 Beneficiaries

Religious Institutions: Ethiopian Orthodox Tewahedo Church could use these designs for ceremonial vestments

Cultural Preservationists: Helps document and promote Geez script in contemporary contexts

Traditional Artisans: Weavers, embroiderers, and tailors preserving ancient techniques

Ethiopian Designers: Provides new design vocabulary combining tradition with modernity

Textile Manufacturers: Creates demand for traditional Ethiopian fabrics (shemma, netela)

Fashion Schools: Case study for cultural design integration

Business & Economic Sector

Ethiopian Tourism Sector: Unique cultural products for heritage tourism

Ethiopian Diaspora: Wearable cultural connection to heritage

Youth Population: Modern way to engage with traditional script

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Ethiopian Ge'ez numbers are part of the Ge'ez numeral system, which is an ancient alphanumeric system used in Ethiopia and Eritrea. The Ge'ez script, one of the oldest writing systems in the world, includes unique symbols for numbers that are still used in liturgical contexts and cultural practices. Here's a brief explanation of the system.

Symbols and Structure: Ge'ez numerals are represented by specific symbols, such as 𐌀 (1), 𐌁 (2), 𐌂 (3), up to 𐌉 (9). Multiples of ten, hundred, and thousand are also represented uniquely, such as 𐌊 (10), 𐌋 (100), and 𐌌 (10,000). The system is based on grouping numbers by tens and hundreds, with symbols combined to form larger numbers (e.g., 𐌊𐌁 for 21).

Ge'ez numerals are deeply rooted in Ethiopian culture and are often used in religious texts, calendars, and traditional ceremonies. The system is believed to have been influenced by ancient Coptic and Greek numeral systems, with adaptations to fit the Ge'ez script.

𐌀	𐌁	𐌂	𐌃	𐌄	𐌅	𐌆	𐌇	𐌈	𐌉
t	b	r	s²/š	w	q	m	h	l	h
[t]	[b]	[r]	[ʃ]	[w/ʉ:]	[q]	[m]	[h]	[l]	[h]
𐌊	𐌋	𐌌	𐌍	𐌎	𐌏	𐌐	𐌑	𐌒	𐌓
d	ʿ	ʾ	f	s²/š	š	h	n	k	s²/s
[dʳ]	[ʕ]	[ʔ]	[f]	[ʃ]	[ʃʰ]	[x]	[n]	[k]	[s]
𐌔	𐌕	𐌖	𐌗	𐌘	𐌙	𐌚	𐌛	𐌜	𐌝
z	t	y	d	z	ʧ	g	d	g	
[θʰ]	[θ]	[j/i:]	[ð]	[z]	[tʃ]	[ɣ]	[d]	[g]	

						Numerals
𐌊	𐌋	𐌌	𐌍	𐌎	𐌏	𐌐
number	1000	100	50	10	5	1

Figure 2: Arabic numerals

While Arabic numerals are more commonly used in everyday life, Ge'ez numerals remain significant in the Ethiopian Orthodox Church and cultural contexts.

Tools like Ge'ez number converters are available to translate between Western and Ge'ez numerals.

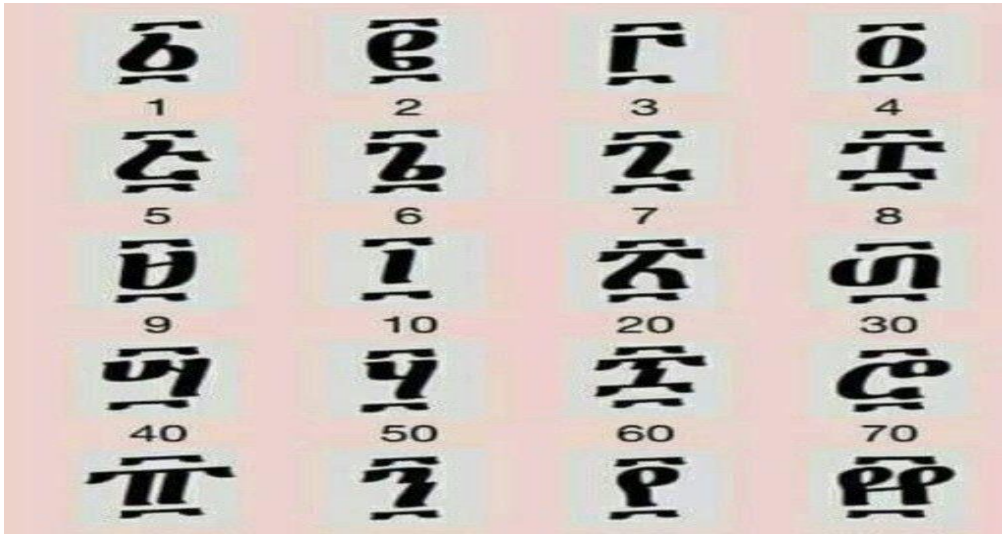


Figure 3: Ge'ez Numbers

Examples of Ge'ez Numbers

1: አሐዱ (äḥädu)

10: ዐሠርቱ (äśärtu)

100: ጸገረቱ (mə't)

10,000: አልፍ (älf)

[Ge'ez Number Samples](<https://www.geez.org/Numerals/NumberSamples.html>) .

This system is a fascinating example of how ancient numeral systems have been preserved and adapted over centuries.

Numbers and different numerals can be creatively incorporated into clothing designs in various ways, often serving as decorative elements, symbolic representations, or even functional features

Numerical Prints: Numbers can be printed or embroidered onto fabrics to create bold, eye-catching designs. For example, sports jerseys often feature player numbers, while street wear might incorporate random or meaningful numbers as part of a graphic design.

Lucky Numbers: In many cultures, certain numbers are considered lucky or auspicious. For example, the number "8" is associated with prosperity in Chinese culture, and it might appear on clothing for special occasions like weddings or New Year celebrations.

Historical Dates: Clothing might feature significant dates, such as birth years, anniversaries, or historical events, to convey personal or cultural meaning.

Brand Names with Numbers: Some fashion brands incorporate numbers into their names or logos, such as Chanel No. 5 or Comme des Garçons' Play's heart logo with an eye and the number "1973." These numbers become iconic and are often featured on clothing items.

Jersey Numbers: Athletes' jersey numbers are a common way numbers are integrated into clothing, representing player identity and team loyalty.

Stylized Numerals: Numbers can be used as typographic elements, with creative fonts or arrangements to make them visually striking. For example, oversized numbers on sweatshirts or dresses can create a bold statement.

Custom Numbers: Individuals might add personal numbers, such as birthdates, lucky numbers, or significant years, to their clothing for a unique touch.

By incorporating numbers and numerals into clothing, designers and wearers can express individuality, cultural identity, or even a love for mathematics and science. The versatility of numbers allows them to be both functional and artistic elements in fashion.

Incorporating Ethiopian Geez numbers into clothing designs can be a unique and culturally rich way to celebrate Ethiopian heritage and aesthetics. The Geez script, one of the oldest writing systems in the world, has a distinct and elegant numerical system that can be creatively adapted into fashion.

Embroidered Numerals Use Geez numbers as embroidery on garments like jackets, or traditional Ethiopian clothing such as the habesha kemis or netela. Embroider numbers along the hemline, cuffs, or collar for a subtle yet striking effect.

Use traditional Ethiopian colors like white, green, yellow, and red, or opt for metallic threads for a modern twist. **Patterned Prints** Create repeating patterns or geometric designs using Geez numbers. For example, use numbers like ፩ (1), ፪ (2), ፫ (3), etc., to form a border or all-over print.

Use lightweight cotton **Print** the numbers in a gradient or monochrome style for a contemporary look. **Symbolic Dates** Incorporate significant dates in Ethiopian history or personal milestones using Geez numbers. For example, the Ethiopian New Year (Enkutatash) or the Battle of Adwa.

Use bold, oversized numbers for a statement piece or smaller, delicate numerals for a minimalist design. Accessories with Geez Numbers: Integrate Geez numbers into accessories like scarves, bags, or belts. Use weaving, beadwork, or laser-cut leather to showcase the numbers.

Example: A scarf with Geez numbers woven into the edges or a handbag with a laser-cut Geez number design.

Cultural Storytelling Use Geez numbers to tell a story or convey a message. For example, a dress with numbers representing the Ethiopian calendar or a shirt with numbers symbolizing unity and diversity.



Figure 4: Geez numbers applied product

By incorporating Geez numbers into clothing designs, you can create pieces that are not only fashionable but also deeply meaningful and reflective of Ethiopian culture. Whether through embroidery, prints, or accessories, these designs can serve as a celebration of heritage and a bridge between tradition and modernity.

2.2 Occasional Wear

Occasional wear refers to clothing worn for special events, ceremonies, or non-daily occasions, such as weddings, parties, festivals, or formal gatherings. Unlike casual or work wear, it is often more elaborate, stylish, or culturally significant.

2.3 Historical Background

Ancient Times: Early civilizations (Egypt, Greece, Rome) had distinct garments for rituals, celebrations, and status displays (e.g., togas, embroidered robes). Royalty and priests wore ornate attire for ceremonies.

Medieval & Renaissance Era: Nobility wore luxurious fabrics (velvet, silk) and intricate designs for banquets and court events. Sumptuary laws dictated who could wear certain clothes based on social rank.

18th–19th Century: Formal wear evolved (e.g., tailcoats, ball gowns) for European high-society events. Industrial Revolution made occasional wear more accessible to the middle class. **20th Century–Present:**

Rise of cocktail attire (1920s), black-tie events, and themed party wear.

Globalization blended traditional ethnic wear (e.g., sarees, kimonos) with Western formal styles.

2.4 Factors Connected to Occasional Wear

Cultural Significance: Many occasions (weddings, religious festivals) require traditional attire (e.g., Indian Sherwin's, Japanese kimonos).

Fashion Industry Influence: Designers create seasonal collections for events (e.g., Met Gala, red carpet). **Social Status & Identity:** Certain garments (e.g., tuxedos, designer gowns) signal prestige.

Modern Trends:

Sustainable occasional wear (rentals, upcycled outfits).

Gender-neutral formalwear gaining popularity.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This section outlines the methodologies used in this study, including the selection of specific research designs, data types and sources, research approaches, instruments and methods for gathering data, sampling and sampling techniques, and data analysis techniques, along with a suitable rationale for each approach.

3.2 Research Design, Approach

3.2.1 Research Design

Study design increases the likelihood of acquiring information that may be related to the actual situation by assisting the researcher in planning and carrying out the study in a way that will help the researcher achieve the desired outcomes. Descriptive research is used in this study. Create a design that answers the researcher's questions. Then, based on the collected data, the findings and discussion of questionnaire and interview these gaps by design and develop occasional wear with Ethiopian geez numbers.

3.2.2 Research approach

The methods that are commonly implemented in research are quantitative and qualitative. According to Creswell (2005), quantitative research is a type of educational research in the researcher decides what to study, asks specific, narrow questions, collects numeric (numbered) data from participants, analyzes these numbers Using statistics, and conducting the inquiry in an unbiased, objective manner. Therefore, in terms of methods, this research employed both qualitative and quantitative methods while conducting the study.

3.3 Method of data collection

The researcher used primary and secondary data for the entire analysis of this study. The information was gathered through a questionnaire from the selected sample of respondents of the bole area people and data gathered from Ethiopian history book.

The main data collected from the respondents through interviews and questionnaires was used as primary data. According to Biggam (2008), primary data is the information that the researcher finds out by him/herself regarding a specific topic.

3.4 Data collection technique and instruments

They collected the original data. Especially through the use of survey questions. The sampled respondents were given the questionnaire by the researcher. A closed-ended 26 questionnaire was employed as the measuring tool in this study's quantitative technique. It is possible to administer the closed-ended surveys. Since they are less expensive and time-consuming than other measuring tools, they can be used to groups of people at once. "YES," "NO," "Very Important," "Important," and "Not Important" were used.

3.5 Sampling and Sampling Techniques

3.5.1 Target Population

According to Hair et al. (2019), A target population, is a particular group of people or objects for which observations or inquiries can be made in order to supply the required data structures and information. Therefore, In Addis Ababa (Bole) area between 18 and 30 age girls are the study's target groups.

3.5.2 Sample Size

Each Age 18_30 girls were included in the sample, which was chosen using the basic random sampling method, a descriptive study design.

3.5.3 Material

Adobe Photoshop

Microsoft office

Adobe illustrator

3.6 Research Design

This research Descriptive and Applied research design to study. design and develop occasional wear with Ethiopian geez numbers Descriptive research used to assess effect of geez numbers

on the wearer of this cloth As research approach used both qualitative and quantitative (C.R.Kothar)

3.6.1 General work flow

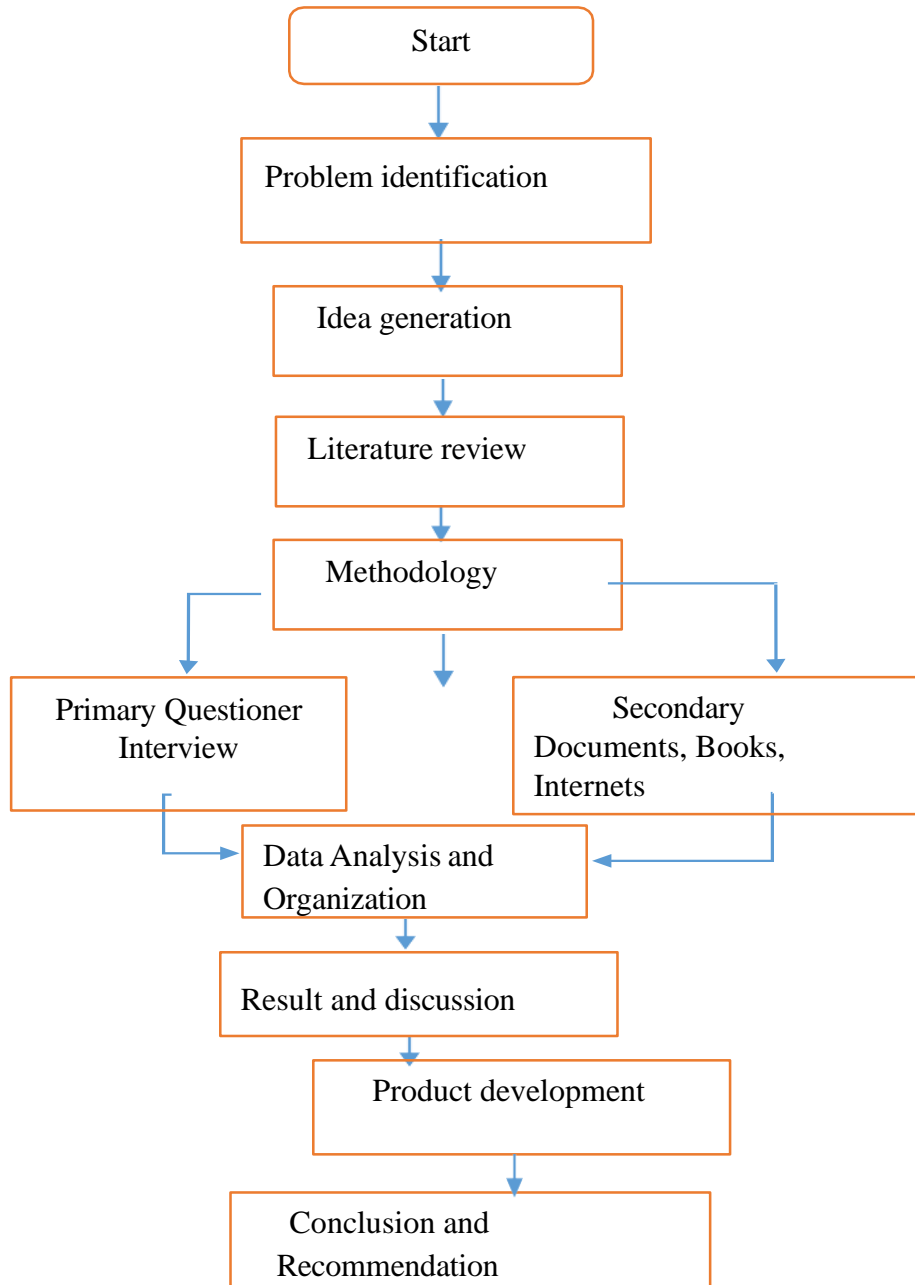


Figure 5: General work flow

3.7 Data collection method

For the study of this research the researchers will use the two eminent methods of data collection that is

- Primary data collection method
- Secondary data collection method

3.7.1 Primary Data Collection

Primary data will be collected by prepared well organized questionnaires“ (the questionnaires are taken from, “the Ethiopian peoples that can wear this” by taking the questionnaires according to the specification of our research) observation (by using participant observation), and interview (The researchers was prepared structured questions). And survey on the wearers about the current products. Qualitative interviews are to discuss the descriptive findings, and to get an idea about why the findings appear as they do. The analysis was done by quantitative and qualitative data approach.

3.7.2 Secondary Data Collection

Method Secondary data are information by others for purpose that can be different from this paper. Secondary data is the data or information which is already available in one form or another. The sources of secondary data are books, journal articles, textbooks and other researches.

3.8 Method of Data Analysis

3.8.1 Survey Data Analysis

The data collect from both primary and secondary sources by descriptive way and the survey data were analyzed by using Microsoft Excel. Frequencies and descriptive statistics will run on all survey questions.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter deals with presentations, discussions, and interpretations of the data collected through the questionnaire and interview. The discussion particularly focuses on the respondent's profile, design and development of occasional wear with Ethiopian geez. Thus, based on the responses obtained from the respondents, data presentation and analysis were made as follows.

4.2 Respondents Rate

In this study, a total of 50 questionnaires were distributed to be filled out, and 50 questionnaires were properly filled. The purpose of the study is to examine

4.3 Frequency analysis of the respondents Profile

The demographic profile of the sample respondents is presented and analyzed below. The purpose of assessing respondents' age, sex, is that, to determine whether the researcher considered heterogeneity of sample units. On the other hand assessing the work experience and education level of the respondents' is that, when the respondents are more experienced and educated they have better opportunity to understand the case and give better response than else.

Table 1: Gender Frequency

No	Sex	Nationality	Married states	Frequency	Percent	
1	Female	Ethiopian and Ethiopian Diaspora	Married	76 %	50	100.0
			Unmarried	24 %		
	Total			50	100.0	

Table 2: Respondents' frequency distribution of age

Gender frequency of the respondents shows that 100% of the respondents were Female. The table below shows that, the researcher divided the age of the respondents in to four

categories, starting from 18- 23 years of age to below 30. In this study, the researcher can conclude that most of the respondents were 26-30 ages.

No	Age	Frequency	Percent
1	18-22	23	39
2	22- 26	24	42.2
3	26-30	3	18.8
	Total	50	100.0

4.4 Data Analysis

This study aimed to explore the application of Ethiopian Geez numbers in occasional wear design. The research focused on: Survey Results (50 Respondents)

The survey primarily captures the perspectives of young women (18-30 years old). This demographic is often a key driver of fashion trends and cultural adoption. Therefore, their opinions on the integration of Geez numbers into fashion are highly relevant to the success of such a project.

The majority of respondents (70%) reside in Ethiopia, providing valuable insights into the local cultural context and perceptions of Geez numerals. Their feedback is crucial for ensuring that the designs are culturally appropriate and resonate with the target audience within Ethiopia.

The inclusion of Ethiopian Diaspora respondents (30%) offers a broader perspective, reflecting the views of Ethiopians living outside the country. Their experiences and preferences can inform the design process, making the garments more appealing to a global audience and facilitating cultural exchange.

4.4.1 Questionnaires'

1: did you know about Geez Number? Yes/no

A. Yes

B. No

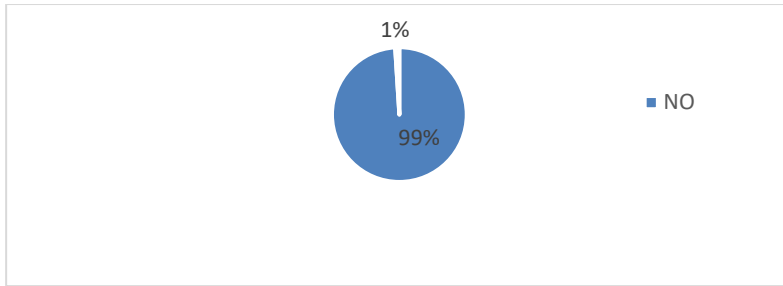


Figure 6: Result of data collection

According to the result in the above chart 99% of the respondents said no to the first question and 1% answered yes. This showed most people have no know about Geez numbers.

2: did you See Geez Numbers in Fashion Before: ? Yes/no

A. Yes B. No

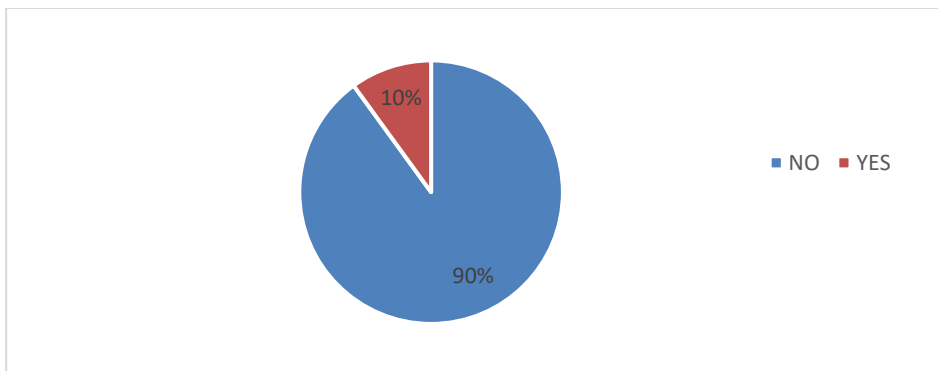


Figure 7: Result of data collection

The above chart showed indicates that out of the people asked, only 10% had seen Geez numbers in fashion before, while the vast majority (90%) had not.

3: what do you think if there are products made by Geez Numbers?

Do you buy them and wear? Yes/no

A. Yes

B. No

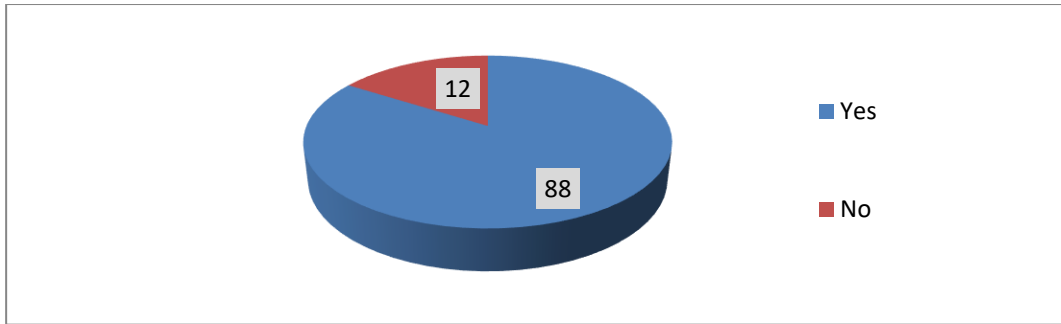


Figure 8: Result of data collection

As the above chart shows, majority of respondents said it is yes to buy products made by Geez Numbers and good expectation.

4: Do you think the use of Geez numbers in fashion could help promote Ethiopian culture internationally??

- A. Very Important
- B. Important
- C. Not Important

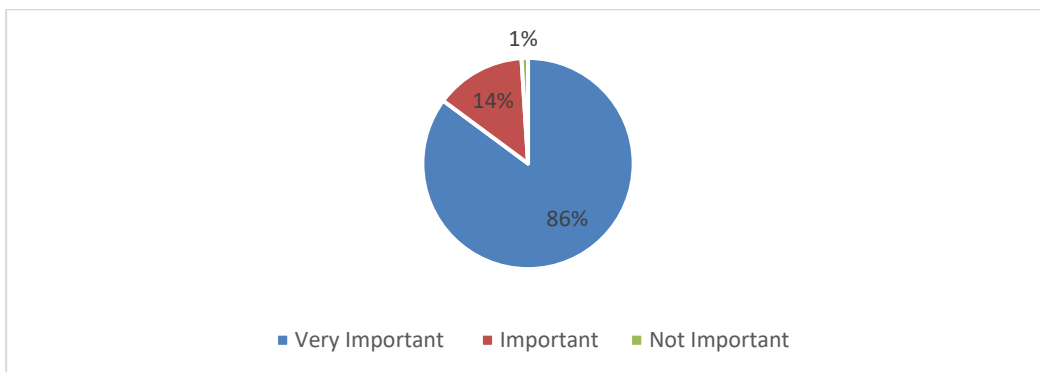


Figure 9: Result of data collection

The above chart showed a strong consensus that preserving Ethiopian culture is considered important, with the vast majority viewing it as very important.

Interview part

Qualitative analysis

1. Can Geez numbers be combined with other traditional Ethiopian motifs or patterns?

Absolutely, it would create a richer tapestry of Ethiopian culture. It's a natural fit. Think of combining them with traditional weaving patterns like the cross motifs. Geez numbers are part of our traditional motifs already, so yes. It can create more unique

designs. It can lead to innovative designs. Potentially, depending on the specific motifs and the overall design aesthetic. Yes, but with careful consideration of color and spacing." Yes, as long as there is harmony between elements

2. Can Geez numbers be combined with modern design elements to create a fusion of traditional and contemporary styles?

Absolutely! That's how we keep our culture alive – by reinterpreting it for new generations. It's a great way to make Ethiopian fashion relevant and appealing to a wider audience. Yes, it can be unique design. Yes, it will be more attractive. That will be the best way to make it appealing to the younger generations. Yes, but it's crucial to balance tradition and modernity carefully. Potentially, as long as the Geez numbers are treated with respect. Yes, with careful thought and design."

3. What are the best techniques for incorporating Geez numbers into clothing?

Hand embroidery for a traditional, high-quality look. Machine embroidery for faster production and affordability. Embroidery is the best option. Hand made embroidery. Embroidery is a great way to incorporate the numbers. Screen printing for bold, graphic designs. Digital printing for intricate details and color gradients. Easy to do printing. Appliqué for adding texture and dimension. Cut out and fix with thread.

4. How do different groups in Ethiopia perceive the use of Geez numbers in fashion?

Younger generations are generally more open to it as a way of expressing their identity. Elders may appreciate it if it's done respectfully and doesn't distort the meaning of the numbers. Urban populations are likely more familiar with modern interpretations. More and more, people are interested. Many people appreciate it. Some religious groups might have concerns about the numbers being used frivolously. There's a risk of cultural appropriation if it's done without understanding or respect. People will use them respectfully. It may be used in the wrong way. It could offend people."

5. What are the potential challenges in ensuring that the use of Geez numbers is respectful?

Lack of Knowledge/Misinterpretation: Designers need to understand the meaning and significance of the numbers. Avoiding using the numbers in ways that are considered sacred or offensive. "It can be easily misused. Not knowing the true meaning.

Commercialization/Trivialization : Balancing commercial interests with cultural preservation. Avoiding turning the numbers into a cheap gimmick. Respect the culture.

Cultural Appropriation: Ensuring that the designs are created by or in collaboration with Ethiopian artisans and designers. Not using them in the wrong way. Respect the culture. Not taking the culture. **Design Limitations:** Finding creative ways to incorporate the numbers without being repetitive or predictable. Limited designs. Creative options.

6. How can the use of Geez numbers in occasional wear contribute to the preservation and promotion of Ethiopian cultural heritage both locally and globally?

Raising Awareness: It can introduce Ethiopian culture to a wider audience. It sparks conversations and encourages people to learn more. It can raise awareness. "Share the culture. Educate people about it. **Supporting Local Artisans:** It can create economic opportunities for Ethiopian craftspeople. It provides a platform for showcasing their skills and traditions. Support local artists. Promote traditional weavers."

7. What are the income implications of incorporating Geez numbers into clothing production using different techniques?

Potential for Export/International Markets: Appealing to the diaspora and international consumers interested in ethical and culturally rich fashion. Can be exported to different countries. Expand to other countries. More sales.

Increased Value/Price: Hand-embroidered items will command a higher price due to the craftsmanship involved. Unique designs incorporating Geez numbers can attract a premium price. More expensive. **Potential for Export/International Markets:** Appealing to the diaspora and international consumers interested in ethical and culturally rich fashion. Can be exported to different countries. Expand to other countries.

Scalability/Production Costs : Printing and machine embroidery are more scalable for mass production, but may have lower profit margins per item. Handwoven fabrics with incorporated numbers will be more labor-intensive and expensive to produce. Reduce the costs. Be more expensive.

4.5 Discussion

After conducting the survey through questionnaire and interview, the finding states, The Ge'ez numeral system, also known as the Ethiopic numeral system BUT can not count, name and Symbol of the geez numbers, is an ancient and unique numerical system that has been used in Ethiopia and Eritrea for over two millennia. The oldest known inscription in the language dates from the 3rd or 4th century and is written in a script that does not indicate vowels. Subsequent inscription found in the ancient Ethiopian capital of Aksum were written from the 4th through the 9th century in a script that does indicate vowels. (Daniels, David, *The World's Writing Systems* in Oxford University Press, 1996).

UNESCO. (2003) Geez is a classical language, but its modern use is limited. UNESCO would be concerned with documenting and promoting the language, which includes its numbering system. Look for projects related to language documentation and revitalization in Ethiopia or Eritrea.

The creation and production of Geez-numbered garments can directly benefit Ethiopian artisans. By providing a market for their skills and traditional techniques, particularly in weaving, the use of Geez numbers in fashion can support the livelihoods of these artisans, helping to preserve their cultural knowledge and traditions for future generations. Promoting the work of these artisans locally and globally further reinforces the value and importance of Ethiopian cultural heritage.

4.6 Finding

There is a strong consensus among respondents that combining Geez numbers is a positive and enriching approach to design, fostering cultural expression and potentially leading to innovative and unique designs. According to the respondents the clothes that are currently wearing are worn at the time of displacement and are collected from the community. From the respondent 87 percent are wearing the clothes they wear when

they leave the house. During displacement time wear different kinds of clothe like occasional purpose.

Geez numbers in fashion can impact cultural preservation and promotion. First, the visible presence of Geez numbers in clothing acts as a cultural ambassador, exposing individuals unfamiliar with Ethiopian culture to a unique and intriguing element. This exposure can stimulate interest and encourage people to seek out more information, leading to a greater understanding and appreciation of Ethiopian heritage.

Combining Geez numbers with modern design elements is a valuable strategy for preserving Ethiopian cultural heritage by making it relevant and appealing to new generations and wider audiences. However, the successful fusion of traditional and contemporary styles requires careful consideration, respect for the cultural significance of Geez numbers, and thoughtful design execution to achieve a harmonious The combination of Geez numbers with modern design is viewed as a dynamic way to "keep our culture alive." This approach is expected to result in "unique" and "attractive" designs, particularly resonating with younger generations and broadening the appeal of Ethiopian fashion.

4.7 PRODUCT DEVELOPMENT

INSPIRATION BOARDED

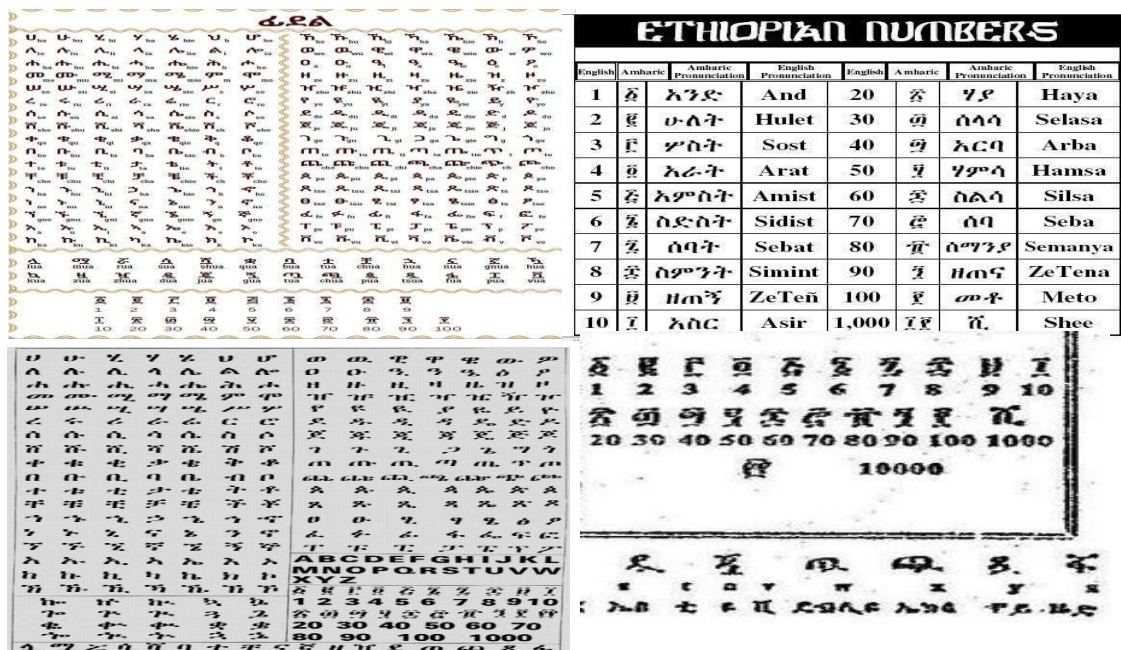


Figure 10: INSPIRATION BOARDED

THEME BOARED

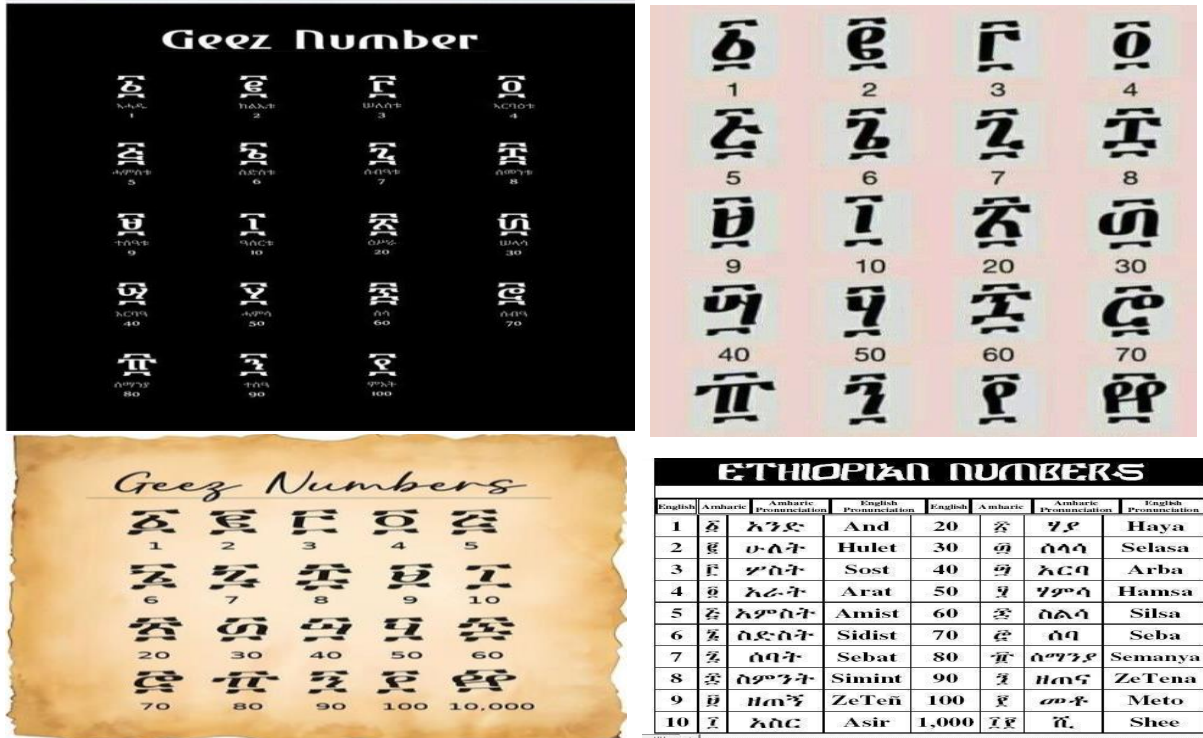


Figure 11 Theme boarded

MOOD BOARED



Figure 12: Mood boarded

FABRIC BOARED

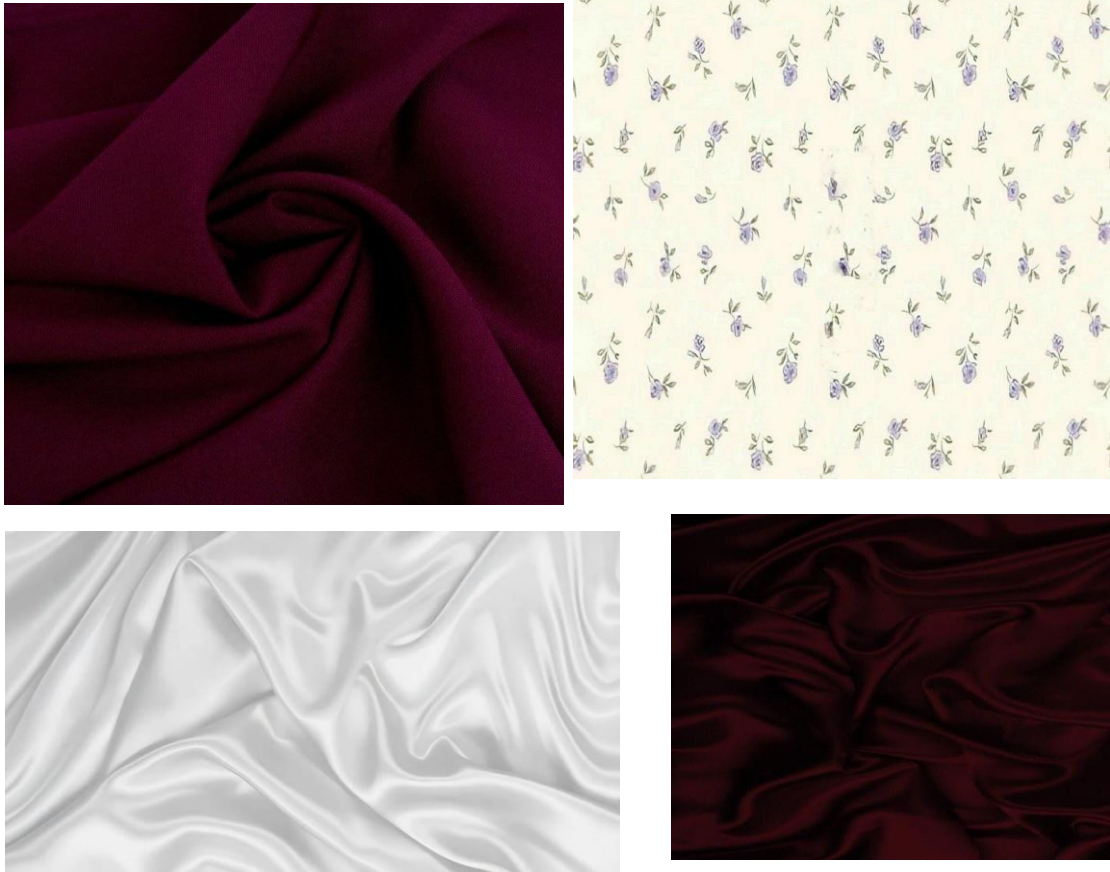


Figure 13: Fabric boarded

COLOR BOARDED

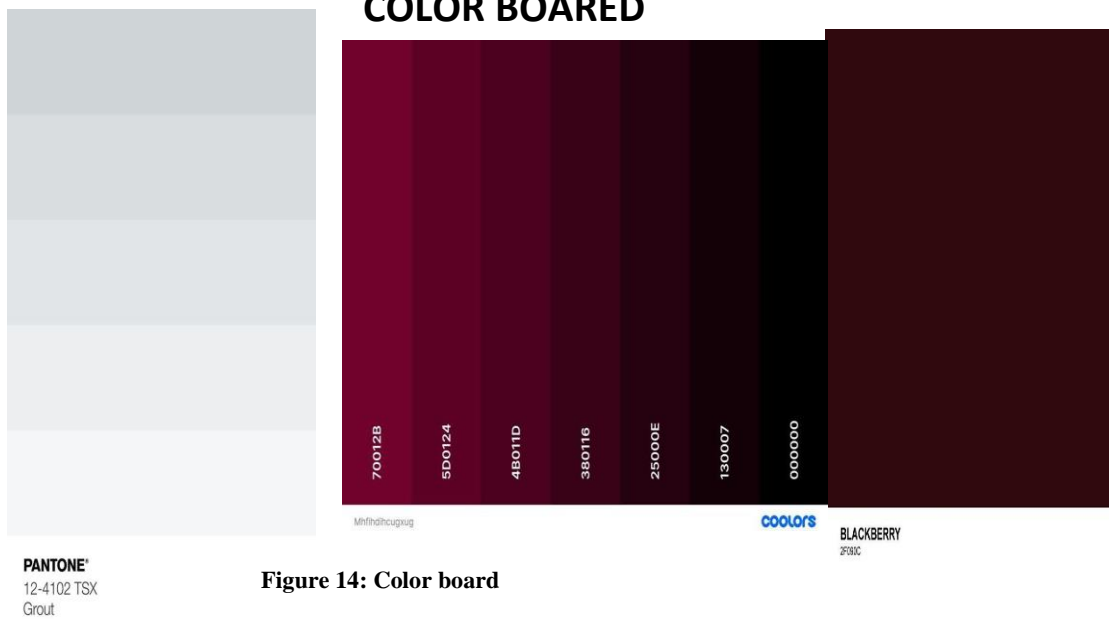


Figure 14: Color board

ACCESSORY BOARDED



Figure 15: Accessory board

TRIM BOARDED



Figure 16: Trim boarded

CLIENT BOARED



Name; Amelset mucho

Nationality; Ethiopian

Age; 27

Profession; Model, film actors

Personality; Strong,

Give respect the society

Income; 700,000 birr per
month

Figure 17: Client boarded

ILLUSTRATION BOARED



Figure 18: Illustration

CONCEPTUAL BOARED



Figure 19: CONCEPTUAL BOARED

FLAT BOARED

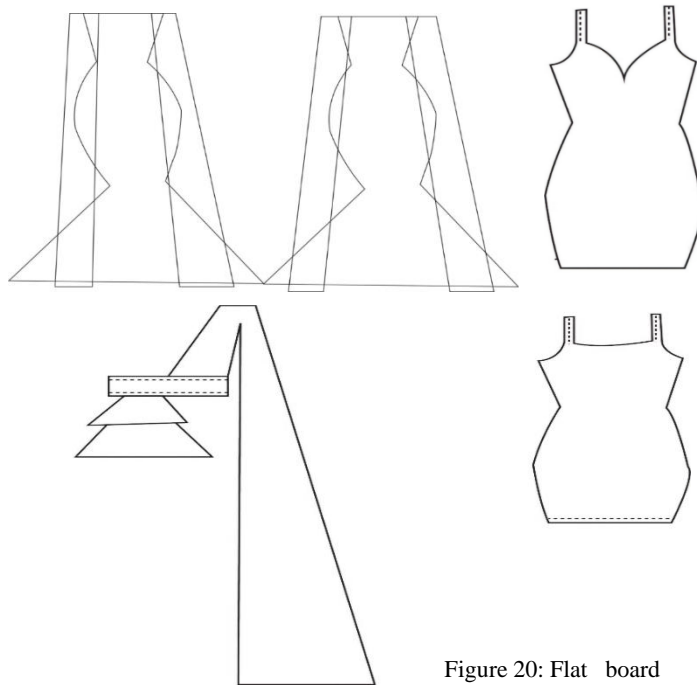


Figure 20: Flat board

DESIGN BOARDED







Fabrication	Polar fleece, polyester	
Color	Brown and white	
Fabric weight	Medium	
Special finishes	Trimming	
Buyer	Women with the age of 18-30	
Proto size	Normal	
Label		
Season	Both season	
Gender	Women	
Category	Occasional wear	

Table 3: Design one Specification sheet

4.8.2 Specific Measurement sheet

Needed measurement	Measurement (in cm)
neck circumference	13.5
Shoulder length	14
Shoulder drop	1.5
Bust circumference	34
Waist circumference	30
Hip circumference	32
Hip depth	6
Full length	37
Sleeve length	20.5

Sleeve opening	8
Cape height	3.5

Table 4: Specific Measurement sheet

4.8.3 Operation breakdown

Operation	Machine type	Seam type
Fitted dress		
Shoulder seam	three thread over lock	Supper impose
Side seam	three thread over lock	Supper impose
Embroidery attachment	SNL	
Elastic band attachment at wrist	SNL	
side sleeve	three thread over lock	Supper impose
Pittels preparation	three thread over lock	French seam
pittels to bodice attachment	SNL	
Pocket attachment	SNL	
Zipper attachment	SNL	
Bottom finishing	Bottom cover	

Table 5: Operation break down

4.8.4 Bill of material

No.	Material	Cost (Birr) per meter
	Fabric	
1	Polar fleece, polyester	1600
2	Embroidery tread	150

Table 6: Bill of material

4.8.5 Cost sheet

Material cost

Material	Color	Quantity in meter	Cost	Total cost

Polyester fabric	Polar fleece, polyester	2.5	640	1600
	Embroidery	1.60	150	
Thread	brown	1cube		120
	White	1cube		
Marker paper	White	6 piece		300
Total				2020

Table 7: Cost sheet

4.8.6 Labor cost

Labor	Quantity	Time devoted (hrs)	Average cost per hrs	No. of labor	Total cost per birr
Pattern making	4	4	150	4	600
Marking	4	3	60	4	120
Cutting	4	30 min	50	4	100
Sewing	4	5	70	4	1400
Trimming	4	30 min	40	4	80
Folding	4	30 min	30	4	60
Packing	4	30 min	30	4	60
Total	4				2420

Table 8: Labor cost

Total cost=material cost + labor cost + indirect cost

Indirect cost is 20% of direct cost

2020 + 2420+ 888

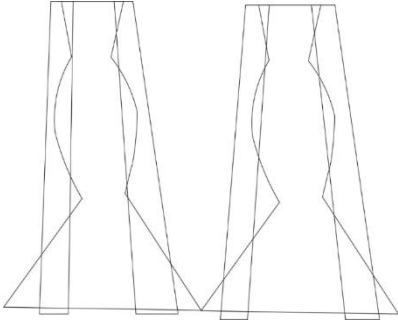
Total cost = 5328 Birr

Profit= 40% of 5328 =2132 Birr

Price = total cost + profit = 7450 birr

Vat or tax=15% of 7450 = 1120 Birr

Total price= 1268 + 190.2 = 8550 Birr

Design TWO		Flat sketch 
Date	May/2024	
Designers	Adinew Birhanu Misgana Sisay Birhane Belachew Biruk Alemayehu	
Style number	BAMB12	
Description	It consists of loose fitted symmetrical Top (hoody) and bottom (Trousers). The Top (hoody) consists of short sleeve, an embroidery at the bottom with the slit at the right and left side. And the trousers is fitted up to the knee and loose fitted up to the bottom with a waist band.	
Fabrication	Polar fleece, polyester	
Color	Brown and White	
Fabric weight	Medium	
Special finishes	Trimming	
Buyer	Women with the age of 18-30	
Proto size	Normal	
Label		

Season	Both season	
Gender	Women	
Category	Occasional wear	

4.8.7 Design TWO Specification sheet

Table 9: Design TWO specification sheet

4.8.8 Spec Measurement sheet

Table 10: Spec. measurement sheet

Needed measurement For the top hoody	Measurement (in inch)	Needed measurement For the bottom trouser	Measurement (in m)
neck circumference	23	Waist circumference	28
Shoulder drop	1.5	Hip circumference	36
Bust circumference	38	Hip depth	6
Waist circumference	28	In seem	1.5
Front full length	13	Front rise	9
Back full length	14	Back rise	12
Slit length	3.5	Thigh circumference	18
Sleeve length	8	Waist up to knee	18
		Knee up to bottom	16
		Full length	37
		Bottom opening	24

Table 11: Spec. measurement sheet

4.8.9 Operation breakdown

Operation	Machine type	Seam type
TopHoody		
Shoulder seam	three thread over lock	Supper impose
Side seam	three thread over lock	Supper impose
Embroidery attachment	SNLS	

side sleeve	three thread over lock	Supper impose
Cap preparation	three thread over lock	Supper impose
cap to bodice attachment	three thread over lock	Supper impose
Bottom Trouser		
Waist band preparation	SNLS	Supper impose
Side seam attachment	three thread over lock	Supper impose
Inseam attachment	three thread over lock	Supper impose
Waist band attachment	three thread over lock	Supper impose
Embroidery attachment	SNL	

Table 12: operation break down

4.8.10 Bill of material

No.	Material	Cost (Birr) per meter
0	Fabric	
1	Polar fleece, polyester	230
2	Embroidery tread	150

Table 13: Bill of material

4.8.11 Cost sheet

Material cost

Material	Color	Quantity in meter	Cost	Total cost
Woven fabric	Polar fleece, polyester	2.75	460	1600
	Embroidery	2.2	150	
Thread	Brown	1cube		120
	white	1cube		
Marker paper	White	2 piece		300
Total]	2020

Table 14: Cost sheet

4.8.12 Labor cost

Labor	Quantity	Time devoted	Average cost	No. of labor	Total cost per birr

		(min)	per hrs		
Pattern making	4	3	150	4	150
Marking	4	4	60	4	240
Cutting	4	30 min	50	4	100
Sewing	4	3	70	4	210
Trimming	4	30 min	40	4	80
Folding	4	30 min	30	4	60
Packing	4	30 min	30	4	60
Total	4				900

Table 15: Labor cost

Total cost=material cost + labor cost + indirect cost

Indirect cost is 20% of direct cost

$2020+900= 2920$ Birr

20% of 2920= 584

Total cost= 2920 + 584=3504 Birr

Profit = 40% of = 1400 Birr

Total price = 3504+1400 = 4904 Birr

Vat (tax) = 15% of 4904 = 746 Birr

Total price = 5650 Birr

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

Based on the objectives, the successful completion of this research will demonstrate the feasibility and potential of integrating Geez numbers into contemporary occasional wear designs. By achieving the specific objectives, the research will:

Identify appropriate occasional wear styles that complement the aesthetic and cultural significance of Geez numbers.

Provide insights into existing applications of Geez numbers in fashion, highlighting successful approaches and potential pitfalls.

Result in the creation of new and visually appealing occasional wear designs that effectively utilize Geez numbers, potentially contributing to the promotion and preservation of Ethiopian cultural heritage.

5.2 Recommendation

The following recommendations are suggested:

Conduct Thorough Style Research: Invest significant time in researching various occasional wear styles (both traditional and contemporary) to identify those that best lend themselves to the integration of Geez numbers. Consider factors like fabric, silhouette, embellishments, and overall design aesthetic.

Analyze Existing Applications Critically: Carefully examine existing examples of Geez numbers used in fashion. Identify what works well, what doesn't, and the cultural sensitivities involved. Pay attention to the placement, size, font, and overall design context of the numbers.

Embrace Collaboration: Consider collaborating with Ethiopian artisans, cultural experts, and designers throughout the design process. Their expertise will be invaluable in ensuring that the designs are culturally respectful and aesthetically pleasing.

Experiment with Design Techniques: Explore a range of design techniques (embroidery, printing, appliqué, etc.) to determine the most effective methods for incorporating Geez numbers into the garments.

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APPENDIX-I

WOLKITE UNIVERSITY

COLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF FASHION DESIGN

RESEARCH TITLE; DESIGN AND DEVELOPMENT OF OCCASIONAL WEAR WITH ETHIOPIAN

GEEZ NUMBERS

Dear: First, We thank you for participating on this research questions. This research is intended to gather information on the “Design And Development Of Occasional Wear With Ethiopian Geez Numbers “Your answer will be kept confidential.

By fashion student. Researchers phone number; 0917 00 80 80, 0918 89 32 26 Read each statement carefully and respond by circling or express your opinions that respond your suggestion. It is possible to choose more than one answer if necessary.

General information

Sex: Female

Age: _____

Married statues: _____

Are you a resident of this area?: _____

How many days did you live in bole area? _____

Questions

1: did you know about Geez Number?

A. Yes

B. No

2: did you See Geez Numbers in Fashion Before?

A. Yes

B. No

3: what do you think if there are products made by Geez Numbers?

Do you buy them and wear?

A. Yes

B. No



WOLKITE UNIVERSITY

COLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF FASHION DESIGN

RESEARCH TITLE; DESIGN AND DEVELOPMENT OF OCCASIONAL WEAR WITH ETHIOPIAN GEEZ NUMBERS Hello Dear: We are a 4th year graduate of Wolkite University. We are working on our current dissertation on the issue geez numbers. First, We Thank you for participating on this

research questions this research is intended to gather information on the “design and development of occasional wear with ethiopian geez numbers” So we have chosen to work with you. We want to make clothes for geez numbers so that you can work together and receive the information we need from you. Thank you for providing us with adequate information about geez numbers.

1. Can Geez numbers be combined with other traditional Ethiopian motifs or patterns?
2. Can Geez numbers be combined with modern design elements to create a fusion of traditional and contemporary styles?
3. What are the best techniques for incorporating Geez numbers into clothing?
4. How can the use of Geez numbers in occasional wear contribute to the preservation and promotion of Ethiopian cultural heritage both locally and globally?
5. What are the income implications of incorporating Geez numbers into clothing production using different techniques?

APPENDEX -II

QUESTIONNAIRE IN AMHARIC VERSION



ወልቂጥ ዩኒቨርሲቲ

የኢንጂነሪንግ እና ቴክኖሎጂ ኮሌጅ

የፋሽን ዲዛይን ዲፓርትመንት

በመጀመሪያ በዚህ የጥናት ጥያቄዎች ላይ ስለተሳተፉት እና መሰረታዊ ስራዎች ላይ ጥናት “design and development of occasional wear with ethiopian geez numbers” ላይ መረጃ ለመሰብሰብ የታሰበ ነው መልስዎን በሚስጥር ይጠበቃል። ስለዚህ በንቃት ምላሽ ስጡ።

የፋሽን ተማሪዎች ስልክ ቁጥር; 0917 00 80 80, 0918 89 32 26

እያንዳንዱን መግለጫ በጥንቃቄ ያንብቡ እና ” X “ በማድረግ ምላሽ ይስጡ ወይም አስተያየትዎን ይግለጹ።

አስፈላጊ ከሆነ ከአንድ በላይ መልስ መምረጥ ይቻላል።

የግል መረጃ

የታ: ወንድ ሴት

ዕድሜ: _____

የጋብቻ ሁኔታ: _____

እርስዎ የዚህ አካባቢ ነዋሪ ነዎት? _____

በቦሌ አካባቢ ስንት ጊዜ ኖረዎል? _____

1. ስለ ግእዝ ቁጥር ታውቃለህ?
ሀ. አዎ
ለ. አይ
2. ከዚህ በፊት የግዕዝ ቁጥሮችን በፋሽን አይተሃል?
ሀ. አዎ
ለ. አይ
3. በግእዝ ቁጥሮች የተሰሩ ምርቶች ካሉ ምን ይመስላችኋል?
ገዝተህ ትለብሳለህ?
ሀ. አዎ
ለ. አይ
4. የግዕዝ ቁጥሮች ከሌሎች የኢትዮጵያ ባህላዊ ዘይቤዎች ወይም ቅጠች ጋር ሊጣመሩ ይችላሉ?
5. የግዕዝ ቁጥሮችን በልብስ ውስጥ ለማካተት ምርጡ ዘዴዎች የትኞቹ ናቸው?
6. የግዕዝ ቁጥሮችን አልፎ አልፎ ለብሶ መጠቀማቸው የኢትዮጵያን ባህላዊ ቅርሶች በአገር ውስጥም ሆነ በዓለም አቀፍ ደረጃ እንዲጠበቁና እንዲያስተዋውቁ እንዴት አስተዋጽኦ ይኖረዋል?
7. የተለያዩ ቴክኒኮችን በመጠቀም የግዕዝ ቁጥሮችን በልብስ ምርት ውስጥ ማካተት የገቢ አንድምታው ምን ያህል ነው?

