1st International Congress and Exhibition on Sustainability in Music, Art, Textile and Fashion (ICESMATF 2023) January, 26-27 Madrid, SPAIN

ICESMATF 2023

PROCEEDINGS BOOK

ISBN: 978-625-8284-28-7

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Editor

Assoc. Prof. Shajara Ul DURAR

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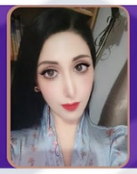

JANUARY 26-27 2023

Assoc. Prof. Shajara Ul DURAR

University of Sunderland
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KEYNOTE SPEAKER

JANUARY 26-27 2023

Prof. Dr. Roma MADAN

Professor of Visual Arts and Director Designate SCoPE - Centre for Visual Arts, Anant National University, India. Formerly, Professor Box Hill College Kuwait

1. INTERNATIONAL CONGRESS AND EXHIBITION ON SUSTAINABILITY IN MUSIC, ART, TEXTILE AND FASHION
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KEYNOTE SPEAKER

JANUARY 26-27 2023

Prof. Dr. Anna Melnikova

University of Jaén, Spain

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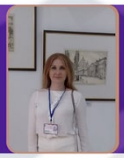

JANUARY 26-27 2023

Lecturer Olga Ipatova

Brest State Technical University, Belarus

1. INTERNATIONAL CONGRESS AND EXHIBITION ON SUSTAINABILITY IN MUSIC, ART, TEXTILE AND FASHION
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KEYNOTE SPEAKER

JANUARY 26-27 2023

Prof. Dr. Suresh Chandra NAYAK

Dean, Professor & Dean, Faculty of Arts, Gopal Narayan Singh University (GNS) University, India

1. INTERNATIONAL CONGRESS AND EXHIBITION ON SUSTAINABILITY IN MUSIC, ART, TEXTILE AND FASHION
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KEYNOTE SPEAKER

JANUARY 26-27 2023

Tatiana Lissa

Music Composer
Art League NYC

1. INTERNATIONAL CONGRESS AND EXHIBITION ON SUSTAINABILITY IN MUSIC, ART, TEXTILE AND FASHION
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CONGRESS PROGRAM

With **20 papers-48 academics/researchers (Brazil: 31-Pakistan: 1- Azarbaijan:1- Portugal: 1-Belarus: 1-Spain:1- Türkiye:12)** from **15** institutions and **8** countries:

1.TÜRKİYE
2.BRAZIL
3.PAKISTAN
4.AZERBAIJAN
5.SPAIN
6.BELARUS
7.UZBEKISTAN
8.INDIA

With **38 artworks-39 academics/researchers (Exhibition: USA:5 - Bulgaria:3 - Türkiye: 13 - Iran: 3 - India: 2 - Avustralasya: 2 Japan: 1 - Kuwait: 2 - China: 2 - France: 1 - Egypt: 1 - Holland: 1 -Uzbekistan: 1 - Spain: 1)** from **21 institutions** and **15 countries**:

1. TÜRKİYE	10. FRANCE
2. USA	11.EGYPT
3. BULGARIA	12.HOLLAND
4. IRAN	13.TUNISIA
5. INDIA	14.UZBEKISTAN
6.AVUSTRALASYA	15.SPAIN
7.JAPAN	
8.KUWAIT	
9.CHINA	

Total Participant: 58

Presentations will be in English. There are 2 virtual conference rooms.

The congress was organized according to Turkey time. To calculate the time for your country:

The World Clock — Worldwide

26 January 2023 Thursday 09:50-10:00	**1st International Congress and Exhibition on Sustainability in Music, Art, Textile and Fashion (ICESMATF 2023) January, 26-27 Madrid, Spain** **26 January 2023** **10:00 a.m. Istanbul** **Zoom Meeting** **Topic**: ICESMATF 2023 26.01.2023 **Join Zoom Meeting** https://us06web.zoom.us/j/82982694188?pwd=bHM5bDhNQkxCNHRUZUVvR1Y0aU5RUT09 **Meeting ID**: 829 8269 4188 **Passcode**: 437124
	Chair **Assoc. Prof. Shajara Ul DURAR**, University of Sunderland, UK
26 January 2023 Thursday 10:00-12:00	**Keynote Speakers** **Prof. Dr. Anna Melnikova-** University of Jaén, Spain **Prof. Dr. Roma MADAN-** Professor of Visual Arts and Director Designate SCoPE - Centre for Visual Arts, Anant National University, India. Formerly, Professor Box Hill College Kuwait **Prof. Dr. Suresh Chandra NAYAK-** Dean, Professor & Dean, Faculty of Arts, Gopal Narayan Singh University (GNS) University, India **Lecturer Olga Ipatova-** Brest State Technical University**,** Belarus **Tatiana Lissa-** Music Composer, Art League NYC
	Coordinators of the Congress **Assist. Prof. Enkeleda Lulaj,** PhD University Haxhi Zeka Kosovo/Kosovo **Novriest Umbu Walangara-** NAU, Malaysia
12:00-13:00	Coffee Break- Lunch
13:30-16:30	Online Sessions
27 January 2023 Friday 10:00-13:30	Online Sessions **1st International Congress and Exhibition on Sustainability in Music, Art, Textile and Fashion (ICESMATF 2023) January, 26-27 Madrid, Spain** **Time: January 27, 2023 10:00 AM Istanbul** **Topic**: ICESMATF 2023 27.01.2023 **Join Zoom Meeting** https://us06web.zoom.us/j/82074528203?pwd=OCtzY2hTM1RxRnlUOXVZY0grVTB3dz09 Meeting ID: 820 7452 8203 Passcode: 343362
27 January 2023 Friday 13:30-14:00	Closing Session

Note: (ICESMATF 2023) congress sessions are to be recorded in accordance to the General Data Protection Regulation (GDPR) and Kişisel Verilerin Korunması Kanunu (KVKK). By joining the congress sessions, you automatically consent to such recordings. If you do not consent to being recorded, discuss your concerns with the host or do not join the congress sessions.

Room-I	26 January 2023 Thursday	Moderator
	13:30-16:30	Assist. Prof. Enkeleda LULAJ
Room-II	**27 January 2023 Friday**	**Moderator**
	10:00-13:30	Novriest Umbu WALANGARA

Thursday, 26 January 2023 Room I

Room-I	Thursday, 26 January 13:30-16:30	Moderator	Assist. Prof. Enkeleda LULAJ

1. **Prof. Dr. Anna Melnikova**-Service-Learning as a Practical Introduction of Undergraduate Pedagogues to the community
2. **Olga Ipatova**-Sui Generis Systems of Protection for Design: Cumulation, Partial Cumulation and Demarcation of Legal Regimes
3. **Italo Jose de Medeiros Dantas, Gideão Lucas Estevão de Figueiredo, Livia Juliana Silva Solino de Souza, Anyelle Cristina Silva de Lima, Isa Karen Fernandes de Araujo, Joana Darc Bezerra de Brito, Joseildo De Araujo Aureliano and Maria Helena Santos e Silva-** Elderly Fashion Consumption Profile: Evidence from Brazil
4. **Kıymet Dirican-** Analysis of the Miniature Arts with the Abstract Objective Dynamism of Turkish Painting, which is a Historical Document
5. **Farah Deeba-**Integration of Aesthetic Theory in Art Education and Research
6. **Emil Raul oğlu Ağayev-**Analysis of the Creativity of Azerbaijan Painters in the Class V-Vi Fine Arts Textbooks, Azerbaijan
7. **Assist. Prof. A. Aslı İlleez**-Minimization of Setup Times for Production Lines in GarmentManufacturing for Sustainability
8. **Assist. Prof. Dr. A. Aslı İlleez**-Performance Measurement Methods of Ready-To-Wear Production Lines
9. **Assist. Prof. Cláudia Pedro, Santos**-Sustainable Design Products in Portugal
10. **Dr. Zafer Demir**-Geçmişi Geleceğe Bağlayan Bir Sanat Olarak Müzik-The Art Connecting the Past to the Future, Music
11. **Assoc. Prof. Ítalo José de Medeiros Dantas, Alice Jennifer de Santana, Jéssica Cristiane de Medeiros Souza Marcos Daniel da Silva Oliveira, Rafaela Patrícia de Araújo, Thalita Mikaela Lucena de Oliveira, Assoc. Prof. Poincyana Sonaly Bessa de Holanda**-The Context of Use and Meaning of Colors in Handbags
12. **Emanuelle Vito Guedes de Oliveiral, Izabela Adriana Eloi da Silva Santos, Assoc. Prof. Lívia Juliana Silva Solino, Assoc. Prof. Ítalo José de Medeiros Dantas**-Fashion Product Development Using Cap Waste: A Study Focused on Impacting Sustainability in Brazil
13. **Prof. Dr. Suresh Chandra Nayak**, Tribal Festival Jani Shikar and District Rohtas

Friday, 27 January 2023

Friday, 27 January 2023 Room-II

Room-II	**27 January 2023**	**Moderator**
	10:00-13:30	Novriest Umbu WALANGARA

Friday, 27 January 2023: Room-II

Room-II	**Friday, 27 January 2023 10:00-13:30**	**Moderator**	Novriest Umbu WALANGARA

1. **Prof. Dr. Ziynet Öndoğan, Assist. Prof. Dr. Özlem Kurtoğlu Necef, Assist. Prof. Dr. Ece Nüket Öndoğan, Assist. Prof. Dr. Arzu Şen Kılıç-**PLM Applications in The Sustainable Design Process
2. **João Maria Bezerra Júnior, Assoc. Prof. Ítalo José de Medeiros Dantas, Assoc. Prof. Juan dos Santos Silva, Assoc. Prof. Lívia Juliana Silva Solino de Souza-**Clothing as an Element to Enhance Visual Identity in Pop Culture: An Analysis from the "Art Pop" Album
3. **Assoc. Prof. Ítalo José de Medeiros Dantas, Bárbara de Oliveira Freira, Ellen Lus Almeida de Medeiros-Ianny Aparecida Medeiros dos Santos, Iasmin Loíse Costa Garcia,Lara Juliane Cardoso Santiago,Tainara Talia Soares da Silva,Assoc. Prof. Lívia Juliana Silva Solino de Souza-**The Interaction and Acceptability of Potential Fashion Consumers in the use of Virtual Reality for Fashion Shows: A Study with Generation Z
4. **Assoc. Prof. Ítalo José de Medeiros Dantas,Iara Sofia Silva Dantas,Íris de Faria Mariz,Karen Cristina Andrade de Araújo,Maria Helene Dutra de Medeiros,Sarah Marta da Nóbrega Medeiros,Yslla Jhanny De Medeiros Cavalcante, Assoc. Prof. Lívia Juliana Silva Solino de Souza-**The Role of Digital Influencers in Fashion Consumption in Brazil
5. **Floriano Laudomir Campos de LunaPotiguar University, Brazil-Assoc. Prof. Poincyana Sonaly Bessa de Holanda, Assoc. Prof. Ítalo José de Medeiros Dantas-**Fashion Collection Proposal for Men with Dwarfism
6. **Lecturer Gülseren Haylamaz, Assist. Prof. Dr. Özlem Kurtoğlu Necef, Prof. Dr. Ziynet Öndoğan, Assoc. Prof. Serkan Boz-**Reuse of Waste Clothes with Eco Print Method
7. **Prof.Dr. Ziynet Öndoğan, Assist. Prof. Dr. Arzu Şen Kılıç, MA Student Seray Akın-**Quilt Design with Traditional Production within The Scope of Cultural Sustainability

1st International Congress and Exhibition on Sustainability in Music, Art, Textile and Fashion (ICESMATF 2023) January, 26-27 Madrid, Spain **Congress Participants' Institutions (About Abstract-Full Text)**
1. University of Swabi, PAKISTAN
2. Brest State Technical University, BELARUS
3. Federal Institute of Rio Grande do Norte, BRAZIL
4. Potiguar University, BRAZIL
5. Ege University, Faculty of Fashion and Design, TÜRKİYE
6. Ege University, Graduate School of Social Sciences, TÜRKİYE
7. University of Beira Interior, PORTUGAL
8. University of Jaén, SPAIN
9. Ege University, Department of Textile and Fashion Design, TÜRKİYE
10. Ankara University, TÜRKİYE
11. Dokuz Eylül University, TÜRKİYE
12. İzmir Demokrasi Üniversitesi, TÜRKİYE
13. Azerbaijan State Pedagogical University, AZERBAIJAN
14. Gopal Narayan Singh University (GNS) University, INDIA
15. Campos de Luna Potiguar University, BRAZIL

1st International Congress and Exhibition on Sustainability in Music, Art, Textile and Fashion (ICESMATF 2023) January, 26-27 Madrid, Spain Congress Participants' Institutions (About Artworks)
1. Tatiana Lissa, Alien Contsert, New York, Art League NYC, USA
2. Tatiana Lissa, Self Portrait-New Cubism and Realism, New York, Art League NYC, USA
3. Zvetan (TSVETAN MUMDZHIEV) Mumdgiev, Emerald and Turquase, BULGARIA
4. Zvetan (TSVETAN MUMDZHIEV) Mumdgiev, Hot Joy to All of Us, BULGARIA
5. Zvetan (TSVETAN MUMDZHIEV) Mumdgiev, Colors and Architecture of Persia, BULGARIA
6. Seçil Sever Demir, Sonsuzlukta Lale, TÜRKİYE
7. Assist. Prof. Ashkan RAHMANI, “Kilim Design -1/Flatweaves Design-1”, IRAN
8. Assist. Prof. Ashkan RAHMANI, “Kilim Design -2/Flatweaves Design-2”, IRAN
9. Assist. Prof. Ashkan RAHMANI, “Kilim Design -3/Flatweaves Design-3”, IRAN
10. Gözde Ermin-New Identitiy, TÜRKİYE
11. Shobitha Hariharan, Bengal, INDIA
12. Shobitha Hariharan, Gujarat, INDIA
13. Karel Fehr-Art for fun 2010-Decorative Photographic Art, AVUSTRALASYA
14. Karel Fehr-GrassHopper, AVUSTRALASYA
15. Mayumi Goto-Shin Yamagishi-JAPAN
16. Professor Dr. Roma Madan Soni-Artwork Name: Melting I, KUWAIT
17. Professor Dr. Roma Madan Soni-Artwork Name: Melting II, KUWAIT
18. Hope Tian-Far East, CHINA
19. Alison Berkey, Animation, Washington, USA
20. Alison Berkey, Illustration, Washington, USA
21. Sylvie Grich-Relaxation an Afternoon of Geso: Texture Work an Afternoon of Pigment: Having Fun Creating Effects a Moment of Freedom in Coal Linen Canvas-Pays de la Loire, FRANCE
22. Len Cicio, The Astor Staircase Upper Westside Manhattan, New York, USA
23. Mahmoud Salem, Sculpture of the Tilapia Fish from Rose Granite, EGYPT
24. Hans Koenen, Divers and Inclusive, HOLLAND
25. Nigora (Isaevna) Razakova,"Colors of Asia", UZBEK
26. Dr. Mehmet Konuklar-Sustainable Stretching, TÜRKİYE
27. Yang Ji & Ze Gao-Symbiosis: From the Present to the Future, CHINA
28. Nerza Villegas-Sin título 40 x 40 cm Técnica mixta sobre madera, Madrid, SPAIN
29. Lecturer Gülseren Haylamaz-Disappearing Expressions on Portrait, TÜRKİYE
30. Dr. Pınar Köymen Çağar-Wearing Nature, TÜRKİYE
31. Prof. Dr. Ziynet Öndoğan-Homecoming, TÜRKİYE
32. Assoc. Prof. Serkan Boz-Asymmetry Versus Symmetry, TÜRKİYE
33. Dr. Ece Nüket Öndoğan-Dancing of Nature Colors, TÜRKİYE
34. Seray Akın-Portrait of Nature, TÜRKİYE
35. Assist. Prof. Özlem Kurtoğlu Necef-Unexpected Moments, TÜRKİYE
36. Assist. Prof. Arzu Şen Kılıç-Reflections, TÜRKİYE
37. Res. Assist. Esra Yarar- Dionyos and Sadness, TÜRKIYE
38. Res. Assist. Esra Yarar-Dionyos and Grate, TÜRKIYE

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1. University of Architecture Sivil Engineering and Geodesy, Magistrate,s Degree Sofia, BULGARIA
2. Art League NYC, USA
3. İzmir Demokrasi University, TÜRKİYE
4. Shiraz University, IRAN
5. Ege University, Faculty of Fashion and Design Management, TÜRKIYE
6. The Institute of Company Secretaries of India, INDIA
7. Australasian Photographic Imaging, AUSTRALASIAN
8. Musashino Art University, JAPAN
9. Centre for Visual Arts, Anant National University, INDIA
10. Box Hill College Kuwait, KUWAIT
11. Rensselaer Polytechnic Institute, USA
12. Utah State University, USA
13. CFPPA de VAUCLUSE et école Kun Qian le Mans, FRANCE
14. Len Cicio Fine Art, USA
15. Mahmoud Salem Art Gallery, EGYPT
16. Beelden Hans Koenen, HOLLAND
17. Invento The Uzbek International School, Toshkent, UZBEKISTAN
18. Specialist at the Ministry of Culture and Tourism, TÜRKİYE
19. Ze GAO ART, CHINA
20. Universidad Complutense de Madrid, SPAIN
21. Ege University, Emel Akın Vocational School Fashion Design Department, TÜRKİYE

Contents

Number	Author (s)	Title	Pages
1	Italo Jose de Medeiros Dantas, Gideão Lucas Estevão de Figueiredo, Livia Juliana Silva Solino de Souza, Anyelle Cristina Silva de Lima, Isa Karen Fernandes de Araujo, Joana Darc Bezerra de Brito, Joseildo De Araujo Aureliano and Maria Helena Santos e Silva	Elderly Fashion Consumption Profile: Evidence From Brazil	1-10
2	Farah Deeba	Integration of Aesthetic Theory in Art Education and Research	11-29
3	Emil Raul oğlu Ağayev	Analysis of the Creativity of Azerbaijan Painters in the Class V-VI Fine Arts Textbooks	30-33
4	Assoc. Prof. Ítalo José de Medeiros Dantas, Alice Jennifer de Santana, Jéssica Cristiane de Medeiros Souza Marcos Daniel da Silva Oliveira, Rafaela Patrícia de Araújo, Thalita Mikaela Lucena de Oliveira, Assoc. Prof. Poincyana Sonaly Bessa de Holanda	The Context of Use and Meaning of Colors in Handbags	34-45
5	Assist. Prof. A. Aslı İlleez	Minimization of Setup Times for Production Lines in GarmentManufacturing for Sustainability	46-52
6	Assist. Prof. A. Aslı İlleez	Performance Measurement Methods of Ready-To-Wear Production Lines	53-58
7	Emanuelle Vito Guedes de Oliveiral, Izabela Adriana Eloi da Silva Santos, Assoc. Prof. Lívia Juliana Silva Solino, Assoc. Prof. Ítalo José de Medeiros Dantas	Fashion Product Development Using Cap Waste: A Study Focused on Impacting Sustainability in Brazil	59-72
8	Olga Ipatova	Sui Generis Systems of Protection for Design: Cumulation, Partial Cumulation and Demarcation of Legal Regimes	73-94
9	Prof. Dr. Ziynet Öndoğan, Assist. Prof. Dr. Özlem Kurtoğlu Necef, Assist. Prof. Dr. Ece Nüket Öndoğan, Assist. Prof. Dr. Arzu Şen Kılıç	PLM Applications in The Sustainable Design Process	95-105
10	Lecturer Gülseren Haylamaz,Assist. Prof. Dr. Özlem Kurtoğlu Necef, Prof. Dr. Ziynet Öndoğan, Assoc. Prof. Serkan Boz	Reuse of Waste Clothes with Eco Print Method	106-114
11	Prof. Dr. Ziynet Öndoğan, Assist. Prof. Dr. Arzu Şen Kılıç, MA Student Seray Akın	Quilt Design with Traditional Production within The Scope of Cultural Sustainability	115-121
12	João Maria Bezerra Júnior, Assoc. Prof. Ítalo José de Medeiros Dantas, Assoc. Prof. Juan dos Santos Silva, Assoc. Prof. Lívia Juliana Silva Solino de Souza	Clothing as an Element to Enhance Visual Identity in Pop Culture: An Analysis from the “Art Pop” Album	122-130

Contents

Number	Author (s)	Title	Pages
13	Assoc. Prof. Ítalo José de Medeiros Dantas,Bárbara de Oliveira Freira, Ellen Lus Almeida de Medeiros-Ianny Aparecida Medeiros dos Santos, Iasmin Loíse Costa Garcia,Lara Juliane Cardoso Santiago,Tainara Talia Soares da Silva,Assoc. Prof. Lívia Juliana Silva Solino de Souza	The Interaction and Acceptability of Potential Fashion Consumers in the use of Virtual Reality for Fashion Shows: A Study with Generation Z	131-144
14	Assoc. Prof. Ítalo José de Medeiros Dantas,Iara Sofia Silva Dantas,Íris de Faria Mariz,Karen Cristina Andrade de Araújo,Maria Helene Dutra de Medeiros,Sarah Marta da Nóbrega Medeiros,Yslla Jhanny De Medeiros CavalcanteAssoc. Prof. Lívia Juliana Silva Solino de Souza	The Role of Digital Influencers in Fashion Consumption in Brazil	145-158

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YAŞLILARIN MODA TÜKETİM PROFİLİ: BREZİLYA'DAN KANIT

ELDERLY FASHION CONSUMPTION PROFILE: EVIDENCE FROM BRAZIL

Italo Jose de Medeiros Dantas, Gideão Lucas Estevão de Figueiredo, Livia Juliana Silva Solino de Souza, Anyelle Cristina Silva de Lima, Isa Karen Fernandes de Araujo, Joana Darc Bezerra de Brito, Joseildo De Araujo Aurelıano and Maria Helena Santos e Silva

Federal Institute of Rio Grande do Norte – Brazil

Özet

Birkaç yıl içinde üçüncü yaş grubunu oluşturacak konuların sayısı, çağdaş toplumsal bağlamda endişe verici bir sayı olarak karşımıza çıkmaktadır. Yaşlı nüfusun artmasıyla birlikte, yaşlılara ulaşan insan fizyolojisine özgü hastalıkların bir sonucu olarak özel bakım talepleri de artmaktadır. Bu şekilde Moda ürünlerinin tüketiminde bu pazar segmentinin ergonomik, teknik, estetik ve sembolik ihtiyaçları göz önünde bulundurularak düşünülmesi gerekmektedir. Böylece Brezilya'nın Rio Grande do Norte eyaletindeki Caicó şehrinden yaşları 60 ile 75 arasında değişen 22 yaşlı kadın sorgulandı. Böylece şu sorular gündeme geldi: yaş, aylık gelir, mevcut çalışma durumu, moda trendleri, tüketim, karşılaşılan zorluklar, tercihler ve baskılar.

Anahtar Kelimeler: yaşlı, üretim süreci, giyim, ürün geliştirme, tüketici ihtiyaç araştırması.

Abstract

The number of subjects that will compose the age group of the third age within a few years presents itself as an alarming number within the contemporary social context. With the increase in the elderly population, the demands for specific care grow due to diseases inherent to human physiology that reach the elderly. In this way, there is a need to think about this market segment because of its ergonomic, technical, aesthetic, and symbolic needs in the consumption of Fashion products. Thus, 22 older women between 60 and 75 years old from the city of Caicó, in the Brazilian state of Rio Grande do Norte, were questioned. Thus, we raised the following questions: age, monthly income, current work situation, fashion trends, consumption, difficulties encountered, preferences, and fashion prints.

Keywords: elderly, production process, clothing, product development, consumer need research.

1. Introduction

Fashion, in contemporary society, is a phenomenon that transcends materiality, starting to relate to social and cultural aspects, which are perceived, for example, in the ephemerality of style, which dictates to the consumer that the fullness of his satisfaction and recognition can only be achieved if the consumer assimilates this ephemerality (Treptow, 2013). Although the elderly tend to be subjugated in this context, there is a change in this scenario. We noticed that with more and more media representations of these individuals.

The population rate of the elderly has been increasing every year. This demographic transition is a result of the decrease in the birth rate and the increase in life expectancy, and this increase has generated changes in the approach and health care of these individuals. According to statistics from the United Nations (UN, 2013), the number of people with advanced age should triple by 2050. In Brazil, this change is confirmed, as the elderly population was 19.8% in the 2000s, increasing to 30.7% in 2010 (Souza et al., 2017). Ageing is a natural biological phenomenon divided into two types: senescence and senility, and senescence correspond to the natural, progressive, and degenerative process; these changes affect all body systems and result in the functional decrease of an individual. However, depending on the external factors in which the person is inserted and their lifestyle, they will have pathological aging, called senility (Guedes et al., 2017).

The fashion market for seniors until a certain period was extremely closed; Ballstaedt (2007) explains that the fashion market came to create a differentiation only in the 60s when there was a separation of fashion trends that young people and older people would follow, but it was not until the mid 80's that there was targeted marketing. Through all the data exposed, it leads us to realize that the market is still highly closed to thinking and producing Fashion for this particular target audience.

According to previous research, older people's clothing is a discreet, neutral outfit; there are no stylistic exaggerations, fluff, ruffles, and fads. The cut and pattern of the fabrics are discreet and traditional, with no transparency and necklines and nothing that adheres to the body. It is an outfit, although oriented to the female gender, where seduction and erotic tension are absent; it is a neutral outfit, vertical line, straight skirt. Nothing is intended to accentuate the curves (Motta, 1998, apud Ballstaedt, 2008).

With this thought exposed, it can be understood that the market tends to follow the path of developing basic products, not putting the consumer in evidence when in public, and mainly avoiding all aspects linked to the social concept of young, healthy, and with high self-esteem. Queiroz (2015, apud Tonarque, 2012) argues that this idea generates a process of exclusion of the elderly in Fashion because far beyond aesthetic issues, this public needs products that meet in functionality and adapt to their body, with the reason of age, needs specification.

Therefore, there is the premise that clothing is the product resulting from the movement of all the gears that make up Fashion; that is, in order to reach a market-oriented clothing product as a final result, it is necessary to articulate a set of actions, whether creative or technical, through methodologies and creative processes devised by fashion professionals and their stakeholders (Jones, 2005; Treptow, 2013; Sanches, 2016). The development of a survey can be compared to drawing up a map, specifically to plan the realization of the market research project. It details the procedures necessary to obtain the required information, and its purpose is to provide adequate methods for obtaining the necessary information for decision-making (Zamberlan, 2008).

Needs research is a method to understand how the market works, so it is a way of collecting data and information that, once collected, can help designers, companies, or brands select the best decisions. In such a way, the consumer needs to research what will verify if the product will be consumed or not, so Mike Baxter (2011:181) justifies that “Understanding consumer needs is fundamental to identify, specify and justify an opportunity of product.”

Market research is understood as a process consisting of six stages (Malhotra, 2001), which are: a) definition of the theme and formulation of the research problem; b) elaboration of an approach; c) formulation of the research project; d) fieldwork; e) preparation and analysis of data and f) preparation and presentation of the report. Market research is generally described as an activity that involves the interests of four segments: (1) the researcher, (2) the client, (3) the interviewee, and (4) the public.

In summary, when well-designed, market research greatly benefits product creators. By understanding the need of the market, the objective of developing a product that meets the needs of consumers is achieved (Baxter, 2011). With that in mind, this paper aims to outline a profile of elderly Brazilian fashion consumers.

2. Method

This study is a virtual survey conducted with women between 60 and 75. This survey instrument used sociodemographic questions such as age, monthly income and current work situation. In addition, we applied three scales to measure – using the Likert Scale – the influence of fashion trends on the consumption of the elderly and the difficulties encountered by this age group in consuming clothing products (Table 1).

Table 1. Questions raised in the Research

Fashion Trends Scale

- For me, Fashion is an important product
- Fashion means a lot to me
- Fashion is an important part of my life
- I think a lot about Fashion
- I'm very involved with Fashion
- I am interested in Fashion
- I consider myself a person up to date on fashion trends for each season
- I follow fashion trends and news, but I do not consider myself an expert
- I don't follow fashion trends and news, but I would like to follow
- I don't care about fashion trends as I have my way of dressing

Fashion consumption Scale

- I buy when my clothes are old, worn out or tight
- I buy it when the season changes and I need to renew my wardrobe
- I buy when I'm sick of my clothes
- I shop on impulse

- Shop when apparel products are on sale

The scale of difficulties encountered in the consumption of clothing products

- I cannot find clothes in my size
- I cannot find pieces that are up-to-date with current fashion trends
- I cannot find pieces that are fashionable and have a good fit for my body type
- Clothing is expensive
- I cannot find a variety of parts, models and colors in stores

In addition, we raised questions about the size of the clothes used by the elderly, preferred closure type for top and bottom, types of clothing most used, preferred fabric types, and preferred colors in Fashion products. Finally, we asked questions about favorite prints used in clothing.

3. Results

The survey carried out among women between 60 and 75 raised the following questions: age, monthly income, current work situation, fashion trends, consumption, difficulties encountered, preferences and patterns. These questions lead to constructing a sociodemographic profile of the group under study. We questioned Older women of different ages, where 27.2% corresponded to women aged 60 years, another 27.2% corresponded to women aged 62 and 63 years, 18.2% to women aged 72 and 75 years and the remaining 27% corresponded to the ages 61, 64, 65, 70 and 73. However, we observed the audience of 60 as predominant.

In the current work situation, we identified that 59.1% of the women interviewed are retired, 31.8% are still in the labor market, and the remaining 9.1% are unemployed. We asked the interviewees about what it is like and how they see their relationship with Fashion, having to classify, through a Likert scale, how they relate to Fashion based on the following statements: if Fashion is an important product, what it means to them; if it is important in their life; if they think a lot about it; if they are interested in Fashion. The median closest to 1 corresponded to “strongly disagree”, while the median closest to 5 to “strongly agree.”

We observed that the results for the question about Fashion being an important product showed a neutral level of agreement, with a median of 3.5. Regarding Fashion meaning something in their lives, a neutral level was identified, with a median of 3. Respondents responded as neutral about Fashion being an important factor in their lives, with a median of 3. On thinking about Fashion, the median was 3, being a neutral result. Being very involved with the subject of Fashion had a median of 2, so they disagree with this idea. Moreover, regarding interest in Fashion, the result was a median of 2, so they disagree about this interest.

We found that, with a median of 3, this result being neutral, they consider themselves women up-to-date in fashion trends for each season. They also stated that they follow trends and news, with a median of 3.5, a neutral result, but they do not consider themselves experts. When asked about not following trends and news in Fashion but that they would like to follow, the median was 3, being neutral, and with a median of 3, also neutral, they replied that they do not care about trends because they have their way of dressing.

When asked about the consumption and acquisition of new pieces, we obtained a median of 2.5, a neutral for disagreement. As for the station, with a median of 3, a neutral result for disagreement. Regarding obtaining new pieces when sick, the median was 3, again the neutral result for disagreement. Purchases acting on impulse reached a median of 2.5, a neutral result for disagreement and finally, the purchase of clothing products on sale obtained a median of 4, where there was an agreement for this item.

Regarding the purchase of parts monthly, 72.7% of the interviewees answered that at least once a month, they buy a fashion piece, while 18.2% do not buy any, 4.5% answered that at least a month they buy three times, and the rest buy at least two times. In this way, we understood that the collection's focus, such as the choice of material and relationship with current fashion trends, should focus on individuals who consume products only once a month.

Next, we investigated issues related to the supply of products in the local market. With this, the result was neutral disagreeing that they did not find garments for their size and had a median of 3. With a median of 2.5, a neutral result, they disagree that they do not find pieces up to date with current fashion trends. The interviewees were neutral, with a median of 3.5 and did not find fashionable

pieces that fit their physical size well. They agreed with a median of 4 about the pieces being expensive, stayed neutral with a median of 3.5 and agreed not to find a variety of pieces, models and colors.

Regarding the clothing sizes used by older women, we identified that 27.3% of the volunteers wear size 36 in the Brazilian anthropometric table, 22.7% wear 42, 13.6% wear 44, and 18.2% represent women who wear 38 (P) and 40 (M). For the fashion collection prototypes, it recommends going with the large, size 42.

Another relevant issue we considered when developing a collection focused on the elderly is the usability focused on the closures of the products, allowing a university to interact, and facilitate the day-to-day. When approached in this investigation, the types of closure that the respondents indicated they prefer to have in their clothes, more specifically in blouses/shirts, the button stood out over the other options in the part of the shirts with a percentage of 77.3%, while the zipper invisible presented 13.6%. Therefore, for the tops of this collection, it was decided to use a button when applicable. The zipper was the favorite over the bottoms at 68.2%, while the invisible zipper and button represented 13.6%. Therefore, in the case of this collection, it was decided to use the zipper.

As for the types of clothes they usually wear, we observed that pants and blouses had the highest percentage (72.7%) among the interviewees, followed by the dress (63.6%), then shorts (54.5%) the set with shorts (40.9%) and skirt (22.7%), finally, we observed the overalls with the lowest percentage (4.5%) of preference.

Regarding fabrics, aiming at comfort and well-being, the interviewees declared their preferences for fabrics where cotton had the highest percentage among the interviewees (86.4%), followed by viscose fabric with 63.6%, in third place, polyester with 36.4% and, finally, silk satin with 18.2%. The result shows a sum of more than 100%, as respondents could choose more than one answer.

Colors are attractive and capable of conveying messages and producing sensations. We know that in Fashion, it would be no different since each color has its association; we decided to question the color preferences of elderly consumers in Brazil. We can see the result below (Figure 1):

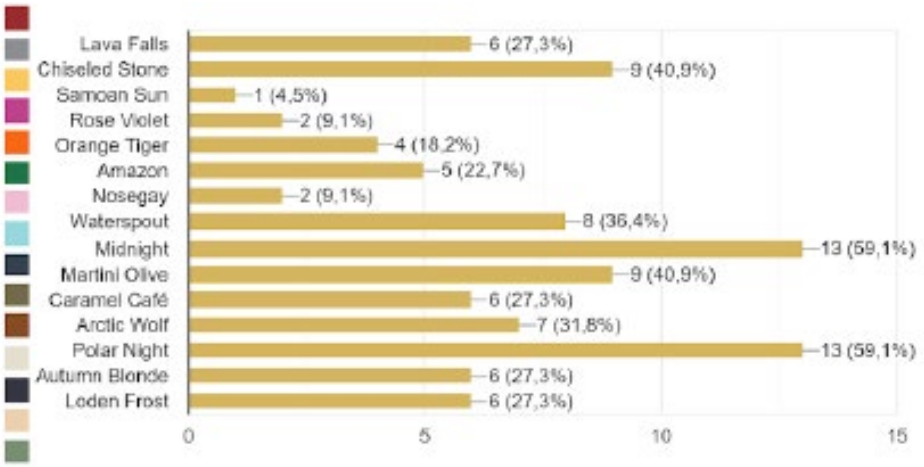

Figure 1. Favorite colors among elderly fashion consumers

Figure 2. Colors most preferred among the elderly

The colors "midnight" (59.1%) and "polar night" (59.1%) were the interviewees' favorites for fashion products (Figure 2).

Furthermore, 59.1% of the interviewees answered that they prefer patterned clothes, and 40.9% prefer plain ones. Flower prints had the highest percentage (66.7%) among the interviewees who prefer

patterned clothes, followed by list prints (55.6%), seabed with 44.4%, tropical 22.2%, poá with 22.2%, the animal also 22.2% and finally the checkered print that did not get votes.

4. Conclusions and Recommendations

The elderly public is gradually increasing in society, demanding garments with specific characteristics. With that in mind, this paper developed a survey to trace a profile of elderly Brazilian consumers, focusing on optimizing the creative and technical elaboration of fashion products for women over 60. In summary, the profile of Brazilian elderly consumers was made up of women between 60 and 75 years old, with 60 years old being predominant, where more than half of the interviewees are already retired, buy only one piece per month, prefer cotton clothes, printed, and with trims.

For future research, we suggest the application of the knowledge obtained in developing a fashion collection oriented to older women.

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INTEGRATION OF AESTHETIC THEORY IN ART EDUCATION AND RESEARCH

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Abstract

This research is directed to establish the artistic theory with the students in education and to elaborate the advancement of idea to work of art in understanding and developing knowledge and to boost up the creative and skill side of the students aesthetically. The present research is following comparative analysis among different institutes by which the employment of aesthetic approach to students and their teaching methodologies and to identify the creative methods for use of aesthetics in education. Noteworthy outcomes observed in this research analysis. Students with multiple thoughts were interested in various curriculum activities. Aesthetic concept proved beneficial to develop student's skills with art education. Impulsive attitude in student lives have been discussed with different approaches, education sectors promote aesthetics to create the sense of analyzing and understanding of cultural values and to develop art education with aesthetic perceptions, modified methodologies are required.

Keywords: Aesthetic theory, Comparative analysis, aesthetic approach, perception, art education.

1. Introduction

Beauty, the sense of being beautiful, the feelings of inner satisfaction, the way to present something artistically and the much more to make things and situations understandable and valuable, is an art and more philosophically an aesthetic way. This era of science developed a more attractive term "The Aesthetics" the theory of arts. How could you define aesthetics by saying simple and easy words and to communicate desirably? With poetry, music and colors, humans are interested to attract towards their services in all ages, all religions and in all fields of life. The pure feeling about aesthetics is only exist in fine arts, where the man attracted to the appearance of things. Aesthetic theory is the sense of beauty, which lies in every person differentially. A little attention from the world about aesthetic theory make it unimportant subject to treat but without aesthetics, the world would be a dead stone with no feelings. The

sense of aesthetics is a thought of appreciation and principles (Lei, 2017). Any subject matter can be developed with aesthetic learning with some extent and benefit where it can relate practically to art education (Sotiropoulou-Zormpala & Mouriki, 2019).

From the past few years, aesthetics value is increasing day by day and scholars may consider making art as an important module. Aesthetic has been purely defined in art. It is something that can be approached with quality and worthwhile beauty. There is variability about its undisputed requirement for everyone to take value from more of it. Everyone needs beauty in a special way. If someone is next to captivating, then it is against its values. Aesthetics is a unique and easy way to understand and to feel experience with recommendations and presentations (Ofori 2016). One can be engaged with aesthetics without study theoretical materials and can enjoy adventure in its art. There is an influential ingredient about art that make it distinguish and flexible to different educational circumstances that is quite adaptable in different schooling environments (Rondhi, Soesanto et al. 2018). Due to its interest in educational institutes, aesthetics also interrogates about art and its relationship with learning system, extracurricular activities, and themes. Integration of aesthetics is not only about art learning, but it also teaches other theoretical studies too (RAIKOU, 2019). From nature and communal certainty, aesthetic schooling consists of extensive series of concepts and characteristics. Being the most important part of art where education is expressed in term of music, photographic illustrations, actions and vocal expressions (Mahgoub, 2016). Aesthetic in art education struggles with different forms of art in telling students and in this way aesthetic tutoring can be an energetic part of aesthetic culture. Student basic development is also focused with personality characteristics in art education that must be distinguished in such kind of fields because this field is purely concerned about artistic capabilities (Denac, 2014).

Aesthetics can be considered as a specific area of study but has not been a part of education yet. Aesthetics in art can be a part of disciplined based education and its theories with generalized instructions. The uncertainty about what such study might include reflects a fundamental conceptual confusion of the subject. Despite these concerns, the importance of aesthetic theory as a learning objective has recently climbed. It has been suggested that it could serve as an integrating core for aesthetics and the other fields of study.

2. Aesthetic Theory and Art Research Design

Dewey's aesthetic theory is considered as a simple mode to acknowledge teaching and different modules. Some researchers considered this theory as preserved instructions related to teaching methodologies (Anderson & Rubano, 1991), skilled growth, or coaching where curriculum is more broadly defined. Several scholars compared Dewey's points with other philosophers that already experienced with art and education collectively. In this regard, Schiller and David concepts were compared for this purpose. Specific theoretical disciplines like, art and science education, community studies, linguistic art has been examined by comparing with Dewey's aesthetic thoughts. They examined; how aesthetic theory is an ironic web of theoretic information when collectively studied with deep sense of gratitude for attractive influence of notions (Baker 2013), that modify one person's experiences and opinions. Some scholars considered this concept as experience and state it as something prevailing and authorized, some as histrionic while other researchers considered it as vital understanding about knowledge. Some concepts of aesthetic ideas are easier to describe(Al-Yahyai, Al-Zoubi et al. 2020).

Evaluation of experienced teachers depicted aesthetic in education is considered as currently in a region that involves anxieties and strengths in conditions of sentiments as described by evaluating experienced teachers (Cotter, Chen et al. 2021). Aesthetic in art education is easy as well as difficult to explain precisely. Classrooms culture with diversified thoughts provides an opportunity to students to experience powerful feeling about art (Efland, 1992). This may generate ideas, student's imagination power strengthened, and it also create the sense of relating events, they feel their presence in an encouraging environment to live in a specific condition. (Ebrahiminia, Zanganeh Motlagh et al. 2020) also focused on artistic learning and according to him confidence inspection is also a productive idea in education, but it never means a sophisticated or elevated strength. Certain strategies were given by researchers for students to develop creative thoughts in education (Hamblen, 1988; Haanstra, 1996). Imagination, content creators, artistic development of concepts, artistic mind and eyes to explore the world, transformation of ideas, role model teachers, supportive platform are some important points for teachers to implicate on students for their wellbeing in different cores of life (Uidhir and Buckner). Teachers can unfold the emotions of students by using aesthetic concepts. Aesthetics

in education make us to believe and to observe the world in creative way and for this purpose a wide range of art concepts can be nourished in educational institutes (Zimmerman, 2015).

According to the New Encyclopedia, a German philosopher named Alexander Baumgarten used the term "aesthetics" in 1735, derived from the Greek word "aesthesis" for perception, to describe the world of concrete knowledge in which content is given in physical form. It said that aesthetics is concerned with the conception of beauty, particularly as it is exhibited in a physical environment. It said that aesthetics is concerned with the interpretation and evaluation of beauty, particularly as it expresses in art. From the late 17th through the early 20th centuries, Western aesthetics experienced a gradual transformation into modernism. Beauty was highlighted as a crucial component of art and the aesthetic experience by German and British philosophers, who considered art as a need (Ofori 2016). As cited by (Spencer-Oatey, 2008), aesthetics is the science of sense experiences, a younger sister of logic, and beauty is thus the most perfect sort of knowledge that a sense experience can have. Because everyone should agree that “this rose is beautiful” if it is, the aesthetic sense of beauty is a judgement of a subjective but universal reality. Beauty, on the other hand, cannot be reduced to a more fundamental set of characteristics. The fact that art philosophy is universal does not suggest that all aestheticians should use the same criterion for rating art or the same basic principles for understanding the value of any work of art. It also does not imply that all rationally justified or empirically provided principles or procedures must be equivalent or establish similar truths. Two different aesthetic criteria of worth or general principles, both reasonable, can be incompatible. (Tetteh, 2013) uses the term aesthetics to describe the complete traits and aspects displayed in all items. Objects physical appearance and uses are inextricably linked to religious, social, and moral ideals. Aesthetics, according to Tetteh, is a way of appreciating one's natural surrounds, producing meaningful products, analyzing, and improving on nature's raw material for the overall wellbeing of people in relation to their religious beliefs. Aesthetic perception is not simply about appreciating the beauty or nature of a piece of art or nature, but also includes moral and ethical considerations. Aesthetic perception encompasses not just the aesthetics of a work of art or the natural world, but also the moral and spiritual components.

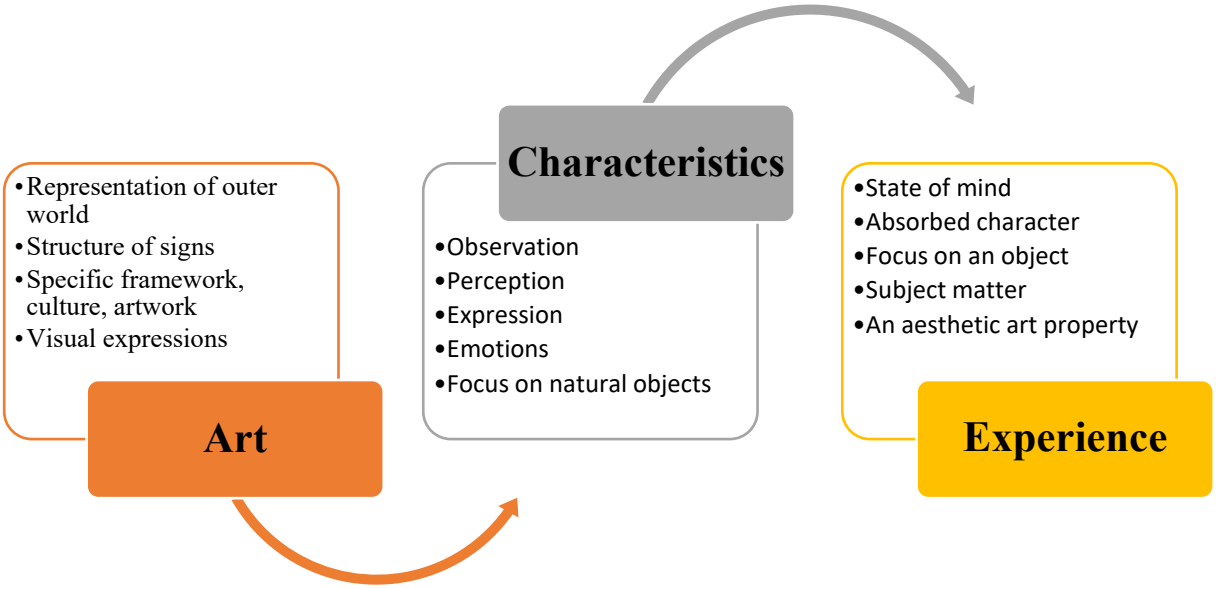
Philosophers Theories

Table 1. Different theories about aesthetics

Philosophers	Theories
Dewey Vygotsky Piaget	Interaction with previous knowledge and experience.
Steiner Dewey	Artistic development is the development of whole child.
Piaget Vygotsky Housen	Aesthetic is the different levels of development.
Dewey Piaget Stiener	Childs own personal perception is aesthetics.
Stiener Vygotsky	Power of imagination in development and growth.

2.1. Center of Aesthetics

There are three main points of concern in aesthetics; Art with its core features and experience, without focusing on these points, there is no inspiration, no attraction in the subject and no one can see the power in art education. These pinpoints are described here in the figure 1.



(Levinson, 2003)

Figure 1. Pinpoints to understand aesthetic theory in art education.

2.2. Drawback about aesthetic theories in education

Disciplines of aesthetics and art, students, scholars, researchers of the education section are being confronted by two edges. At one time, the executors of education are not specialized in aesthetics, and they deal with immature concepts with insecure explanations and its related tasks are uncertain. At other times, educators merely do not attach in aesthetic tasks because they are supposed to incapable of doing such kind of activities (Loudermilk, 2002).

3. Aesthetic education in academic institutes

The student's ability of aesthetic opinion and perception is the sense of feeling and understanding beauty that establish one's observation and identification of aesthetic education in academic institutes. At higher levels, aesthetic tutoring is mainly concerned with qualified staff and modified strategies of art and aesthetics in education Department (Marshall, 2016). This type of education can only be taught by experienced ones with study of art and aesthetic theory. Music, painting, dramatics etc. all are specific artwork, and its theoretics can only be learned under professional educators. It has been a part of number of courses of institutes (Krug & Cohen-Evron, 2000). To implement aesthetic education in institutes, comparative analysis among aesthetics and art education is essential to describe its general information. For this purpose, few elements are under consideration in figure 2.

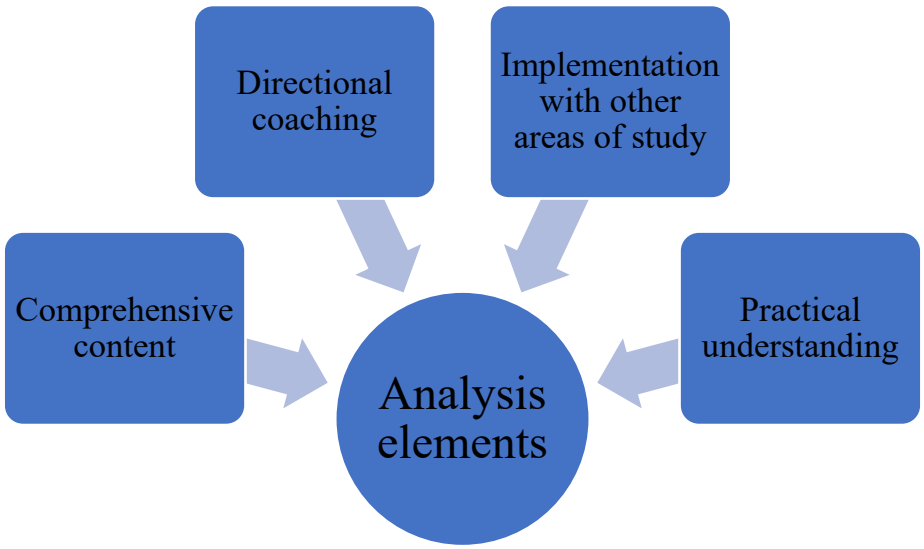


Figure 2. Element analysis of art via aesthetic theories.

Comprehensive content based on correlated module, directional approach described the establishment of manageable and creative things (Stabler, 2021). Implementation with other areas of studies showed how it works for students to obtain knowledge in certain subjects of study. Practical understanding is most important in execution of desirable knowledge in everyday life circumstances (Peña-López, 2016). Designed studies of aesthetics and art education set on conditional learning methods in aesthetic education (Warren, 2008). In this system of education students are guided in a different way to experience such kind of aesthetic material and attitude as its experimenter. It is more related to everyday life. To implement it with art education, and other culture-based subjects, it is quite often workable for designed consequences for appreciation (Süzen, 2020).

4. Fusion of aesthetic theory with education

A refined attitude behind this fusion is a new way to teach and learn and it is the major procurement of art education to be combined with aesthetic values. This has altered the student's school of thought and developed their interests for art and designing. Towards art and behavior, students are interested and more inspired to gain this kind of knowledge (Sotiropoulou-Zormpala, 2012). In general aesthetic theories, art education is the chief ingredient in academics where it is more enhanced and nourished with other fields of study. Evolution of aesthetic theory with art education has been promised by Education department in 2006 and this strategy has been put together by Ministry of Education. A complete understanding of artistic approach is required for innovative designing in this system of education. Conventional knowledge about aesthetic values provides an easy way to develop a fine exploration and it also assisted in resourceful expression too (Yang & Cui, 2021). Following aesthetic dimensions are helpful regarding creative education and search.

To understand the vision of an artist representation and skills, aesthetics provides some basic requirements in describing and identifying art in education. It is an innovative technique to implement aesthetics with education that enhance analysis of investigation extent of cultural aesthetics on art and most neglected by daily based essentials. There are several ways to understand and implement aesthetic theories in disciplined subjects, for this purpose following table describe its application with education.

Table 2. Application of Aesthetic Concepts in Education.

Subject	Representation	Productivity
Any formal discipline	• Visual graphics • Animations • Metaphor • Analogies	• Narration • Studio presentation • Art work • Attraction in theoretical concepts.

(Fishwick, Diehl et al. 2005)

(Baskerville, Kaul et al. 2018)

Figure 3. Dimensions of aesthetic theory in art and research.

4.1. Aesthetics in education and research innovations

The oldest known architectural theory of Marcus Vitruvius Polio has three basic ideas: the strength, the effectiveness, and venustas necessities which means aesthetics. In developing and

evaluating the shaped objects of science research, the perception of strength can be established in concept of toughness and precision (Denac, 2014).

Alexander, Giambattista and Imannuel philosophies are most remarkable in sense of beauty and art. Aesthetics means sense of perception based on Greek word “aesthesis” but in modern era it is commonly used as aesthetics. To design a science research, Dewey’s theory about aesthetics for scientific research is more valuable, among others. Dewey wrote a lot about aesthetics that can never be forgotten (Shih, 2020). Aesthetics is part of experience; it describes how we experience an object and create an item. Aesthetics is quite important in designing research because of its strong affiliation with design. The only problem is lie in evaluating research designs and its quality is based in its experience (Baskerville, Kaul et al. 2018).

4.2. Aesthetic activities and approaches

Activities that take place in aesthetics focused on visualizing, inspiring and creating. In design any research, innovation only involves generating ideas that are both unique and useful. An original came into existence by using these actions. This not only require the designer’s imagination, but also its rational abilities, incentive and knowledge.

Different aesthetical approaches with some points of consideration are mentioned here:

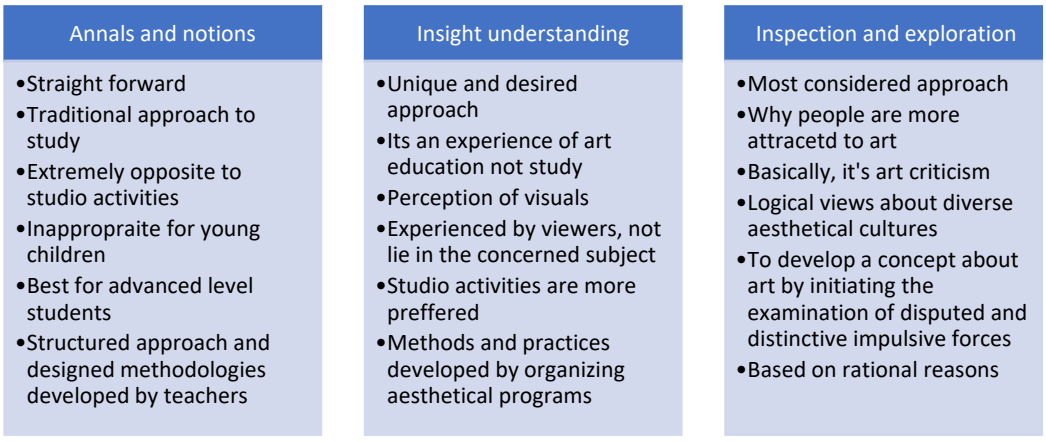
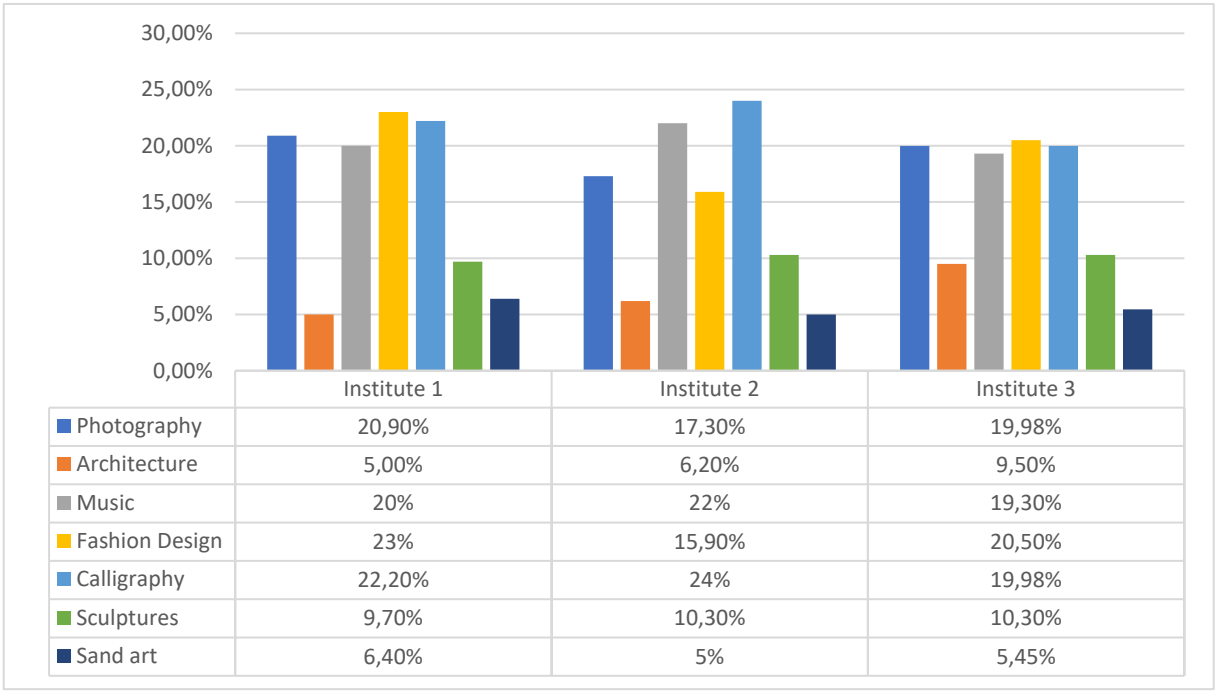


Figure 4. Aesthetic approaches related to aesthetic theories.

(Loudermilk, 2002)

Evaluation of art education in different institutes are achieved by comparing student's activities in their free time. It has been examined the number of students to visit various art galleries and museums. Only 10% students have been observed to be interested to visit art galleries in 2008 (10) but in 2018, their strength have been more and more in visiting galleries, museum and exhibition centers (Yang & Cui, 2021). According to a survey and by comparative analysis of students of three different institutes about their interest and activities in their leisure time, data has been concluded that is mentioned in the figure 5 below.



	Institute 1	Institute 2	Institute 3
Photography	20,90%	17,30%	19,98%
Architecture	5,00%	6,20%	9,50%
Music	20%	22%	19,30%
Fashion Design	23%	15,90%	20,50%
Calligraphy	22,20%	24%	19,98%
Sculptures	9,70%	10,30%	10,30%
Sand art	6,40%	5%	5,45%

Figure 5. Comparison evaluation of three different institutes for art and education disciplines

5. Results

Students in academic institutes are youngsters and more energetic to participate in any extracurricular activity than others but at the same time they are more sensitive to new things. In this advanced era of science and technology, interest in art education and aesthetics is a great way to enhance their mental empowerment and it could help students form their conscious

aesthetic judgements and understanding. Promoting Aesthetics in art education is a motivation for showing in such kind of activities.

Photography and calligraphy, architecture, music, sand art, fashion designing and sculpturing were under consideration in this aspect. In institute 1 (20.9% of students in Photography, 5% in architecture, 20% in music, 23% in fashion designing, 22% in calligraphy, 9.7% in sculptures and 6.4% students were observed as interested in sand art). In institute 2 (17.3% of students in Photography, 6.2% in architecture, 22% in music, 15.90% in fashion designing, 24% in calligraphy, 10.3% in sculptures and 5% students were observed as interested in sand art). While students of institute 3 were observed as 19.98% of students in Photography, 9.5% in architecture, 19.30% in music, 20.50% in fashion designing, 19.98% in calligraphy, 10.3% in sculptures and 5.45% students were observed as interested in sand art. There are many reasons about students' interest in aesthetic education some of which are described in the figure 6 below:

Reasons behind interest in Aesthetics in art education	Implementation of new technologies with aesthetic concepts are more attractive than simple art.
	Innovative and modern living style is more prefered by youngsters.
	Aesthetic concepts persuades the interests for upcoming events.
	Aesthetics is everywhere in our everyday living activities.

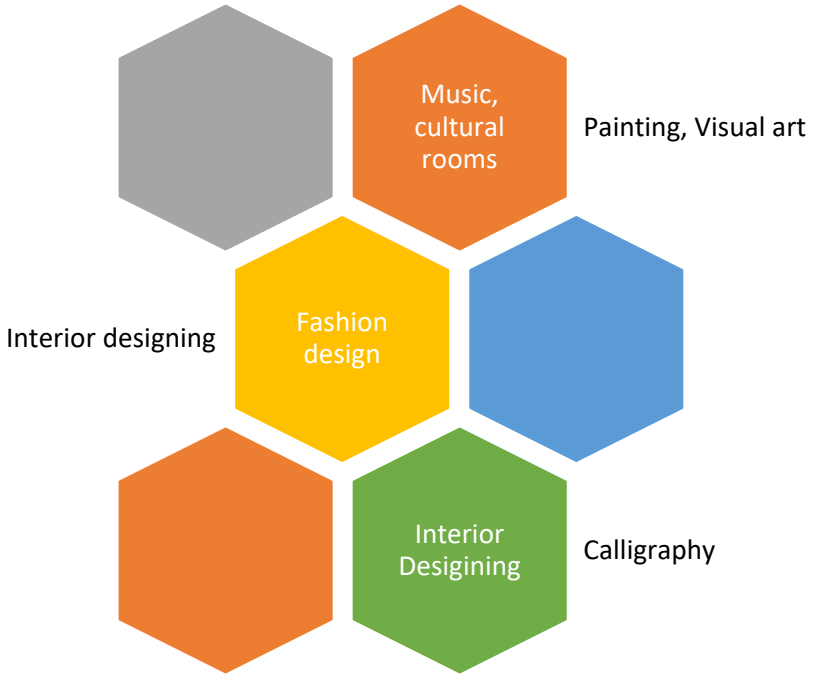
(Uidhir and Buckner)

Figure 6. Reasons for student interest in aesthetic education

6. Different Ways to Develop Aesthetic Concepts in Education

Implementation of aesthetic perceptions linked with education is a present-day phenomenon which is of quite interest. Recognition, description and understanding the beauty of models in living aspects that are associated with aesthetics and learned via art education is the main objective of this aesthetic concept in academics. This tradition also enhances the artistic beauty of nature. European common concepts of aesthetics have been ignored in academics in last few years (Blank 2012). The main intentions of designing aesthetic ideas in art education are: 1. Understanding of information: in this factor, narrations of specific categories of impressions are focused. Development of aesthetic patterns are under consideration. 2. Artistic intention: potential of valuing aesthetic ideas, the expertise in analyzing aesthetic representations. 3. Psychological values: discovery of inner aesthetic thoughts, emotional inquiry of aesthetic education associated with better objectives (Uidhir & Buckner).

In this system of education, objective learning is the basic awareness of aesthetic designing perception and the old concepts about its implementation. Artistic intention is the major standard for student to practically experience this knowledge. If the core designs are not art like but can be analyzed aesthetically (Hsieh, Huang et al. 2017). Emotional zeal and its worth are perception of implementing aesthetics in art education and it guaranteed its evaluation and understanding to its emotional appreciation. Institutional strategies to implement this type of studies is a selection of courses that are arranged for students (Sajnani, Mayor et al. 2020). Like art subject, the following courses must be offered: like industry design, visual aesthetics, narrative designing, environmental aesthetic values. But interdisciplinary subjects of aesthetics could be an accomplishment for such kind of subjects in educational institutes. In disciplines other than art, like, engineering, science and technology, implementation of aesthetic is itself an art. In such kind of subjects, creative thinking could play its role (Gong, Zhang et al. 2018). Education learned after experiences act as supplement in other subjects to make the institute a full package of products of multiple variabilities. There are different subjects that one can learn to achieve aesthetic art education, and these are shown in the figure 7 below:



(Yang & Cui, 2021)

Figure 7. Various subjects to be focused in aesthetic education

These courses can be found abstract composition in anywhere in an institute. All these are material designs. It is not easy for students to analyze and understand these subjects of material and immaterial without teacher's guidance to direct exposure to these with aesthetics. number of institutes are playing their role in developing aesthetic education via certain creative designs. Immaterial designs must be reinforced with aesthetic learning and new automations (Uhrmacher, 2015). Aesthetic theories must be applied in education sectors and promoted with aesthetic psychology and faithful associations. Student's emotional values promote this scheme with perception of design in aesthetic episodes and they understand it easily. Various aesthetic and educational approaches must be outlined by which students get experience by utilizing their creative thoughts (Gunaratnam, 2007). In an institute, such kind creative sessions have been organized to help the students to distinguish among their ideal creations. Several traditional events may encourage students to being a part of this aesthetic learning. For this purpose, experienced aesthetic and educational perspectives encourage students to learn and work under such circumstances of art.

7. Discussion

In an education system, art or aesthetic values are influential, where educational surroundings are meaningful and its achievement is executed as signal of innovation and the main purpose can be fulfilled. This advancement beneficial and act as a challenge to simple education where many subjects are theoretically explained. Very few learning institutes are aesthetically elevated and social and emotional establishment of students are fully considered (Li, 2020). In schooling systems, art education with aesthetic idea is considered as notably different and act as academic peas in a pod. If art educators want to be a part with aesthetics, they must describe how art education is more valuable and committed to academic success than simple theoretical learning designs (Bautista, Tan et al. 2015).

Artistic proceedings are rational and real that's why it can strengthen the institutional knowledge and develop intellectual skills. This research describes how art is associated with common concepts of academic learning. This association of aesthetics and education share all processes and cross-disciplinary concepts at one time (Bautista, Tan et al. 2015) (Ahmadi, Fathabadi et al. 2020). Application of art enhances, deepens and developed the learner abilities to explore things creatively and creative idea play with information smartly. It also means showing how art practice, when applied as inquiry across the curriculum, enhances, broadens, and deepens learning by allowing learners to explore knowledge, play with ideas and information, and make it their own (Baker, 2013). Aesthetic education, which takes the form of art and other subjects, stimulates people's interest in natural and human beauty and this sense of beauty is reflected in related activities and discussions about beauty, particularly in art and creative activity (Ahmadi, Fathabadi et al. 2020).

According to (Mahgoub, 2016), there are differences in the experimental group following the test, indicating that art education training improves basic level learners sense capacity. The presence of art education teaching leads to the progress of aesthetic power for basic level students. This step could involve developing a robust approach within the art education curriculum to lead research in this area. The establishment of social connections and the expression of community values are examples of collective benefits. Most of the authors think that experimental research should be more detailed regarding the kind of artistic activities that

learners participate in. (Rondhi, Soesanto et al. 2018) also noticed a wide range of outcomes. According to him, students can gain aesthetic experience while working on art because the materials, tools, and objects of art can all directly affect the students' sentiments.

(Ünlüer and Zembat, 2018) found that the experimental group overtook the control group by a significant margin. Their findings revealed that children in the experimental group have a greater level of aesthetic judgement than children in the control group, and that the Aesthetic Education Program has a significant impact on the development of children's aesthetic judgement levels. As a result, the children in the experimental group who participated in the Aesthetic Education Program had higher aesthetic judagement levels than the children in the control group who did not participate in the training. (Süzen, 2020) used descriptive analysis to describe aesthetics in higher education. It is necessary to ensure that the interaction of different disciplines contributes to the artistic activities and perspectives of pupils. Aesthetic and theoretical knowledge, more than the quality of schooling, increases one's level of appreciation for life; they not only serve as life guides, but they also affect one's social life in positive ways. The art of aesthetic education in society can have a positive impact while also increasing the need for it. The goal of aesthetic education should be to achieve this. Perspective is the development of artistic thinking and problem-solving skills, whereas imagination is the primary goal of educational advancement.

CONCLUSION

This research article focused on implementing art education with aesthetic ideas in academic institutes with center of attention of art. In student’s life, art is closely associated with their daily routine, where they are busy with new automations. To develop impulsive attitude in their lives, education sectors promote aesthetics to create the sense of analyzing and understanding of cultural values. To develop art education with aesthetic perceptions, experienced and professionals with modified methodologies are required in teaching groups. So, they can achieve their desired design of education with aesthetics.

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Analysis of the Creativity of Azerbaijan Painters in the Class V-VI Fine Arts Textbooks

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Abstract

Education has an important role in the development of countries. Azerbaijan also increases its funds for education every year. Fine art is one of the subjects held in secondary schools and plays an important role in the aesthetic development of children. One of the topics that occupies an important place in the curriculum of the subject is the analysis of the creativity of Azerbaijani painters. In this article, a place is devoted to topics and works related to the creativity of Azerbaijani painters, which occupy an important place in the V and VI visual arts textbooks.

Keywords: Azerbaijan, education, science, fine art, painter.

Introduction

If we take into account that innovations and technologies replace each other in the world, we should especially emphasize the development of education and science. The funds allocated by the countries for education are increasing every year. The success of Azerbaijani education has development dynamics. New standards and content lines have been introduced in the teaching of subjects in secondary schools. In order to form creative aesthetic development in children, fine art is taught as an independent subject in secondary schools. One of the main topics in the curriculum

of the fine arts subject is the analysis of the creativity of Azerbaijani painters. One of the main standards of the subject, it is an important task for the teacher to form in students the ability to demonstrate the knowledge and skills of outstanding representatives of Azerbaijan, world fine arts and their works. The names and works of Azerbaijani painters are widely presented to students in the V-VI textbooks.

Abbas Huseyni's work "Azerbaijani family" was presented on the topic "The inner world of the Azerbaijani hut" in the fifth grade textbook. The work describes the national values of the Azerbaijani people, the concept of family, and our everyday life. The works of our famous miniaturist Sultan Muhammad, "Reading Prince", "Kaymuraz's Courtiers", "Prophet Muhammad's Miraci" were analyzed on the topic "Creative works of artists of different eras". The next topics called exposition are taught and formed by teaching the students knowledge and skills about the creativity and works of well-known artists Gagarin Grigoryevich, Elmira Shahtakhtinskaya, and Ibrahim Zeynalov in painting, graphics, and sculpture.

Fig 1. Abbas Hüseyni "Azerbaijani family"

In the 6th class textbook, on the topic of "Human and visual art", space is devoted to the works of Maral Rahmanzade "Dance", Togrul Narimanbeyov "Yatan Asmar", Tokay Mammadov and Ibrahim Zeynalov's "Nasimi" and the student's knowledge about the types of visual art is checked. In Maral Rahmanzade's other work "Julfa", the role of the line, the main means of expression of fine art, is determined. The understanding and classification of color in the theme of "color in works of painting" is formed in students as the main skill in the works of Khalida Safarova "Boats" and Latif Feyzullayev "Old part of the village". , "Goygöl" and other well-known works, images, colors and ideas were presented to the students. In the topic "Content in works of fine art" information is given about the concept of genre. The ability to talk about the content of the subject described in the works of Buyukagha Mirzazadeh "Ashiq Alasgar", Tahir Salahov "Pomegranates", Elbey Rzaguliyev "The Palace of Shirvanshahs", Ogtay Shikhaliyev "Uzeyir Hajibeyov" is formed in the student. The works of Sadığ Bey Afshar, which are kept in famous museums of different countries, are presented on the theme of "miniature painting". It should be noted that he is known in the history of Azerbaijani miniature art as a portrait master distinguished by his realistic style and as an innovative artist who applies perspective laws. We are watching the works of I. Brodsky "Haji Zeynalabdin Taghiyev", M.H. Afshar "Abbas Mirza Qajar" belonging to the solemn type of portrait genre on the topic "Human Image in the Artist's Creativity". In another task, the analysis of the portraits of Taghi Taghiyev "Sattar Bahlulzade" and Ogtay Sadiqzade "Khurshudbanu Natavan" is presented to the students. Tahir Salahov's "Still life with red pepper", "Still life on a blue background" by Buyukaga Mirzazade, "Still life with shamakhi cover" by Sattar Bahlulzade were included in the "World of Objects" theme. The student's knowledge of perspective and landscape is tested in the works of Bahruz Kangarli "Monument in Nakhchivan" and "On the Jetty" by Beyukaga Mirzazade on the topic "Nature Motifs".

Fig 2. Maral Rəhmanzadə "Julfa"

Seeing photos of the works of Azerbaijani painters in V-VI fine art textbooks also develops their creativity.

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The Context of Use and Meaning of Colors in Handbags

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Abstract

Over the years, fashion products have appeared as a reflection of sociocultural thoughts. The visual configuration of products reflects what consumers feel and think, making them part of a collective while simultaneously individualizing them. Handbags, in this context, as a consumer product, are no different. These products are shaped so that, when used, they reflect a series of consumer desires, which send a message to their peers. Color, in the symbolic configuration of the bags, is part of a communication process that helps deliver different messages, making a product more accepted on certain occasions than others. With that in mind, this article aims to identify the meanings and contexts of use related to handbags in five different colors. To this end, a virtual survey was conducted with 94 Brazilian women aged over 18 years. The results demonstrate that colors and visual elements greatly influence when choosing bags. These colors can have different meanings according to each woman's perception.

Keywords: Fashion Image, Colors, Colorimetry, Bags, Fashion.

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Introduction

After the Industrial Revolution, the handbag came to stand out as an accessory that women desired and admired (Costa, 2010). In the 1800s, a bag attached to a woman's wrist or waist became a product of female desire. Then came the chatelaines, a model that gave women greater independence since the bag may allow the woman to carry her personal objects with her (Garbelotto, 2008).

From the beginning, communication was essential for the evolution of humanity, thanks to which society emerged. Because when man was in a state of development, there was a need for communication so that he had contact with others and formed hunting and support groups. Over time the behavior of society is constantly changing, and consequently, the culture in which it is inserted. However, one of the forms of communication that changed the world was through clothing, as before, it was a form of survival, a necessity. Still, when fashion appeared, people began to use them with a different purpose. The clothing that stays on the human skin becomes one of the essences of humanity because, through these, they can express identity, the group that identifies itself, and several other aspects.

Fashion appears directly linked to identity (Miranda, 2008); the search for women to follow this fashion is also born. It is taken as part of a social game where it assumes the role of identity representation (Lipoyetsky, 2009). Thus, clothes and accessories, like all forms of use, have great value, of which the individual represents himself and feels described in the community (Erner, 2015). All these apparatuses reveal questions about the subject, such as age, gender, social condition and aspirations, and the cultural and regional context that locates him. "The way fashion governs the press aimed at women goes far beyond the representation of clothes but goes through the outline of the guidelines, the suggested lifestyle, beauty, home and a whole idea of femininity" (Mendonça, 2010, p. 53).

Accessories significantly contribute to creating an individual's own style, such as handbags, which is strongly present in the daily female life of the western world (Garbelotto, 2010). It is noticed that on the streets or in public spaces, most women are always accompanied by at least one bag – when not carrying two or three simultaneously. These accessory

complements woman's clothing: it has become both a necessity and a consequence of the lifestyle of women working in public spaces or professionals from the most diverse areas (Garbelotto, 2010).

Bags are currently considered one of the leading fashion accessories to compose the look of women. However, handbags have not always had the fundamental importance they have today. Through the history of the exchange, one can observe its relationship with the present day, demonstrating its importance, functions, and relations with genders and social classes (Costa, 2010). In fashion products, artifacts must have aesthetic and symbolic information that will make them desirable to their target audience (Lobach, 2001; Silveira, 2022). For that, products must establish pleasant emotional connections with users (Norman, 2008). This connection can be made through the pleasure of manipulation and/or the beauty of its shape (Fiell; Fiell, 2005).

Objects have the power of communication (Sudjic, 2010). Through the visual configuration of these artifacts, color is one of the main highlights that evoke visual messages to the public (Pedrosa, 2008; Heller, 2013). Colors have psychological stimuli for human sensitivity, thus influencing the individual to like or dislike an object (Holtzschue, 2011).

Kareklas *et al.* (2014) say that color is one of the first elements to encounter with the consumer perception, influencing behavior and preference, ensuring instant connection and quick response. In this way, it is assigned to ensure good receptivity in the product-user relationship in a visceral sense, leveraging the aesthetic qualities of products (Jones, 2005; Farina; Perez; Bastos, 2006). Colors have always been present in everyday life; they invariably provoke sensations, and these sensations can be positive or negative. Martin (2005) argues that color is a relationship between the object and the psychological state of the observer since both are reciprocally suggested.

Color is of great importance in creating a fashion product; color has a well-defined and specific function to help convey the visual message of the products (Dantas, 2022). With this, it can be said that colors are fundamental in the daily interactions of consumers since they have the power to awaken sensations in individuals and define actions and behaviors.

Just as clothes are part of each person's personality, the bag is not left out. Before, it appeared to meet needs, such as carrying valuables. However, in modernity, in addition to meeting the main objective, another significance was added, aesthetics, each bag matches a look, and each one conveys messages visually.

The format and mainly the color of the bag influence the choice because the color is related to human psychology. Color passes a meaning to everyone, as it involves brain processing and actions. For each look thought out and chosen, a specific bag will be selected, considering the different messages these images convey. Therefore, we must know which bag colors call consumers' attention, aiming to develop the product to meet their desires. Well, in this Fashion segment, a well-planned color chart is used to draw the public's attention.

Fashion is used in everyday life to express identity; consumers use it to belong to the community and simultaneously differentiate themselves from it, becoming individuals. Therefore, the bags are placed as an element of a composition, considering their possible meanings and how other individuals will interpret them. This research is justified by the need to know the possible interpretations of people about types of bags in different colors. With that, designers and image consultants can create more assertive visual compositions consistent with the image consumers want to convey.

It is also based on Moreira (2016), when the author states that the application of color in the creative process in fashion is little investigated. Even though they are widely used in practical activities, in-depth academic studies of the design processes of color charts in Fashion Design are scarce. Therefore, this research is based on the possibility of developing a better compelling correlation between product and consumer regarding the creative options in elaborating a color chart.

From these discussions, this paper aims to identify the meanings of the colors and the contexts of use associated with a handbag's five colors (black, white, blue, yellow, and red).

Methodology

The main types of handbags consumed by women over 18 years old were mapped to define the products to be researched. Three categories were found: shoulder, handbag, and touring bag. Based on this information, an analysis was carried out of the type of bag most representative of that category, according to the researchers' view, using the "shopping" tab on Google. Based on that, this paper emphasizes the handbag. Therefore, the following grants were selected to be researched in this work (Figure 1):

Figure 1 – Handbag object of study in this investigation

The bags are placed as an element of a composition, considering their possible meanings and how other individuals will interpret them. This research is justified by the need to know the possible interpretations of people about types of bags in different colors. With that, designers and image consultants can create more assertive visual compositions consistent with the image consumers want to convey. Bearing this in mind, for the questionnaire development, bags in primary light colors were considered (Barros, 2011), in addition to white and black, which are considered fundamental in Fashion Design (Treptow, 2013).

The planned questionnaire develops a sequential logical sequence in which, in the first stage, sociodemographic information was collected, such as a) age; b) marital status; c) gender;

d) region; e) monthly income; f) device on which you were accessing the questionnaire. In the second stage, the different types of bags and their colors were shown so that people could inform which semantic symbologies were being passed. The data obtained will be considered through fundamental descriptive analysis.

According to Reis and Reis (2002, p. 5), "We use descriptive statistics to organize, summarize and describe the important aspects of a set of observed characteristics or to compare such characteristics between two or more sets." With this, it is possible to identify the frequency distribution for each clothing collection analyzed, concerning the pairs of semantic descriptors and classified words, transforming these results into graphs and tables. Thus, it is observed that the descriptive statistics analysis appears to be satisfactory enough to arrive at the inferences of this research.

Results and Discussion

For the semantic analysis of the handbags, three tables were developed in which all the answers were considered, the ones highlighted in green being the ones with the highest percentages. For example, "very happy" is regarded as a positive point, and "very ugly" is a negative (Table 1).

Table 1 – Percentage results referring to the relation between colors and adjectives

Adjective/Color	Yellow	White	Blue	Black	Red
Happy	75%	50%	93,1%	73%	100%
Melancholic	25%	50%	6,9%	26,7%	0%
Stimulant	70,8%	52,2%	100%	65,5%	96,7%
Monotonous	29,2%	47,8%	0%	34,5%	3,3%
Sophisticated	64%	75%	81,8%	75,9%	76,2%
Simple	36%	25%	18,2%	24,1%	23,8%
Empowered	66,7%	69,6%	82,6%	94,7%	78,6%
Null	33,3%	30,4$	17,4%	5,3%	21,4%
Creative	54,2%	61,9%	86,2%	70,6%	78,6%
Ordinary	45,8%	38,1%	13,8%	29,4%	21,4%
Pleasant	65,2%	88%	92,9%	96,3%	96,2%
Unpleasant	34,8%	12%	7,1%	3,7%	3,8%
Modern	69,6%	76,2%	85,7%	91,7%	95,8%

Outdated	30,4%	23,8%	14,3%	8,3%	4,2%
Sexy	58,8%	59,1%	93,8%	81,5%	92,9%
Serious	41,2%	40,9%	6,3%	18,5%	7,1%
Chic	62,5%	80%	75%	77,8%	39,1%
Casual	37,5%	20%	25%	22,2%	60,9%
Fashion	70,8%	72,7%	79,3%	92,3%	84,6%
Campy	28,2%	27,3%	20,7%	7,7%	15,4%
Ugly	46,2%	17,4%	7,4%	7,7%	12%
Beautiful	53,8%	82,6%	92,6%	92,3%	88%

We can highlight that red was chosen as joyful, modern, and casual, corroborating what Pedrosa (2004) and Pastoureau (1997; 2011) state, but no previous association was observed between modern and casual. White, in turn, was seen as melancholy, monotonous, and chic, which was also not presented with the same meaning by the referring authors. The blue handbag was classified as stimulating, sophisticated, creative, sensual, and beautiful. In contrast, according to Pedrosa (2004), this color evokes a sense of beauty. Still, finding an association for the other adjectives was not possible.

Yellow stands out as simple, null, common, unpleasant, outdated, serious, tacky, and ugly; it is mainly felt with a negative connotation. The same authors' associations in the area were not found. Finally, for black, we identified as empowered, pleasant, and fashionable; it also managed to find the same result according to the associations of the referring authors.

A questionnaire was developed with the possible locations to define where these people would use those kinds of handbags, as shown in Table 2.

Table 2 – Percentage results referring to the locations where the handbags are used

Place of Use/ Color	I Would Not Use a Bag That Color	Elegant Party	Nightc lub	*Happy Hour*	Outdoor Walk	Work	Day To Day	*Shopping*	In House
Yellow	18,5%	13%	14,8%	13%	11,1%	5,6%	11,1%	13%	0%
White	10,6%	10,6%	16,7%	10,6%	15,2%	6,1%	9,1%	15,2%	1,5%
Red	12,1%	1,1%	19,8%	16,5%	14,3%	0%	15,4%	18,7%	2,2%
Blue	24,5%	9,4%	20,8%	17%	3,8%	7,5%	3,8%	11,3%	1,9%
Black	3,1%	21,6%	14,4%	15,5%	5,2%	8,2%	17,5%	11,3%	3,1%

We can see that red is preferred in shopping and outdoor walks. White, in a nightclub or elegant party. Blue for happy hour, lounge, or some choose not to wear them anywhere. Yellow, with percentages in a nightclub or would not use them; and black, selected for work, elegant parties, day-to-day, or at home.

Then, the last part of the questionnaire, with the same names of places present in the previous table (Table 3), was developed to mention where people would not use these bags. This information was then observed from a cross-reference table.

Table 3 – Percentage results referring to places they would not use the handbags

Place of Use/ Color	Elegant Party	Nightclub	*Happy Hour*	Outdoor Walk	Work	Day To Day	*Shopping*	In House
Yellow	11,6%	7%	0%	7%	20,9%	11,6%	4,7%	16,3%
White	7,7%	5,8%	3,8%	11,5%	17,3%	13,5%	1,9%	25%
Red	29%	1,4%	2,9%	4,3%	27,5%	5,8%	2,9%	10,1%
Blue	10,3%	2,9%	2,9%	14,7%	11,8%	11,8%	8,8%	17,6%
Black	9,2%	6,6%	5,3%	15,8%	15,8%	9,2%	7,9%	21,1%

In the table, we can see in percentages which place people would not use these bags, highlighting the red, which people would not operate at an elegant party or work. White, in

your daily life and at home. Blue, only in the mall, would not be used; and the black one, the people would not use at happy hour or outdoor walks.

Final Consideration

The development of symbolic analyzes about the meanings associated with handbags in five colors suggests that this element plays a symbolic role beyond its use. This was demonstrated by the responses regarding the location. A preference for specific colors was observed for each place suggested in the study.

This research found that potential consumers read colors like red, being empowered, unpleasant, outdated, and chic. Black is melancholy, severe, and casual, while blue is related to creative, pleasant, modern, sensual, and beautiful. White refers to drab, sophisticated, null, and chic. Yellow was considered cheerful, stimulating, sophisticated, simple, tacky, and ugly, and used in parties, elegant places walks, and shopping (Table 4). The construction of this research and results can be inserted into creative processes in which they should create new fashion products, whether commercial or conceptual. The research aroused interest for further studies and covered other fundamental elements of visual communication that may be present in bag configurations, such as shape and texture.

Table 4 – General results on the association between colors and types of bags

Colors/Bags		**Handbags**
Red	Symbology	Happy Modern Casual
	Context of use	Nightclub Shopping Happy hour
Blue	Symbology	Stimulant Sophisticated Creative Sexy Beautiful

	Context of use	Nightclub Happy hour Shopping
Yellow	Symbology	Simple Null Ordinary Unpleasant Outdated Serious Campy Ugly
	Context of use	Nightclub Shopping Happy hour
White	Symbology	Melancholic Monotonous Chic
	Context of use	Nightclub Shopping Outdoor walk
Black	Symbology	Empowered Pleasant Gashion
	Context of use	Elegant party Day by day Happy hour

For the elaboration of possible new works, we suggest research focused on the semantic meaning of accessory pieces, like jewelry, and how this composition can impact when it comes to assembling the look. We can also research how to create a fashion product from semantic analysis and how the touch and texture of certain products affect when choosing to buy bags, shoes, or even garments.

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January, 26-27 Madrid, SPAIN

Minimization of Setup Times for Production Lines in Garment Manufacturing for Sustainability

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Abstract

While the ready-made clothing manufacturers continue their production for their customers, they are also working on how to make these processes more efficient. Each clothing order consists of a process starting from the design stage to the delivery of the completed products to the logistics company. In order for companies to survive in the competitive conditions in the global world, they need to produce according to less costly methods in their production processes. Starting from the order intake stage, it is necessary to make appropriate planning for the business and arrange all inputs to comply with this planning. For this, all processes during the workflow should be examined and improvements should be determined. For this study, the work processes in the garment stage were examined and the methods related to the minimization of the setup times (model changing processes) in the sewing department were examined.

Keywords: Setup time, garment production, scheduling, production, sustainability

1.Introduction

Organizations have to produce goods and services in a certain process time to meet the needs and expectations of their customers (İlleez, 2007). There are many processes involved in producing a product. A ready to wear production process is shown briefly in figure 1.

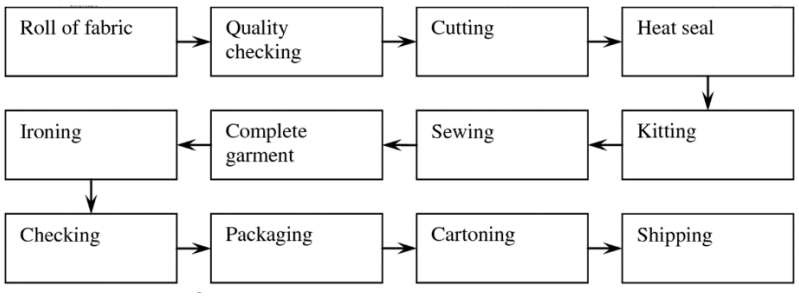

Figure 1. Process flow of a ready to wear company

Garment production, one of the sub-branches of the textile industry, is a production line where processes are most affected by the human factor. Sewing, as the longest and most complicated section in garment production process, is crucial to the efficiency improvement in garment industry (Xu et al., 2017). Efficiency can be defined in general terms as the measurement of the economic efficiency of the means of production as a whole (Güner & Yücel, 2014). Therefore, any improvement to be made in the production process will contribute positively to productivity (Güner, 2005).

In recent years, when we have begun to experience the effects of climate change more clearly, the importance of efficient use of scarce resources has once again emerged (Tatman et al. 2021) Sustainability studies initiated for this purpose in the textile and ready to wear clothing industry are becoming more and more important. Waste management and efficiency-enhancing methods as well as recycling are among the topics that are emphasized. Increasing productivity means using resources effectively. This is to make a positive contribution to sustainability studies.

Work required to change over a machine or process from one item or operation to the next item or operation. This time called as setup time (Yame, 2021). Setup times are among those that do not add any value to production. For this reason, the setup times in enterprises cause loss of productivity. When the current orders are examined; variety of models increased, but the numbers decreased. In addition, it is seen that the order times given for production are shortened. In this study, minimizing the setup times of production lines in ready to wear production for sustainability has been examined. The processes affecting the installation times were analyzed and suggestions were made about some of them.

Furthermore, setup times among products have high varieties, and these product varieties are significantly high in the textile industry. Anderson (1995) mentions this complexity and investigates the impact of product mix heterogeneity (PMH) on manufacturing overhead cost in three different fabric production companies. She highlights variations in sequence dependent setup times that are causes of product varieties in the textile industry (Önem, 2018).

2.Materials and Methods

For this study, the work processes in garment sewing were examined. The existing orders of a company were examined and 11 of them were thought to be produced one after the other and the preparation times were analyzed. In this way, it has been found out at what points the improvement can be made in the production processes and how the company's processes will contribute to sustainability.

In garment production, production lines (assembly lines) are flow-oriented production systems that are still typical in the industrial production of high-quantity standardized commodities and even gain importance in low volume production of customized products. It has been shown in the figure below a sample t-shirt and its production line (figure 2) (İlleez, 2007).

Material

In this study, the processes in the sewing department of a company operating in Izmir were examined. In this company, products in the knit t-shirt group are produced. This company produces t-shirts in different production quantities and different models demanded by its customers.

The total processing time (tpt) was analyzed by dividing it into two; processing time (pt) and setup time (st). Processing time is a significant factor that increases the added value of the product since the other times have no effect on the value, and increase the cost of product. The improvement of processes will positively affect the energy use and sustainability of companies. In most factories, however, the processing time takes just 10% of the total production time (İlleez, 2007).

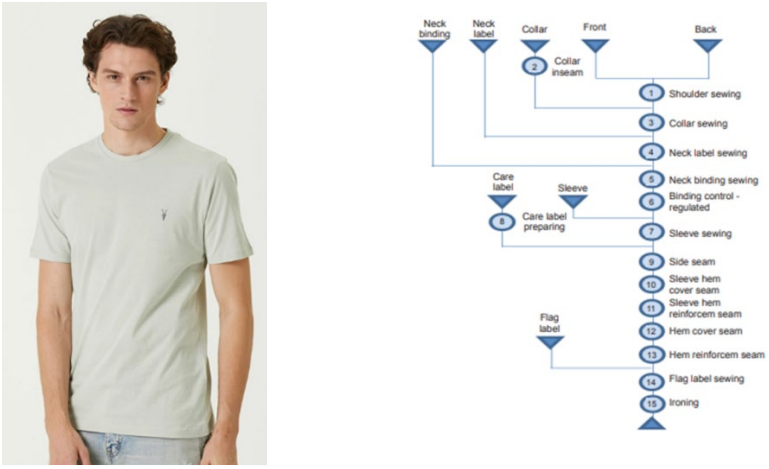

Figure 2. A Sample T-Shirt And Its Production Line

Therefore, reducing or rescinding completely the times, except for processing, has to be aimed at decreasing the total cost of the product. These setup times include some of the following preparation processes;

- Changing the places of the machines,
- Changing the threads on the machines,
- Changing the apparatus on the machines.

These arrangements are known as the setup process.

The Aim of The Study

If models with similar characteristics (working order, thread color, used machine characteristics…etc.) in an order group enter the sewing cell one after the other, the total preparation time is minimized. For this study, the work processes in the sewing phase were examined and analyzes were made about minimizing the preparation times (model changing processes).

Methods

The setup times analyzed in this study were recorded with video camera. From the recorded video recordings, the setup times were examined and their measurements were made with a stopwatch. The time study method is used to determine these processes.

The basic principles of time study are the observation of the work flow by the time measuring. While making this observation, the work-student uses a time measuring instrument (stopwatch) and a time measuring form. Detected times are in minutes and seconds.

The models discussed in the study are women's upper clothing group. Each of them consists of at least 8 and at most 16 process steps. For this study, setup times during the preparation of the production lines of 10 different models, which started to be produced after the final model on the production line was completed, were analyzed.

By averaging these measurement results, unit times were found for each replacement operation (For example, thread replacement time on a lockstitch machine or 1 m displacement time on a sewing machine……) (İlleez, 2007).

3.Results

When the preparation times observed in the production line, the following details have emerged.

1. ***Changing The Places of Machines in Production Lines***

The displacement time was determined required for the sewing machine with the help of the wheeled feet. It has been shown in the figure below two samples of U shaped production lines. The second layout is obtained from the first layout by moving the sewing machines. (figure 3).

2. ***Changing The Threads on Machines in Production Lines***

The replacement time of threads on the machines was determined for all types of sewing machines.

3. ***Changing The Apparatus on Machines in Production Lines***

The replacement time of apparatus on the machines was determined for all types of sewing machines.

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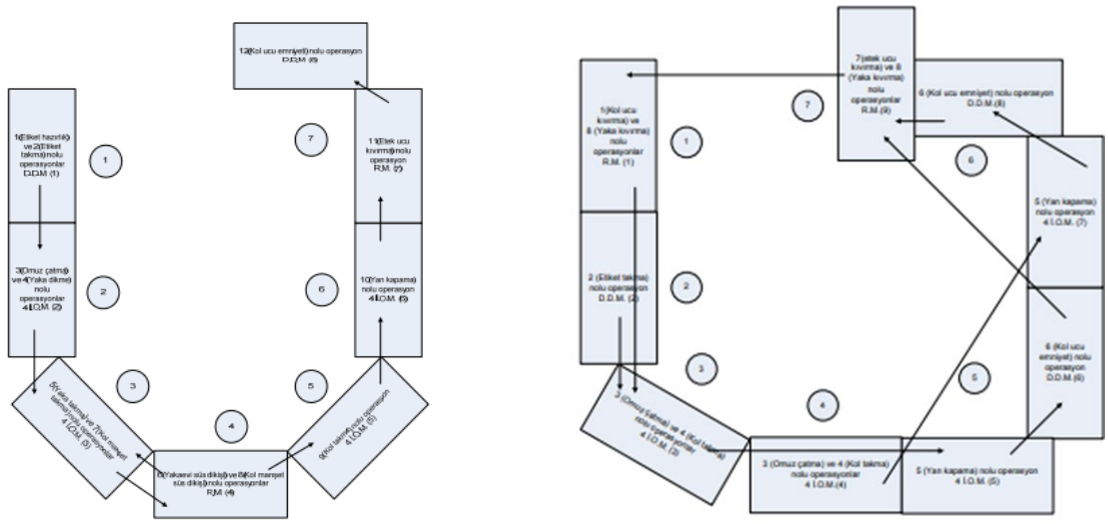

Figure 3. 2 Different U Shaped Production Lines

4.Conclusion

The precaution that can be taken to minimize the preparation times in the sewing process in the ready-made clothing industry are as follows (İlleez, 2007):

1. Scheduling of sewing cell
2. Layout of assembly line planning
3. Line balancing for every model that will be produced

Scheduling of Sewing Cell

It has been observed that the longest time required to start the production of a new model in the sewing department is the yarn changing period on the machine. With this in mind, it's important to find the model sequencing that minimizes downtime for the setup process.

Layout of assembly line planning

Layout of hardware and workstations is an important factor affecting production. The location of the line and the characteristics of the product to be produced determine the shape of the line. physical assembly lines; It can be designed in different shapes such as flat, circular, random,

different angle, U-shaped and zig-zag. In order to minimize the free time, the belt placement should be selected in accordance with the product plan to be produced.

Line balancing for every model that will be produced

The main purpose of line balancing is to distribute the total workload in the assembly line equally to the stations in order to reduce the time redundancy at the stations.

All of these studies will enable garment production systems to work more efficiently. Thus, environmentally friendly production will be made in terms of consumed material, labor and energy. Their dissemination will be positive developments in terms of sustainability.

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Performance Measurement Methods of Ready-To-Wear Production Lines

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Abstract

Organizations today compete in a complex environment in ready-to-wear sector. For this reason, determining the goals and the methods to achieve these goals becomes a priority for factories because of sustainability. Organizations set goals for their future and plan to achieve these goals. Good planning in the garment production process is defined as the process of achieving the customer's expectations with minimum input and time. After planning, resources and inputs are organized and activities in accordance with the plans are started. It is checked whether the plans are realized and whether the desired developments are achieved, and necessary adjustments are made according to the results obtained. Performance is the sum of these results. In this study, information about the criteria used to measure the performance of production lines that still manufacturing according to the fast fashion trend and the performance measurement that can be determined by using these criteria are given.

Keywords: Performance, ready to wear, production, clothing, sustainability

1.Introduction

Competitive environments are environments where high productivity and performance are expected. The ready-made clothing industry also has such an environment. Ready-to-wear businesses aiming to achieve the desired efficiency and performance with low cost need to take meticulous approaches on their own production processes (Şener & Kılınç, 2013).

It is very important to measure the performance in order to determine the position of the enterprises in the fields they operate, to determine the possible differences between them and other enterprises by making comparisons, and to improve the activities within and outside the enterprise in terms of quality (Harmankaya et al., 2018).

Efficiency, which is one of the performance criteria and is widely used, is a coefficient obtained by proportioning the products and services (output) produced at the end of a certain period of a production or service process with the production resources (input) used to realize this production. The bigger the result, the higher the efficiency. (Akal, 2005).

In the literature, the factors affecting productivity are divided into two as internal and external factors. Internal factors are the factors that affect the inputs and outputs of the enterprise. Internal factors are also divided into two as rigid factors (which cannot be changed easily) and flexible factors (which can be easily changed). External factors include government policies and institutional mechanisms, political, economic and social conditions, business environment, financing, energy, water, transportation, communication and raw material provision. External factors are those that cannot be controlled by the business. (Başkaya and Avcı, 2011)

When the efficiency comparisons of different production systems used in ready-made clothing production are examined, it is observed that the following data are used. In Akçagün's study, the data of a company during the mass production system and the data after the transition to the lean production system were compared according to the ratio analysis method and the data in Table 1 related to the comparison were used (Akçagün, 2006).

Table 1. Data of both systems during the transition from mass production to lean production system comparison (Akçagün, 2006)

	BEFORE	**AFTER**
Efficiency (%)	73	84
Idle time (hour)	16	6
Internal stock quantity (piece)	800	100
Machine stops (minute)	8320	3250
Number of operator (person)	53	48
First time correct rate (%)	75	85

In Belgutay's study on the textile sector, the data during mass production in the enterprise where the application was made and the data predicted after switching to the lean production system were compared according to the ratio analysis method. The data used in the comparison are given in Table 2 (Belgutay, 2007).

Table 2. Comparison of the data of mass production and lean production systems (Belgutay, 2007)

	Mass Production	**Lean Production**
First time correct rate (%)	91,5	99,6
Setup time (minute)	49,43	12,5
Lead time from start to shipment (hour)	261	171
The area where the production line is located (m^2)	1550	650
Efficiency (%)	87,8	90,5
Number of operator (person)	195	80
Worker circulation (%)	41,1	25,8
Recommendation amount (number/month)	8	96
Tornover rate for stock	26,9	14,1

2.Materials and Methods

Some of the manufacturers have made large investments and adapted to the modular production system. They produce models in small quantities. A group of manufacturers did not disrupt their mass production systems and tried to survive by producing these limited edition models. Activities outside of these two groups, there is another group showing that they are mass-produced systems and trying to produce models that were in small quantities. The biggest problem experienced in this group, which is the majority, is that model changes are experienced very often. Since the production line setup times are long, their productivity is low. (İlleez, 2014).

Material

For this study, the companies that make production within the borders of İzmir province were examined. Among these companies, businesses that apply 3 different production methods described before have been identified. In each group, 6 companies were interviewed and a total

of 18 companies took part in the study. Then, the production data that can be used for performance comparison in those companies were examined. While determining the companies where the application will be carried out, since the companies that allow the application are mostly companies that produce with knitted fabric, the sample set of the thesis study sequence consisted of companies operating in the field of knitted clothing in Izmir (İlleez, 2014).

The Aim of the Study

This study is a preliminary study of the relative performance analysis of the production systems divided into groups. With this study, it has been determined which data can be used when performing a performance analysis of 18 different companies.

Methods

In order for the efficiency measurement to be meaningful, it is very important for the decision-making units to be similar to each other in terms of both shape and scale size, that is, to be homogeneous in the analysis and interpretation of the results. Otherwise, the effectiveness of the elements whose working conditions and principles are different from each other will be compared.

In order for the decision units to be homogeneous, the most important determinant for the analysis is that they produce the same type of outputs using the same type of inputs. After the literature review to determine the criteria, 18 businesses were interviewed separately. The criteria for data sharing have been determined (İlleez, 2014). The factors affecting productivity are given in figure 1.

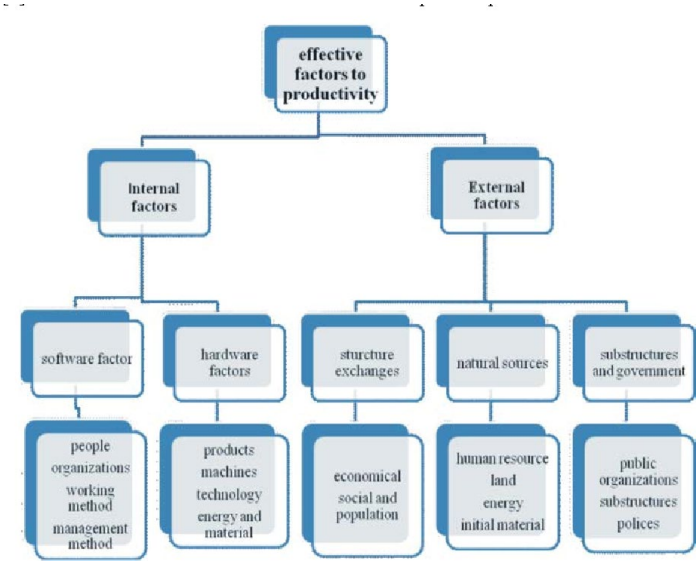

Figure 1. Factors affecting efficiency (Başkaya ve Avcı, 2011)

3.Results

In this study, production data that can be used to compare the productivity of companies operating in the ready-made clothing sector and applying different production methods have been determined. Although the data to be needed varies according to the comparison method to be used, the data that the companies consider suitable for sharing and that they record continuously have been determined (İlleez, 2014). These are briefly:

- Product
- Machine (Equipment) — Internal Factors (hardware factors)
- Energy
- Human Source — External Factors (natural sourses)
- Land

Accordingly, as an input variable;

- total working time (labor),

- number of sewing machines used,
- the area used for production in the planting unit and
- electrical energy used for production in the sewing unit

as output variable;

- the number of production is used.

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Fashion Product Development Using Cap Waste: A Study Focused on Impacting Sustainability in Brazil

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Abstract

New practices seek to prolong the life cycle of parts destined for disposal faced with adversities and concerns about the environment's development. The concern with the degradation of the environment means that there is a growing number of consumers who seek to purchase products from companies that are concerned with sustainability. At the level of Seridó, in the Brazilian state of Rio Grande do Norte (Northeast of the country), we have the cap industry as the central point of the Local Productive Arrangement (LPA) textile in the region. And although the Seridó cap industry is expanding, the factories must implement more sustainable means to eliminate waste from manufacturing caps. In an attempt to restore an environmental balance, professionals and scholars in the field of fashion have been testing different strategies for changes in the production cycle, and one of them is upcycling, which is a method of reusing material. In this context, this paper aims to present a proposal for a product that uses waste from the local cap industry to reduce the impacts generated in nature by waste from the manufacturing process, using their leavings in product designs. In such a way, it is expected that this work can contribute to reducing environmental impacts, making it possible to establish a more conscious fashion, thus reducing the damage to the fashion industry.

Keywords: Cap industry, sustainability, upcycling, fashion consumption, slow fashion.

Introduction

Among the various sectors that make up the production chain, the fashion industry is one of the fastest growing and standing out. Companies in this sector have been generating a large volume of production of clothing and accessories to always offer innovations to the

market. This situation brings great impacts, both economic and environmental. According to Digitale Têxtil (2020), the fashion industry is the second most polluting in the world due to the use of low-quality, insoluble dyes or products based on heavy metals, in addition to the emission of toxic gases into the atmosphere.

In Brazil, the disposal of parts that still have a useful life is recurrent. According to PET - Sanitary and Environmental Engineering (2019), the disposal of textile waste represents about 175 thousand tons/per year, where only 36 thousand tons are reused. The cap industry factories in Seridó (Region in Northeast Brazil) produce around 40,000 pieces per day, according to FIERN (2019), and in this production, there is excess waste that is not used in the making and is improperly discarded in nature.

One of the rising consumption trends in the 21st century is sustainable consumption, as more and more consumers are now concerned about environmental factors and the ethical positioning of the companies they consume. These people are concerned with everything from the quality of life of the people involved in production to the impact the product can have on the environment. According to a 2020 survey conducted jointly by GlobeScan and Akatu, seven out of ten consumers expect brands not to be involved in actions that could harm the planet.

In this current context, some brands are standing out for anticipating and positioning themselves in a sustainable and socially responsible way. Currently, the brand or industry that does not offer products to its consumers with the premise of a sustainable network may lose strength in the market because, according to a study carried out by Veja Magazine (2021), consumers are demanding that companies adopt sustainable practices and social inclusion.

Thus, the present study proposes the development of a Fashion product that uses the waste generated by the local cap production industry. Therefore, this study proposes an alternative to mitigate the environmental impacts in the Seridó region (Caicó/Rio Grande do Norte). In this circumstance, we emphasize the need to reuse waste discarded by creating products, promoting the Circular Economy.

Theoretical framework

The negative effects that can and are caused on the environment by the fashion industry are of great concern to society; some of these effects are river pollution, extraction of non-renewable raw materials, emission of gases into the atmosphere and especially the improper disposal of parts. Due to these factors, sustainable practices must be used to mitigate the damage caused to the planet.

Sustainability in the fashion industry is linked to several terms influencing how consumers think about production and consumption processes, such as conscious, ethical, and eco-fashion (Fletcher, 2008; Fletcher and Grose, 2011). Sustainability is based on its definition of three points: economic, environmental and social. Therefore, to balance the three aspects, for example, a product cannot be considered sustainable if it does not have a low environmental impact, low economic cost and is manufactured using slave labour (Anicet and Rüthschilling, 2013).

In the Seridó region of Rio Grande do Norte (RN), according to the last census carried out by SINDIBONÉS (Union of Caps and Hats Industries of the State of Rio Grande do Norte) in 2019, there were 54 cap manufacturers in the city of Caicó. The cap industry factories are responsible for generating employment and income for several families in the production centre of Caicó (Ribeiro, 2021). Therefore, it is possible to see how much the cap industry is of great importance for the municipality and region with the generation of employment, the collection of taxes and contribute to the social and economic growth of the region.

The growing demand in the segment of caps in local commerce stimulated the increase in the production of factories in the cap industry (Lins, 2011). Bearing this in mind, with this increase in production comes an increase in waste that is disposed of incorrectly, harming the environment, and it is necessary for factories to apply sustainable ways to dispose of this waste, ensuring an attempt to re-establish an environmental balance and reduce the pollution that occurs in the city of Caicó (Rio Grande do Norte/Brazil)

Slow fashion is a movement that emerges as an alternative to fast fashion to have a production with less environmental impact (Solino, Teixeira, and Dantas, 2020). However, it is a reaction to the pace at which changes occur to strengthen individuals' connections with their clothes and with the producers while including values of community, sustainability and diversity (Ferronato and Franzato, 2015). As an alternative to the use of incorrectly disposed waste, there are upcycling techniques, which are a sustainable alternative and aim to rewind the product's life cycle, rescuing discarded or unused material (Schulte *et al*., 2013). The pieces and products created from discarded waste have original and exclusive characteristics, making them unique because, according to Mirella Rodrigues, in upcycling, you can work with creativity all the time (Aguilera, 2019).

Patchwork is an alternative upcycling technique in developing fashion products, contributing to sustainability (Farias, 2017), which makes it possible to unite fabric scraps to create one. This technique makes it possible to apply fabrics to pieces or assemble various pieces of fabric, enhancing the designer's manual work and adding differential value to the product (Farias, 2017).

With this, it is possible to produce innovative, original and creative fashion products from waste incorrectly disposed of by cap industries in Caicó. Using the upcycling technique, the patchwork, where these discarded scraps will be joined together and united uniformly, placing a differentiated design and adding value to the piece. In addition, this development technique will contribute positively to the environment by collecting this waste. In this way, it is possible to understand that it is feasible to create pieces with scraps from the waste left over from the production of caps, reusing all the raw material and reducing the negative impacts that are caused to the environment in the region.

Methodology

This work is classified, regarding the nature of the research, as applied, for having its point of purpose in the resolution of concrete problems, applying the knowledge acquired through the theory to the needs of society (Gil, 2008). The methodology used to verify the objective will be exploratory, to develop and contribute with a new vision on a certain subject, presenting it completely, in this case, researching the development of ecologically oriented products (Gil, 2008). Due to the nature of its approach, the research is intended to be qualitative-quantitative, as it will deal with subjective stages of management and product development, and quantitative when interpreting the usability test data (Guerra, 2006; Muratovsky, 2016).

Concerning technical procedures, this is experimental research where Design Science Research methods will be used, in which it foresees the elaboration of an artefact as a mechanism for developing solutions to a problem and for the very understanding of the nature of the problem (Santos *et al.*, 2018). The method is configured from steps, also called cycles, where a) Cycle of Relevance comprises the contextualization of the research in the real environment studied, identifying opportunities; b) Cycle of Rigor concerns the phase of uniting scientific bases through literature reviews with the needs of the research project; and, c) Design Cycle, the stage where products will be developed and later tested with users (Hevner and Chatterjee, 2010).

For the development of the clothing product, the method proposed by Baxter (2011) was adopted, with 4 steps that will guide the process:

• **Step 1- Immersion:** In this phase, the definition of the target public, also called the consumer, was sought;
• **Stage 2 – Conceptual Project:** At this point, the aesthetic aspects of the product are developed, observing fashion information;

• **Step 3 – Definition of Materials and Technologies:** In this step, the raw material, materials and technologies used in the construction of the part are selected;

• **Step 4 – Usability Test:** At this point, the technique is evaluated, its construction, the appearance of the part and, finally, its functionality.

Product development

The delimited target audience for the product was people of the male, female and non-binary genders aged 15 to 26 who are part of generation Z, as it is possible to understand that, given the observed environmental transformations, generation Z acts quite differently regarding their actions as consumers and what they expect from brands when compared to other generations. They are demanding consumers, frantic and attentive to fashion trends and behaviour (Ceretta e Froemming, 2011).

According to Frings (2012), as this generation was born during ecological disasters and uncertainties about the future, they care about the planet's health and the environment. This group values transparency, social engagement, sustainability, politics and the environment.

This generation has great economic power; in Brazil alone, there are about 40 million young people (Holtz, 2019). Generation Z has a total world income of 7 trillion dollars, and these potential consumers are expected to reach 33 trillion dollars in 2031, which will represent 27% of the world's total income, having a higher income than the generation that came before them in the same bracket age. However, this group tends to be more responsible with their expenses because they grew up in a period of political and financial turmoil, which directly impacts purchase intention (NEGÓCIOS SC, 2021).

To reach Generation Z, brands need to pay attention to social, environmental and political metrics, about 80% of generation Z consider this when making purchases. Because of this, our target audience is aimed at middle-class young people who live in medium and large cities, both in the interior of the states and in capitals, who frequently access the internet, who usually spend between R$100 and R$300 on a piece of clothing and who have the habit of buying from online.

About the Fashion content, When analyzing our target audience and fashion trends that are in the spotlight, it was decided to use a trend that is becoming successful among the young people of generation Z; this trend is the patchwork, which emerged as a way of upcycling. Patchwork is a technique in which leftover fabrics are used and arranged harmoniously; it has apparent stitching, irregular shapes and, above all, comfort, according to Silvana de Castro

(2018). This trend has been showing on catwalks and streets for a while with looks full of personality and style. When using patchwork, each outfit becomes original and unique, as the combination of fabrics is unlikely to be identical.

Patchwork as a fashion trend appeared during the 20th century, between the 1920s and 1940s. In times of war and the Great Depression, this technique was used, reusing scraps to cover holes in clothes. In 1960, hippies popularized patchwork as something fashionable, and the combination and harmony of fabrics came to be seen as a style trick (Figure 1). In the 90s, this process invaded the catwalks.

The garments had different colours and textures, as well as the apparent stitching, showing the junction of different fabrics. From the 2000s, patchwork became viral and a landmark of the time, conveying the definition of chaos and the breaking of patterns (Figure 1). According to the fashion magazine Elle (2021), after the pandemic and quarantine imposed by covid-19, from the beginning of 2020, people began to look for new ways to innovate clothing items while at home, and with that patchwork made a comeback due to its ease of production and comfort. Several looks made by joining patchwork invaded social networks and brought the technique back to the 2021 trends.

Figure 1 – Patchwork in fashion over the decades

Patchwork has been appearing on catwalks worldwide, in fashion shows, and on the streets for some time now. The technique brings a proposal of sustainability and conscious consumption to the products, seeking to assign a new purpose to materials that would otherwise be discarded and adding value to leftover fabrics and pieces of clothing that are no longer used. With this trend, it is possible to bet on several possibilities, including applications with fabrics of different colours, prints and jeans (Figure 2). One of the styles that can be used is the application with plain pieces, which mix different fabrics. This proposal is quite common in blouses and dresses.

Another patchwork version that made a big impact on the catwalks and in the 2021 fashion weeks was jeans. The pieces in this model are composed of jeans with different washes and fabric colours. Monochrome looks emerged and became a trend in 2020 as they are practical and stylish pieces. By inserting this into the patchwork, pieces can be made using patchwork with the same fabrics and a combination of similar tones and colours. In oversized or street-style looks, patchwork with checkered patches is ideal, as it is possible to combine the pattern with plain fabrics (Figure 2). In Brazil, it is common to use this composition in male and female pieces for the June festivities.

Figure 2 – Patchwork: clothes with a patchwork effect are in fashion

In this way, we have seen that this patchwork trend combines perfectly with the type of material we will use since the basis of our products will be a textile waste, usually forming leftover fabric from the cap industry. When analyzing how these products would be made and

which trends would be used, we considered that patchwork would be ideal, as it is a trend that has returned to the present day and that, based on it, innovative and unique pieces are made. The modelling of the pieces would be made with daring cuts that will bring confidence to those who use the product, arriving at the idea of the look to be made (Figure 3).

When analyzing the way our products will be made using the patchwork technique, the design principles defined were harmony, as the product has fabrics of colours, textures and shapes that can relate and interact with each other, and repetition, where the patchwork of the patchwork is repeated, either regularly or irregularly.

In this way, another element that was analyzed was the lines since, in the modelling, contours and cutouts divide areas and define the product's shape. In addition to this visual element, there is also the element of texture, where it is possible to perceive and feel the meaning of the weaves in the fabric and the arrangement of the patches; the more textures, volume and rigidity, the fabric has, the more attention it will draw to the place.

Our product will cater to the target audience based on the shopping preferences of generation Z, where people opt for products that have sustainable ideas and benefit the environment. In this way, we seek to bring confidence to the consumer when using daring and exclusive pieces.

Our first step was to visit a cap industry and collect their waste to define the materials and technologies. Then we separated the waste that could be useful and used in clothing and accessories, highlighting them by size and separating the different textures of fabrics and colours. Soon after, we made a development map of the possibilities of the waste that we separated. Within that, sketches were developed with ideas about the trends of each season, and finally, we started the production of the prototypes, where the waste was cut into geometric shapes to organize them harmonically. We gathered these scraps according to the model of the piece, sewing them in the straight sewing machine.

Figure 3 – Sketch with all the parts developed

The prototypes tried on by one of our target consumers, consisting of a bucket hat, a side bag, a skirt with a side zipper and a top with a front cutout, was developed and created with waste from the cap industry in the region (Figure 4). Our consumer who tested the usability of the garments reported some problems: the top was a little tight under the arm when wearing the blouse, and she reported difficulty putting the top on and closing it alone, as the zipper is located behind the garment. However, she reports that the piece brings a lot of originality and presence with a more modern air.

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Figure 4 – Final product photoshoot

Product evaluation

It was evaluated that the waste discarded from the caps industry had a new point of view, thus having a new utility being reused to make fashion products; in this way, it is shown that it is possible to reuse these wastes using creativity and thus, causing a less impact on the environment with discarded waste.

During the construction of the work, some impasses were observed in the prototype, one of the first being the modelling, where we had to change some details, such as the cut being only on the front and no longer on the sides of the top (Figure 5), to solve this problem we had to redo another modelling with the record in the proper place and just like that, we move on with the modelling.

Then, right after the construction of the mould, we had difficulty with the fabric because the fabrics from which we collected frayed and ended up deforming the piece when sewing since they are residues of different sizes and textures, as I understand it, to solve it, we had than cutting waste with patterns into straighter shapes such as squares and rectangles, so when the piece went to sewing, it was easier to fix when the fabric frayed again.

Figure 5 – First prototype of the top and usability test

Right after the problem was solved, another impasse arose with the zipper of the top, where it was not opening and closing correctly (Figure 5) and finally, the lining of the pieces had to be in cotton and also in jeans, but for pieces with a greater structure, Madrid or Seville taffeta can be used, and for pieces with a tighter fit to the body, satin with elastane or helanca mesh can be used, in this way, once the waste was fraying the safest way we found was to place a thicker fabric as a lining to prevent the garments from wearing out due to friction, however, even with this adjustment, the garment did not have the right fit for it, precisely because the fabrics are challenging and the lining is thicker than ideal. In this way, how the shred occurs can reduce the useful life of the piece when washing; therefore, greater care is needed when washing the piece.

After overcoming all these impasses, we understood that to develop these prototypes, we would need to study the types of fabrics that could be reused among waste from the hat industry. So, after doing this research or thinking about some finish that holds the fabric together without fraying, it is possible to think of waste from the hat industry as a real raw material for fashion products.

Despite the obstacles faced, we believe that it is possible to work with waste from the cap industry to contribute to the balance of the environment by giving a new direction to the leftovers that would go to waste and that now can be transformed into new fashion products using the patchwork technique. With that, we believe that this market will gain more strength and space every day, where people will be more aware of the products they consume.

Final Consideration

It was understood and analyzed during the project and construction of the parts that the waste from the cap industry factories had a new perspective and purpose of use, reusing to create new fashion products, thus demonstrating that it is possible to reuse all raw materials without the need for improper disposal that causes environmental pollution in the region.

Our purpose was to create fashion products that were produced from improperly discarded waste, thus contributing to the improvement of the region's environment. These products are aimed at young people, present in generation Z, who would like creative, innovative and modern pieces, thus reflecting their personality.

In this way, the upcycling trend and technique for creating our pieces, the patchwork, was defined. For the improvement of the environment as it serves as a sustainable production alternative.

Fashion presents what is happening in the world, reflects our wishes and solves issues that we want to conquer, such as a more sustainable world with less pollution. Analyzing it this way, using patchwork combinations in clothes is much more than rescuing a trend; it is a form of expression and solution to society's current problems.

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Sui Generis Systems Protection for Design: Cumulation, Partial Cumulation and Demarcation of Legal Regimes

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Abstract

The use of design decisions is regulated in most countries by sui generis legislation (special legislation), which is associated with the uniqueness of the legal design of an industrial design, its "incompatibility" with the established legal classification of intellectual property objects: inventions and utility models protect the technical side of the product, copyright and related rights - a form of expression of thought. The emergence of a special sui generis protection regime for industrial design, embodying aesthetic and utilitarian principles, is due to the similarity of industrial designs with works of art (copyright objects) and trademarks and, as a result, "mixing", "intersection" of copyright and industrial property.

Currently, in the world legal order, there are three systems for the correlation of copyright and patent forms of protection for designs: cumulative protection, partial cumulative protection, and delimitation of protection regimes. Speaking about the patent form of protection, we need to look more broadly - to talk about the protection of industrial property rights, including both the trademark regime and the regime of protection against unfair competition.

The position of supporters of the partial operation of design protection regimes (partial cumulation) is based on the thesis that full copyright protection is not required, inappropriate and harmful for a number of reasons. First, despite the lack of full copyright protection, the power of copyright is sufficient to support an ever-growing design industry. Secondly, current design laws also provide some protection for design decisions. Thirdly, copyright is incompatible with industry (mass production) because of the doctrine of utilitarian (useful) things and the difficulty of distinguishing original works from non-original ones. The fourth reason is that ensuring full copyright protection will lead to more litigation, more fear of creativity, and more business value.

Because of this, an intermediate option - a system for the protection of special industrial designs with partial cumulation - is currently the most acceptable for most legal orders. This special design protection system only protects designs that are "exceptionally original". This level of protection and the high threshold for legal liability for infringement will encourage designers to be more innovative.

Such a sui generis system would remove only a small, exclusive class of industrial designs from the public domain. All these factors will only promote competition, reduce the range of opportunities for abuse of the right - the claims of authors for violation of their right to inviolability and the right to processing. Such a high threshold does not invalidate the protection system, as it aims to protect against products that could potentially damage the market for original designs due to confusion that could result from copying. Only a small, limited number of designs deserve protection under the sui generis industrial designs system. Otherwise, a legal basis will be created for numerous lawsuits that will increase prices for manufactured products.

Key words: sui generis law of design, copyright, trademark, industrial property, cumulation of legal regimes, partial cumulation of legal regimes, demarcation of legal regimes.

Introduction

Design is the driving force behind the world's largest industries. This industry stimulates the economy and provides employment for millions of people. This area is very productive in terms of profit and creative output, despite the fact that designs have a relatively low degree of copyright protection.

In a competitive environment, the design of products, the interior of a store, a website or a mobile application is a key moment, as the consumer associates with a certain quality, comfort, aesthetics, which is backed by a certain manufacturer or a certain service / product line. Design determines not only the attractiveness of a product or site for the consumer, but also performs an identifying function, protecting both the manufacturer and the consumer's right to a quality product or service in a competitive environment.

Products that use a well-known design in bad faith will be sold at a lower price because competitors are not required to recoup the funds invested in its development. This can lead to loss of market share and damage to the goodwill of the company and its product. Thus, the struggle for the consumer ultimately comes down to protecting the design of your product. In order for the product to be recognizable and have characteristic properties and distinctive features, not only manufacturers are interested, but also consumers.

The relevance of the issues considered in this paper is due to the focus on solving one of the most important problems of socio-economic development - the involvement in the economic circulation of such widely used objects of intellectual property as works of design and applied art, industrial designs and trademarks, which have now become the main tool in the competitive struggle of business entities. The objective need for a legal mechanism for the protection of product design is due to the need to saturate the market with goods and services to meet the needs of the population. The main task of legal regulation is to protect the rights of the manufacturer and prevent the possibility of misleading the consumer.

In the context of the development of the information (digital) society, the protection of intellectual property objects (the Strategy of the Republic of Belarus in the field of intellectual property until 2030) becomes a priority. The issues of protection and protection of intellectual property rights in the digital environment are becoming a priority. Thus, on June 7, 2019, the Directive on Copyright in the Digital Single Market of the European Union (EU) (Directive EU 2019/790) came into force. Within the framework of the Eurasian Economic Union (EAEU) and the Commonwealth of Independent States (CIS), coordinated approaches are being developed to combat infringement of intellectual property rights in the global computer network Internet (State Program "Digital Development of Belarus" for 2021-2025; Priority areas of scientific, scientific, technical and innovative activities for 2021–2025 in the Republic of Belarus).

The complexity of design protection is that it performs three functions - artistic / aesthetic, utilitarian (industrial, functional), identifying. Therefore, it is protected as a work of applied art and design (copyright), as an industrial design (industrial property / patent right) and as a trademark (means of individualization as industrial property). **Therefore, there is a mixture of legal regimes**.

So, both industrial designs (volumetric and planar), and trademarks (volumetric and planar) determine the appearance of the goods. According to **the doctrine of functionality**, trademarks perform a distinctive function. **The doctrine of aesthetic functionality** defines the function of an industrial design as enhancing the aesthetic properties of a product without necessarily being distinctive. However, **industrial designs**, due to their features such as **novelty and originality** (which means a significant difference from analogues), **perform the same function as trademarks - they identify** a product / service and / or its manufacturer. This is enshrined in the legislative level of a number of countries. Thus, in the legislation of the Republic of Belarus, it is a violation to use an industrial design in which *the product makes the same general impression as the patented industrial design*, provided that the products have a similar purpose. (Law on Patents of the Republic of Belarus: art. 9; part 2, par. 3, art. 36).

A similar rule exists in the legislation of the Republic of Belarus in relation to trademarks: the use of a trademark or *a designation confusingly similar to it* without the permission of the trademark owner is recognized as a violation of the exclusive right to a trademark (Law of the Republic of Belarus on Trademarks: par. 3 of art. .3).

The difference between these two methods (regimes) of protection relates to such a condition for granting protection as novelty: for an industrial design - absolute world novelty, for a trademark - local novelty. However, if production and/or distribution in several countries is planned, then the trademark in fact (and not in procedure) also needs to be new in a number of countries. The differences concern both the procedure for obtaining and the conditions for the operation of protection.

Design refers to a separate type of copyright objects - works of applied art and design. It is an object of copyright, because it is the result of creative activity, recognized as such, regardless of the purpose and dignity, as well as the method of expression. According to copyright, the use of a work of design, including in the case of its use as a trademark or industrial design, is allowed *with the consent of the copyright holder*. *However*, the presence *of patent law norms* on the grace period (filing an application for a trademark within 6 months of the date of promulgation (Law on Patents of the Republic of Belarus: part 5, par. 1, art. 4; Law of the Republic of Belarus on Trademarks: par.3, art. 7) and the absence of the need to indicate the consent of the author in the application for a trademark (Regulations on the procedure for registering a trademark of the Republic of Belarus No 1719) *they say the opposite*.

Overcoming the problems of confusion of legal regimes is proposed through three systems of protection: cumulative, partial cumulative and demarcation.

The object of the study are: legal regimes of intellectual property objects that protect the design of products - copyright, industrial designs and trademarks; design protection systems - cumulation, partial cumulation and demarcation of these legal regimes. **The subject of the study** is the international legal acts and national legislation of a number of countries (the Republic of Belarus, the Russian Federation, Great Britain, the USA, Australia, Japan), which determine the systems of design protection.

The purpose of the study is to highlight the features of three protection systems - cumulation or partial demarcation of the above-mentioned legal regimes or their demarcation.

The scientific novelty lies in the fact that in the course of a comprehensive study, through a comparative analysis of the three industrial design protection systems, the reasons for the specificity, "non-embedding" of industrial designs and trademarks in the logic of the system of intellectual property objects, as well as trends in judicial practice, indicating an ambiguous understanding cumulation of legal regimes. This situation is facilitated by gaps in copyright law and its relationship with patent law (industrial property law) and the identity of the requirements of the legislation for industrial designs, works of design (applied art) and, with some exceptions, trademarks - originality, uniqueness, recognition. The concept of intellectual property that we propose would eliminate the need for special sui generis regimes.

The theoretical basis of the study is the provisions and conclusions contained in the works of legal scholars and legal practitioners. Empirical material is presented in the paper in the form of references to specific court decisions taken on the protection of product design.

Issues related to works as objects of copyright, industrial designs and trademarks, the relationship between copyright and patent rights (industrial property rights), the cumulation of legal regimes are discussed in the works of foreign authors: O. F. Afori, A. Arundel, M. Boldrin, D. K. Levine, D. H. Brean , E. Carrington, T. Burr, B. Lapini, A. Cook, M. A. Cusumano, B. D'Ippolito, P. Dickson, W. Schneier, P. Lawrence, T.-G. Durkin, J. Schirk, T. Jackson, Dennis S. Karjala, Dinwoodie Graeme B., Mark D. Janis, A.H. Khoury, J. Lahore, K. Li, Mark McKenna, M.C. Miller, S. Monseau, J. Moultrie, F. Livesey, S.S. Rahman, C. Rammer, J.S. Rothand, D. Jacoby, P. J. Saidman, L. Schickl, U. Suthersanen, J.P.s.a. Tsai, E.Y. Xia et al. Among Russian-speaking authors, incl. Belarusians are: R. D. Avvalova, O. L. Alekseeva, Yu. N. Andreev, S. A. Babkin, E. I. Basalai, I. A. Blizets, V. I. Vintkovsky, A. S. Vorozhevich E. P. Gavrilov, V. P. Gaiduk, N. L. Guest, T. M. Gonchar, S. P. Grishaev, I. A. Zenin, D. V. Ivanova, O. V. Ipatova, T. L. Kalacheva, O. V. Kalyatin, V. I. Kudashov, S. S. Losev, V. M. Melnikov, G. A. Negulyaev, Yu. V. Nechepurenko, M. V. Pyanova, A. P. Rabets, M. A. Rozhkova, A. P. Sergeev, S. A. Sudarikov, A. P. Yakimaho.

In the process of researching this topic, general (methods of abstraction, deduction and induction, analysis and synthesis, ascent from the abstract to the concrete, historical method) and special methods (formal-legal, comparative-legal, structural-legal and structural-functional) were used. The work widely uses a systematic approach, expressed in the consideration of intellectual property as a system consisting of interrelated institutions, sub-institutions and norms, in the analysis of the mechanism of legal regulation in the field of intellectual property.

Industrial designs (***eng. Design, Industrial Design***) is the visually perceived appearance of utilitarian products. Industrial designs are designed to make utilitarian goods more aesthetic and appealing to a potential buyer without violating the functionality of the product. They inextricably *combine functional and non-functional (aesthetic) features*. **Industrial designs are closely related to works of art and can be equated with works of applied art and design**. They can be seen as a form of artistic expression. Although industrial designs are usually embodied in industrial (mass) scale goods, they can also be embodied in handicrafts. Crafts and other forms of traditional art expressed in tangible objects are **automatically copyrighted as works of art or applied art, and may also be protected as industrial designs**.

In most jurisdictions, due to the versatility of design, there are at least three regimes of protection for design solutions: **copyright, industrial designs, and trademarks**. The fourth mode is the regime of protecting information, including intellectual property, **from unfair competition**.

The protection of objects that embody aesthetic and utilitarian principles can lead to uncertainty in the question of the relationship between the protection regimes for the products of this activity. Approaches to solving this problem Issues vary greatly between jurisdictions.

The use of design solutions is regulated in most countries by **sui generis legislation (special legislation)**, which is associated with the uniqueness of the legal design of an industrial design, its "incompatibility" with the established legal classification of intellectual property objects: inventions and utility models protect the technical side of the product, copyright and related rights - a form of expression of thought. The emergence of a special sui generis protection regime for industrial design is due to the similarity of industrial designs with works of art (objects of copyright) and trademarks and, therefore, "mixing", "intersection" of copyright and industrial property.

Currently, there are **three systems of correlation between copyright and patent forms of design protection in the world legal order: cumulative protection, partial cumulative protection, demarcation of protection regimes**. Speaking about the patent form of protection, you *need to look wider - talk about the protection of industrial property rights*, including the institution of means of individualization: trademarks, trade names, geographical indications and other means that have not yet received protection in the Republic of Belarus (commercial designations, domain names, corporate identity). and etc.).

Under most sui generis industrial design laws, exclusive rights to an industrial design are acquired by registration or deposit. The approach ***to design protection*** in some countries is ***similar to that of the patent system*** and involves longer and more complex registration procedures (eg USA, Russia). Another approach adheres to ***the principle of copyright - protection based on creation or fixation and provides a relatively simple deposit or registration procedure***, free from the formalities of the industrial design protection system (for example, Belarus and the international industrial design registration system (Industrial Designs and Their Relations with Works of Applied Art and Three-Dimensional Marks (WIPO), 2002: p. 20)).

Cumulative design protection system

Cumulative industrial design protection refers to the statutory possibility of double protection of designs through copyright and patent law. However, it is worth recalling here once again that we are talking about the protection of design by **four regimes at once: copyright, patent law as an industrial design, trademark regime by the competition protection institute**. This approach is reflected in many legal orders, in particular in the legal order of the Republic of Belarus and the European Union.

At the regional level, issues of protection of industrial designs are resolved within the framework of the Eurasian Patent Office (EAPO/EAPO) and the European Union Intellectual Property Office (EUIPO). The European Patent Organization (EPO) is not an EU institution and was created to grant a single patent in the territory of its member states only for

inventions, while the EUIPO was created to protect only trademarks and industrial designs in the EU.

Protection of industrial designs and trademarks in the EU through the EUIPO is carried out through registration, after which the effect of protection extends throughout the EU (a regional application can be filed with the EUIPO or with the patent office of the participating country). But the right to obtain protection in the territory of certain states is retained by filing national applications with national patent offices.

The procedure for registering an industrial design in the **EUIPO** is similar to the procedure for patenting an industrial design in the Republic of Belarus (Law of the Republic of Belarus on patents 2002: art. 24, 28; Regulations on the procedure for drawing up an application for a patent for an industrial design in the Republic of Belarus 2011: pp.123-128, 133-134). The application is subject to a formal examination, during which it is determined whether the formal requirements have been met. Examination on the merits is reduced to checking whether the claimed solution relates to industrial designs, and it is also established whether this industrial design does not contradict public policy and moral principles. If the results of the examination are positive, the industrial design is registered and information about it is published in the EUIPO Official Bulletin (Council Regulation (EC) No 6/2002: art. 45-49).

The EU design registration is valid for 5 years from the date of filing of the application and can be subsequently renewed four times, each time for 5 years. Thus, the total duration of registration can reach 25 years (Council Regulation (EC) No 6/2002: art. 12).

EU legislation provides protection not only for registered industrial designs (registered Community design, RCD), but also for unregistered ones (unregistered Community design, UCD). An unregistered Community design shall be protected for a period of three years from the date on which the design first became publicly available within the European Union. After three years, protection cannot be renewed. The act of making it available to the public is called "disclosure". Revealing a design and being able to prove it is the key to protecting a design.

In the Republic of Belarus, design is protected by virtue of the norms of the institution of unfair competition (Law of the Republic of Belarus on Competition 2013: art. 28), and without a time limit.

Within the framework of the Eurasian Patent Organization (EAPO), which includes the Republic of Belarus, it became possible to obtain protection for industrial designs thanks to the signing in 2019 of the Protocol to the Eurasian Patent Convention (Protocol 2019 to the EAPO Convention). However, EAPO acts do not operate directly (like EU Council regulations that EUIPO is guided by), but through ratification by member states (Law of the Republic of Belarus 2021 No 137).

Like the registration of an industrial design and a trademark in the EU, a Eurasian industrial design patent is valid simultaneously on the territory of all Contracting States (Protocol 2019 to the EAPO Convention: art. 6).

If an industrial design is protected, the owner acquires the right to prevent unauthorized copying or imitation of the industrial design by third parties. This includes the right to prohibit all others *from making, offering for sale, importing, exporting, or selling any product that contains or*

applies to an industrial design. The law and practice of each country or region determines the scope of protection for a registered design.

In most member states of the Eurasian Economic Union and the European Union, industrial designs can also be protected as works of copyright. Thus, the absence of any obstacles to the cumulative protection of designs was noted in the decision of the European Court of Justice (*Cofemel – Sociedade de Vestuário SA v G-Star Raw CV (2019)*). In view of the absence of a regional unifying act regulating relations in the field of copyright, the answer to the question whether a design can be protected as a work of authorship depends on the applicable law of the EU Member States. For example, in one case, the court ruled that an industrial design registered in an EU Member State is also entitled to protection under the law on the copyright of this state, starting from the date when the industrial design was created or fixed in any objectively expressed form.In this case, the criteria for the protection of an author's work are determined by each member state of the union independently.

Copyright protection for the form of a product, which would most often qualify as a work of applied art and design, differs significantly from Member State to Member State. Obtaining copyright protection for a work of applied art in some countries (e.g. Germany, Belarus) is more difficult than in others (e.g. Austria and France) (*Meyerhoff., Lee & Kerl (2015)*) due to either the law or the prevailing judicial the practice of high demands on the work.

The copyright law of the Republic of Belarus protects works of art and design (Copyright Law of the Republic of Belarus o2011 No 262-3). The elements necessary for a work to receive copyright protection are originality, fixation in a tangible medium, and authorship.

The sui generis system of cumulation design protection also includes a regime of means of individualization (trademarks, trade corporate style, etc.). In the United States, designs can be protected through trademark and trade dress regimes (Code of Federal Regulations, title 35 (ed. 11/17/2022), chapter 37). As a general rule, the exclusive right to a trademark or corporate style can arise if the ***requirements of distinctiveness and non-functionality*** are met.

The same requirements for trademarks are imposed on the Republic of Belarus - they should not: indicate the type, quality, quantity, properties, purpose, value of goods, as well as the time, place and method of their production or sale; represent the shape of the product or its packaging, determined solely or mainly by the essence or nature of the product, the need to achieve a technical result, the essential value of the product (Law of the Republic of Belarus on Trademarks 1993: subpar. 1.4 and 1.5 par. 1 art. 5).

According to **the doctrine of aesthetic functionality**, a design cannot be protected as a trademark or corporate identity if its functional purpose is to improve the aesthetic properties of the product, while there is no acquired distinctiveness. That is, **industrial designs are about aesthetics, and trademarks are about distinctiveness**. *However, in our opinion, this is not true: industrial designs also have a distinctive ability due to their originality (protectionability condition) - a significant difference from other designs*. In addition, a non-original solution that has become recognizable to the consumer, i.e. pointing to a specific product or manufacturer, may also have a distinctive ability.

The similarity of an industrial design with trademarks exists on such a basis as a distinctive ability, provided by such requirements for industrial designs as novelty and originality. The

difference is erased by the fact that industrial designs, like trademarks, can be both three-dimensional (the shape of a product or its packaging, interface design) and planar (label, ornament). The fact of binding to a certain class of goods (**The Locarno Classification of industrial designs (LOC), The Nice Classification of goods and services (NCL)**) will also be common. The difference will be that a trademark is obtained both to identify goods and services, and an industrial design is obtained only for goods (material objects) of a certain class of goods. But this difference is leveled by a number of facts: both a trademark and an industrial design can relate to virtual forms (for example, the interface of a site or application); a trademark that identifies a service is also objectified (embodied in a tangible medium or its digital form).

Therefore, the choice of a design protection regime will be determined not by the criteria of protectability, but by the cost, complexity and duration of the procedure for obtaining protection of a particular intellectual property object.

Cumulative protection is based on the understanding of IP as information (images, thoughts, ideas) that meets the requirements of national, regional (the law of the Eurasian Economic Union, the European Union) or international law, and which can be used and objectified by any means. Therefore, **a work of art does not depreciate from its utilitarian (domestic) use, for example, on a candy wrapper or in clothing design**. Cumulative protection offers **automatic enforcement of both copyright and industrial design regime (registered and unregistered) as well as trademarks**.

However, the cumulative design protection creates the most favorable conditions for abuse of the right and obstacles to competition: having such a strong legal monopoly, the right holder can significantly prevent other bona fide participants in civil circulation from using similar results of intellectual activity. If a design is protected only by a patent for an industrial design, then only the patent holder (licensee) can prohibit the use. And the circle of such persons is limited due to the need to pay patent fees. Copyright, on the other hand, operates by virtue of the fact of the creation, and not the issuance of a title of protection (patent, certificate) and the absence of a system of mandatory state registration of objects of copyright creates a situation of abuse of the right by an unlimited circle of persons. claiming copyright on the design.

System demarcation of design protection regimes

The demarcation of regimes, based on the theory of "separability" or "dissociation", offers a clear separation of protection regimes, according to which industrial designs - information (images) that determine the appearance of industrial and / or handicraft (handicraft) production - **can be protected only by special legislation**, specially designed for the design applied in the industry. *Such a position both "breaks" the construction of the concept of IP as information that can be reproduced in any way, and devalues works of art and design used in the manufacture of things (creation of a product), denying them the right to be called objects of copyright.*

It is not allowed to duplicate the protection of industrial designs as inventions and utility models, which are only technical solutions. The patent system supersedes all other forms of IP when it comes to protecting technical solutions and functional devices (inventions and utility models). Functional or technical characteristics of the product are not protected by design protection. Therefore, there **is no competition between the regimes for the protection of industrial designs,**

copyright, trademark protection, on the one hand, and the regime for patent protection of inventions and utility models, on the other hand.

It is worth recognizing that the system of complete demarcation (demarcation) of protection regimes for design solutions in its pure form is extremely **rare**, therefore, the systems of cumulative and partial cumulative protection of industrial design are most widely used.

Partial cumulative design protection system

The next approach is called partial cumulative protection and **is a more balanced form of legal regulation of relations over design**. Partial coincidence of regimes (partial cumulation) implies a **partial** "overlay" of copyright, industrial designs, trademarks, i.e. **application of these regimes under certain conditions**. Thus, partial cumulation makes it possible to protect copyrights for industrial designs only if they meet high standards of works of art (not designated as requirements for copyright objects in the legislation of the Republic of Belarus, but taking place in judicial practice (Ipatova, 2019, pp.33–35).

In Australia, as a general rule, a design that meets the criteria for industrial design protection may also be registered as a trademark, provided that it has acquired distinctiveness. Examples of such design solutions include perfume and other bottles, toys, confectionery, etc. At the same time, the Trade Mark Act of 1995 (Trade Mark Act of Australia 1995) includes a provision relating to trademarks containing products or substances that were previously used on the basis of a patent (as an industrial design). In accordance with section 25 of the law under consideration, **the validity of a trademark is terminated after 2 years after the expiration of the patent for an industrial design**. Thus, the law limits the validity of the exclusive right to a trademark in time if the right to it intersects with the right to an industrial design (or other patent rights).

The concept of partial cumulation is most common in the countries of the Anglo-Saxon system of law.

U.S. copyright law protects crafts (decorations, tableware or tapestry designs), it does not protect "useful items" (utility or functional items) (17 U.S.C. (ed. 2016), section 17, § 101), such like cars or televisions, which, while attractively shaped, are primarily functional. ***A "useful thing" is "a thing that has an intrinsic [technical] utilitarian function that is not only to depict the appearance of a product or convey information"*** (17 U.S.C. (ed. 2016), title 17, § 101).

Copyright and patent law under US copyright law (17 U.S.C. (ed. 2016), title 17, chapter 13, § 1329) **do not overlap**: *the grant of a patent on an original design of a manufactured product terminates any copyright protection of the original design*. At the same time, in relation to aesthetic-utility products, copyright protection is possible only if their form or configuration ***can be mentally separated from the product itself*** in which they are embodied. The design of a useful product is only included in paintings, drawings and sculptures if it can be identified separately from that useful product and can exist independently of the utilitarian aspects of the product (17 U.S.C. (ed. 2016), section 17, chapter 1, § 101). Works of art, which for some reason also include works of sculpture, are protected by copyright, that is, they are considered works if they are made in numbers of **no more than 200 pieces** and which are sequentially numbered by the

author and provided with the signature or other identifying mark of the author (17 U.S.C. (ed. 2016), § 101).

In addition, the jurisprudence has developed a position according to which an *individual element of an industrial design can also be protected as an art work in the event* of its possible *independent existence*, for example, a design element on a uniform (*Star Athletica, LLC v. Varsity Brands, Inc. (2017)*). As another example, Mather v. Stein clarifies the concept of separability: The U.S. Supreme Court held that "the Balinese figurines that formed the basis of the lamp were copyrighted because the aesthetic work in question (the statuette) was separable from the useful object (the lamp)" (*Mazer v. Stein (1954)*).

After **"physical separability"** in this Mather case, the notion of **"conceptual separability"** was later revealed in Kieselstein-Cord v. Accessories by Pearl Inc. In this case, the Court of Appeal held that "the standard of separability does not require 'physical' separability, but may also include 'conceptual' separability". Conceptual separability allowed the court to distinguish between the aesthetic design of the belt buckles that were the subject of the trial and their utilitarian function. This led the court to conclude that the conceptually separable artistic elements of belt buckles should be copyrighted (*Kieselstein-Cord v. Accessories by Pearl, Inc. (2d Cir. 1980)*).

It is important to note that the conceptual "separation" of design from the object in which it is embodied is possible **if the object was originally a work of art and only later began to be used as a consumer product or placed on it**. For example, figurines could be used as tableware. In such a case, they will be protected as sculptures, despite their utilitarian use. In such a system of protection, most design decisions - the shape or configuration of goods - will not be subject to copyright, because. it will be difficult to separate them from the very goods for which it was developed. **US law allows partial cumulation** in relation to works of design, applied art, etc., however, *most objects of design activity are still protected only as industrial designs*.

The UK also has a **partial cumulation system** (Copyright, Designs and Patents Act of UK 1988). Under section 51(1) of the current Copyright, Designs and Patents Act, making or copying a product that embodies an unregistered industrial design (an artistic design of the form or configuration of a product) does not constitute an infringement of copyright, except for works of art and fonts. In addition, section 236 of this law **excludes the possibility of double infringement of copyright and patent rights to a design** - mechanisms have been developed aimed at preventing double punishment for infringement of intellectual rights to a design in case of their intersection.

In Australia, **industrial design patent protection has prevailed for many years** (Designs Act of Australia 2003). The main idea was that the industrial design regime enshrined in the Designs Act 2003 was a more appropriate form of legal protection for mass-produced products. The relationship between the protection of works and industrial designs is governed by the Copyright Act 1968 (Designs Act of Australia 2003: division 8 part III). Artistic copyright is not protected in relation to works that have been applied on an industrial scale (Copyright Act of Australia 1968: art. 78). *An industrial application is considered to be the manufacture **of 50 or more products** in which the design has been embodied* (Protecting your designs, 2010: p. 1).

So openly stated about the policy of protectionism against manufacturers. Such a position from the point of view of justice is possible due to the argument that either the author, or his employer, or, with their permission, a third party (Copyright Act of Australia 1968: art. 13), as well as the Republic of Belarus (Law of the Republic of Belarus on patents 2002: par. 2 art. 6). With regard to trademarks, the consent of the author is not required - the author is not even indicated in the application (Law of the Republic of Belarus on Trademarks and Service Marks 1993).

However, the law allows for several **exceptions to the general rule of regime demarcation**:

- ***cumulative*** protection applies to ***two-dimensional works*** (except for two-dimensional drawings) (and industrial designs can also be two-dimensional);
- ***"works of artistic craft" and architectural works*** (except small portable buildings and swimming pools) there is ***a choice*** between copyright and patent form of protection, but registration of an industrial design, as a rule, leads to the loss of copyright (Copyright Act of Australia 1968).

It should be noted that the mechanisms of partial cumulation (demarcation) of design protection regimes are also formed in other legal orders.

For example, in **Japan**, industrial designs are traditionally not subject to copyright protection. A design as ***a work of applied art can only be protected by copyright if it has a high degree of artistry*** and craftsmanship (*Case No. 2016 (Ne) 10059*).

At the same time, in one of the cases, the protectionability of a child seat as an object of copyright was recognized. The Court held that the statutory wording "expressed in a creative way" used in paras. 1 p. i art. 2 of the copyright law, means the following: "The expression in question need not be creative in the strict sense of the term, but must exhibit certain *unique authoring characteristics*" (*Case No. 2014 (Ne) 10063 (2015)*).

And although this case is not like other cases in the Japanese court, it is possible to determine the range for determining the attributes of a work as an object of copyright: from a high degree of skill *to the uniqueness of the author's handwriting*. Thus, *cumulative design protection in Japan is possible only in exceptional cases*.

Partial cumulation is a way to preserve the legal construction of IP, defined by the Paris Convention for the Protection of Industrial Property of 1883, ***designed for the industrial economy***: copyright protects the form of expression of information, and the ideas themselves that can make a profit, i.e. applicable for production on an industrial scale, protected by industrial property rights. ***But it is more difficult to do this in the information society***, when new forms of objectification of the results of creative activity (digital, cryptographic - we are talking about the form of the form) cast doubt on the definition of the object of copyright as a form of information. In addition, **today information is no longer so much a resource as the result of mass production**.

However, the former concept has advantages - it does not allow the abuse of the right by the author and the abuse of the right to develop competition. After all, the exclusive right to the idea itself is received not by the author, but by the patent holder - the one who will start production based on this idea.

The position of supporters of partial imposition of protection regimes (**partial cumulation**) of design is based on the thesis that ***full copyright protection is not required, inappropriate and harmful*** for several reasons.

The first is that despite the lack of full copyright protection, ***the power of copyright is sufficient*** to support an ever-growing design industry. Second, **current design patent laws** also **provide some protection** for design decisions. Third, **copyright is incompatible with industry (mass production)** *due to the doctrine of utilitarian (useful) things and the difficulty of distinguishing original works from non-original ones*. The fourth reason is that the provision of full copyright protection will lead to **an increase in the number of litigation, fear of creativity and an increase in the cost of business to protect product design**.

Because of this, an intermediate option - **a system for the protection of sui generis industrial designs of partial cumulation - is the most acceptable at the moment for most legal orders.** This special design protection system only protects designs that are **"exceptionally original"**. **Originality**, *the concept of which is not disclosed in either national or international law*, **is defined and thus differs from novelty, in our opinion, as the non-obviousness of the solution, its obvious dissimilarity to the already existing one in general impression**. At the same time, originality should refer only to the appearance of the product, and not to its function. Although in the legislation of a number of countries there is a requirement for the ergonomics of industrial designs (for example, in the Russian Federation; in the Republic of Belarus this requirement was excluded from the legislation on industrial designs (Ипатова, 2021a).

At the same time, **originality should refer only to the appearance of the product, and not to its function**. Although in the legislation of a number of countries there is a requirement for the *ergonomics of industrial designs* (for example, in the Russian Federation; in the Republic of Belarus this requirement was excluded from the legislation on industrial designs (Ipatova, 2021a). However, it is difficult for designs to fulfill this requirement, as ***it is difficult to separate design from product function***. This is the difficulty of obtaining a patent if a patent examination of a sample is carried out (in Russia it is carried out, in Belarus it is no longer (Law of the Republic of Belarus on patents of 2002: art. 24; Ipatova, 2021b: p. 3)), as well as the basis for contestation and revocation of a patent. Such a definition and such regulatory requirements, being so narrow, protect only a limited and select group of designs.

This level of protection and high threshold for legal liability for infringement will lead to the following results:

- firstly, it will encourage ***designers to be more innovative***, and not just recreate and adapt previous designs, because, despite the incentives to develop new designs, there is nothing the bad news is to encourage designers to strive for higher levels of design innovation;

-second, the elevated standard of originality driven by its criteria above will make it ***easier to identify truly innovative desions***, as opposed to the current vaguely defined “little creativity” standard that sets a low threshold for protection;

- third, a high standard of protection and a high threshold for liability ***will not diminish creativity***, as many fashion designers are wary of providing a low threshold of protection.

Such a sui generis system would bring only a few exceptionally original designs out of the public domain. All these factors will only promote competition, reduce the range of opportunities for abuse of the right - the claims of authors to violate their right to inviolability and the right to processing. Such **a high threshold does not invalidate the system of protection**, as it aims to protect against products that potentially harm the market for original designs due to the confusion that may result from copying. Such an approach is necessary, ***otherwise, a legal basis will be created for numerous lawsuits that will raise prices for manufactured products***. Few designers can sincerely claim that their designs meet the rigorous standards of exceptional originality. Consequently, there will be a significantly smaller number of plaintiffs willing to expend resources to prosecute a wrongdoing that is unlikely to meet this high legal "standard".

A clear definition of the originality of a design, and thus the conditions for liability, **is a viable compromise between copyright protection and patent law** (industrial property law - let's not forget design protection and trademarks (3D and 2D). Granting a monopoly to only a ***very limited number of design decisions strikes a balance between giving protection to design decisions and creating a rich design public domain*** from which elements other designers can draw inspiration. This measure will satisfy both the original designers and the rest who work in the industry. In order for the fields of design (architectural design, craft, design, fashion, etc.) to continue to develop and flourish, they must not be deprived of a broad societal base.

So industrial designs **are regulated in most countries by sui generis legislation**, which means the uniqueness of the legal design of an industrial design, ***its "non-embedding" in the current legal classification of IP objects***: inventions and utility models protect the technical side of the product, copyright and related rights - a form of expression of thought. The emergence of a special sui generis protection regime for industrial design is due to their similarity with works of art (objects of copyright) and trademarks and, therefore, "mixing", "intersection" of copyright and industrial property. **Overcoming the problems of confusion of legal regimes is proposed through three systems of protection: cumulative, partial cumulative and demarcation**. These are three approaches to linking copyright, trademark rights and industrial design rights.

The use of cumulative protection overcomes the disadvantages of each of these industrial design protection methods. "Disadvantages" (differences) may relate to both the conditions for granting protection (requirements for intellectual property rights), and the conditions for its operation (the fact of use, the term of protection) and the procedures for obtaining protection (patenting procedures, registration of objects). Business entities often use several methods of protection at once.

Cumulative protection based on the **"unity of art" theory** offers total and automatic enforcement of both copyright and special design regimes. The demarcation of regimes, based on the theory of "separability" or "dissociation", offers a clear separation of protection regimes, according to which industrial designs can only be protected by special (sui generis) legislation, since artistic expression, if any, cannot be separated from the product in which it is embodied. Such a position "breaks" the design of the concept of intellectual property as information that can be reproduced in any way / in any form. Partial coincidence (partial cumulation) of regimes will allow copyright protection for industrial designs in case of compliance with the standards of works of art, although the required level of artistic merit (not designated as requirements for objects of copyright in the

legislation of the Republic of Belarus, but taking place in judicial practice) is not easy to meet on practice.

The system of complete delimitation (demarcation) of protection regimes for design in its pure form is extremely **rare**, therefore, the systems of cumulative and partial cumulative protection of industrial design are most widely used. **The cumulative design protection creates the most favorable conditions for the abuse of the right and obstacles to competition**: having such a strong legal monopoly, the right holder can significantly prevent other bona fide participants in civil circulation from using similar results of intellectual activity. **The partial cumulation** sui generis industrial design protection system is currently **the most appropriate** for most legal orders and only protects **designs that are " exclusively original"**.

An unambiguous solution to the problems of mixing legal regimes is possible not so much through the creation of a special sui generis legal regime - a system of protection (full or partial cumulation, demarcation of regimes), but through a change in the paradigm of copyright and industrial property, which reflects the new emerging concept of intellectual property in the context of the development of a post-industrial society. The latter became **possible thanks to modern information technologies (virtual platforms for registration, cryptographic protection, depositing of objects of copyright, blockchain, NFT, cloud systems, etc.)**. The entire structure of intellectual property is called into question - the need for the existence of *industrial property, which is nothing more than objects of copyright used in production*. From this position, the concept of the object of copyright also needs to be revised, which requires understanding not as a form of expressing an idea, but the idea itself - information that has novelty and contains an element of transformative activity. Otherwise, emerging new forms of copyright objects will not be protected.

The paradigm shift in the field of intellectual property towards the protection of the rights of authors, i.e. the shift in the balance of interests of the copyright holder (author) and society and towards the author, is associated with the transition to a post-industrial (information) economy based not on material resources, but on information, in including on knowledge, innovation, creativity. We can already say that information is not so much a resource as a product of production. The resource becomes the person himself (the creator), and not material assets, therefore, the further development of the economy and social relations depends on the motivation of a person, the protection of the results of his intellectual, incl. creative activity.

The experience of foreign countries and international institutions in the field of design protection, in our opinion, is interest for the further development of science and intellectual property law, art and industry. The findings will save the resources of business entities in determining the methods and systems for the protection of design.

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PLM Applications in The Sustainable Design Process

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Abstract

Product Lifecycle Management (PLM) systems are used as a set of business solutions and tools for the management of the entire lifecycle of a product, from its design to its disposal. Sustainability in design is becoming increasingly important. In this process, the rapid changes in customer preferences and the resulting short product life cycles make the design, production and retail areas of related industrial products such as the fashion industry where design elements are at the forefront more complex. This situation has led to the increasing value of the design process in industrial products such as the fashion industry. For this reason, PLM has been increasingly used in other sectors where sustainable design is gaining value. PLM systems, called "digital revolution", can be used in all processes, from trend analysis, preparation of designs, preparation of prototypes, definition of samples and collection details, from production to retail processes, integrated with 2D and 3D software.

Design is the initial procurement process that moves from upstream to downstream through the procurement process. It represents the start point where the creative idea starts. Decisions taken at this level can determine the success or failure of a product in the market. The design process is also important in observing, archiving, classifying and sharing customers' needs, requirements and trends in a collaborative production environment. To ensure that the product can be successful in the market, Trend Analysis and Storyboarding processes and the design process must be interconnected. In this study, the stages of the design process are examined and the usage areas of PLM applications in these stages are mentioned.

Keywords: Fashion design, PLM, Sustainability

Introduction

As the other industries, design is so essential for developing fashionable apparel products in the fashion industry. Developing of product needs the effort of many people and departments. In the modern age, companies which engages about product development should have use Product Lifecycle Management (PLM) for better productivity and profitability values.

PLM is a process which is using at the all stages of company. It allows to create order, design, developing product, producing, marketing, suply chain, controlling in the company. There are so many software in the different industries that help all of these stages for using PLM. PLM has so important task all of these stages.

PLM is a very successful business strategy for managing the lifecycle of products. Many activities such as design, simulation methods, prototyping, quality control, integrated production, computer aided technologies such as CAD, CIM, documentation are carried out in an order thanks to PLM.

PLM is a digital set of values by which products are managed by digital computers, digital information and digital communication (Udroiu, 2016).

Main benefits of implementing a PLM system in companies are;

– Rapidly penetration to the market and market dominance
– More collaboration among different departments
– Better productivity
– Better product quality
– Decreasing of production costs and prototyping costs
– Ease of introducing new products
– Improving design
– Increasing of the potential sales
– Maximizing supply chain collaboration
– Reducing encironmentel impact for product life
– Increasing the sustainability practices

PLM is a simple approach technique. It is occured from simple production philosophy. Biggest difference of PLM from simple production philosophy is to increase efficiency at all stages. PLM focuses on using the power of information and computers to reduce inefficiencies that result from the design, manufacture, support and eventual disposal of a product (Negroponte, 1995).

Product Lifecycle Management (PLM)

Product Lifecycle Management (PLM); It is a digital management system used for the management of processes such as product development, production, distribution and reaching the consumer throughout the life cycle of a product. PLM provides an attempt to consolidate these different views and functional uses of an item (Grieves, 2005). PLM is the integration of business systems to manage a product's life cycle. PLM is an application technology to all aspects of a product's life, from its design. The University of Michigan PLM Development Consortium's definition is: "Product Lifecycle Management (PLM) is an integrated, information driven approach to all aspects of a product's life from its design inception, through its manufacture, deployment and maintenance, and culminating in its removal from service and final disposal" (Stackpole, 2003). PLM briefly, is the integration of business systems to manage the lifecycle of a product. PLM drives the next generation of lean thinking by trading product information for wasted time, energy, and material across the entire enterprise and supply chain (Grieves, 2006).

Main elements in PLM are:

– PLM is about product data, and all information contained in the system.

– PLM deals with the entire life cycle of the product, from its inception to the end of its life.

– PLM is an approach that includes more than just software or processes.

– crossing PLM boundaries; It includes all approaches functionally, geographically and organizationally.

– PLM combines employee elements (applications or methods), processes and technology in action.

– PLM drives the next generation of lean thinking.

The product life cycle of fashion products is short compared to other products. For this reason, the stages in which PLM takes place occur faster according to other products. The PLM Lifecycle model is a good one. It reflects the fact that there are several distinct stages in the life of a product. It indicates that the stages are sequential and that the product-related knowledge core is required for effective development and use of the product over time. Product information should be developed and used in the product lifecycle and should not be segmented into stages.

There are many functional areas around the PLM system. These areas directly or indirectly affect the operation of the PLM system according to the product life cycle (Figure 1.). This visual model clearly shows the process between the stages.

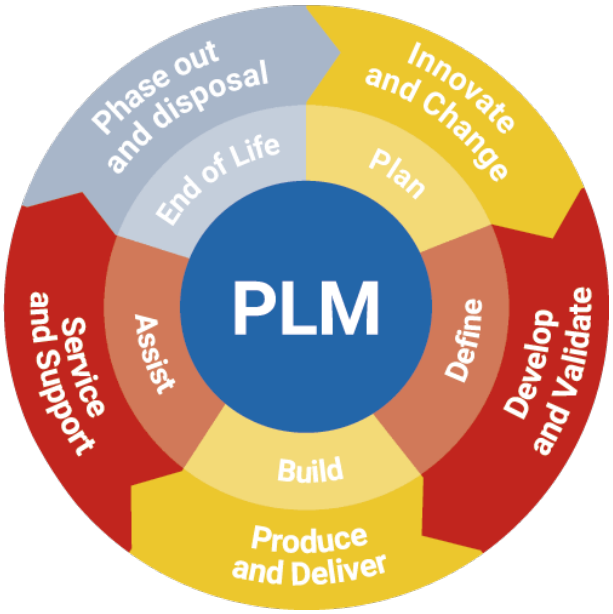

Figure 1. PLM Model around the informational core are the functional areas

Around the informational core are the functional areas that comprise a product's lifecycle. These functional areas are how organizations divide up the major categories of a product's life (Grieves, 2006):

– Planning
– Design
– Producing
– Technical support
– Dispose

Plan

In the production of a product, the first step of product development begins with needs analysis and planning. Questions are important to answers:

– What functions does the product have to perform?
– What are the requirements that the product must meet?

Design

The aesthetics of a product comes into play at this stage. While "form follows function" is the guiding principle of product design, function can allow for a wide variety of forms. Fashion product designers and industrial product designers put a lot of effort into the product design process and produce a wide variety of final design forms that can perform the same functions.

Producing

After the product is designed, the manufacture of the product is the task of production engineering. The designs should be analyzed well and the process that creates the processes should be well established in order to produce the desired product. One important issue is that the design cannot be produced as designed. In some cases, the problem is so serious that it cannot be resolved by team conflicts and must be sent back to the design engineers. In the next phase, product engineering takes functional designs and prototypes and creates their final specifications. Then, product engineers add the information to the product lifecycle model. At the end of the phase, the components that make up the product are defined in a purely math-based model or CAD specification.

Technical Support

The sales and distribution function uses product information to tell the buyer and user of the product what the product's functions and features are, and ensure that the product performs in expected specifications. This part of the product lifecycle also provides valuable data about the product. This information is invaluable in determining how the product actually performs in use, whether the product has been designed properly. These data are important information about whether a product performs its guaranteed functions as specified.

Dispose

Disposal/Recycling is the last stage of the product's life cycle. Thus, the product completes its life. Knowledge of product design, manufacturing characteristics and composition is essential for sustainability. Information about whether the product can be recycled using processes designed when manufactured is important information for future product designs. The cycle starts over with the next release of the product based on this knowledge core.

USE OF PLM IN FASHION DESIGN

Good fashion PLM software gives the ability to collaborate and store critical feedback/data in one platform. It also helps to coordinate all involved in the process to improve and delegate resources (www.surefront.com).

Design is the key feature of a product's success. The design process is a very time-consuming task when the workflow is created manually. PLM solutions shorten this process. Fashion PLM helps the design team develop design ideas by simultaneously collaborating on a new design idea. PLM allows designs to be shared instantly with all stakeholders, allowing corrections to be made instantly (www.wfxondemand.com).

Computer Aided Design (CAD)

Devices performing high-tech services in the apparel industry are commonly referred to as 'CAD/CAM'. In the apparel industry, CAD systems are mainly used in various processes such as garment design, pattern preparation, pattern grading, marker making and virtual garment simulation system (Öndoğan, Z., 2006).

These systems started out as simple drawing systems to aid the designer in producing faster and more accurate drawings, hence, the name computer aided design.

Initially, these systems were used as simple drawing systems to help the designer produce drawings faster and more accurately. Therefore, it was called Computer Aided Design (CAD). Today, the process has changed. Sketches and conceptual work of designers can be performed by CAD software with the help of CAD experts. Thus, the designers themselves sit in front of their computers and design their own designs and products directly on the CAD system. In the process when designers started to use CAD systems, 2D CAD systems now allow very successful work in 3D.

In order for PLM to fulfill its task in the design phase, the stages in the design process must be carried out with CAD and the data must be digitized.

Today, CAD (computer aided design) systems are used in the design and pre-production stages in the fashion and clothing industry. 2D CAD systems in fashion and apparel industry; It is used in the fields of technical pattern design and product data management, developed for the design of fashion styles, pattern making, editing and grading.

With the CAD systems developed for the design of fashion styles, model and pattern design, collection and catalog preparation can be carried out easily (Figure 2.). In these systems, after the pattern is drawn, it is colored and the pattern unit and fabric report are obtained (Şen and Öndoğan, 2004). In addition, story boards and presentation boards with designs made in these systems can be created. Thanks to these CAD software, it is possible for designers to reveal their creativity in a short time by choosing the right fashion design software. Weaving looms, dobbies and jacquards have also been integrated into these CAD software in recent years (Trivedi, 2015).

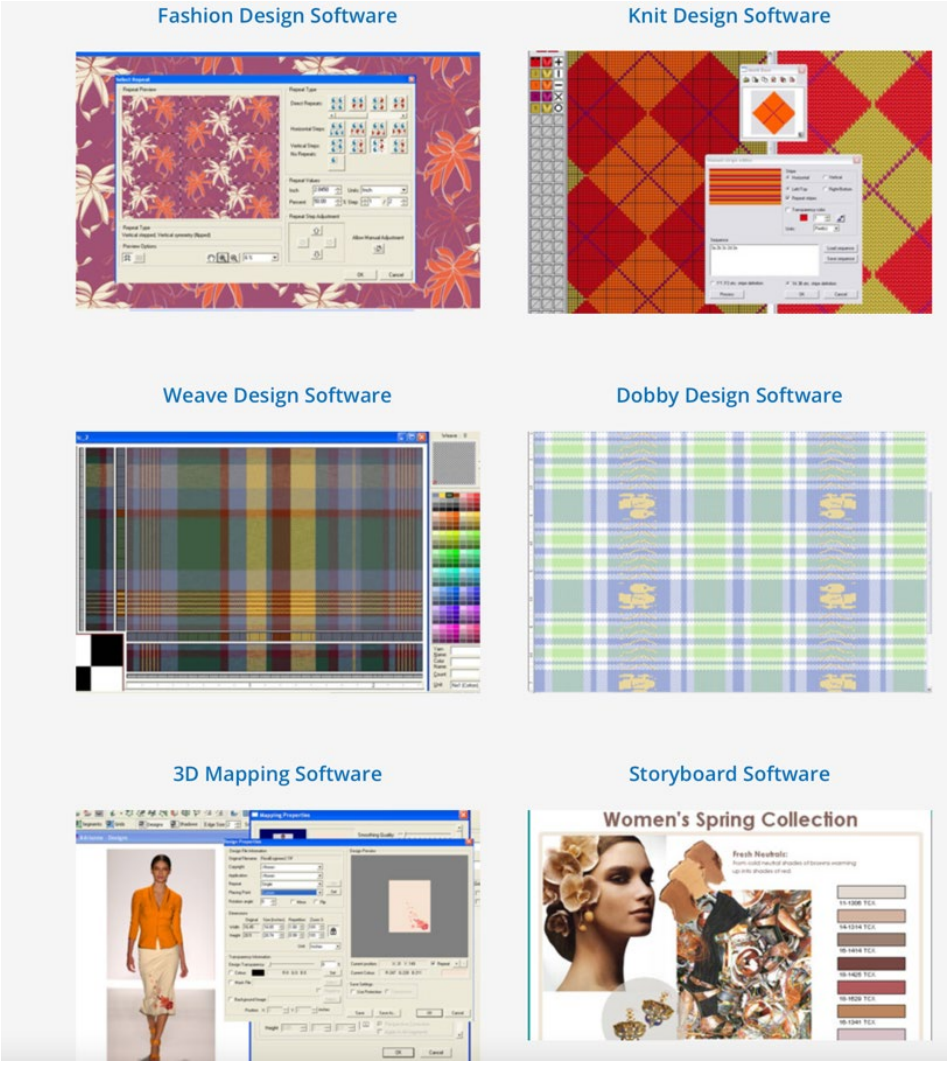

Figure 2. CAD systems in fashion design
https://www.nedgraphics.com/fashion-design-software/

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Sustainability in Music, Art,
Textile and Fashion (ICESMATF 2023)
January, 26-27 Madrid, SPAIN

2D CAD systems developed for garment pattern preparation; It is used for preparing clothing patterns, model application, pattern grading and marker making. While these systems increase product quality, they also enable time, labor and material savings to be made. In Figure 3., examples of pattern and marker created in these systems are presented.

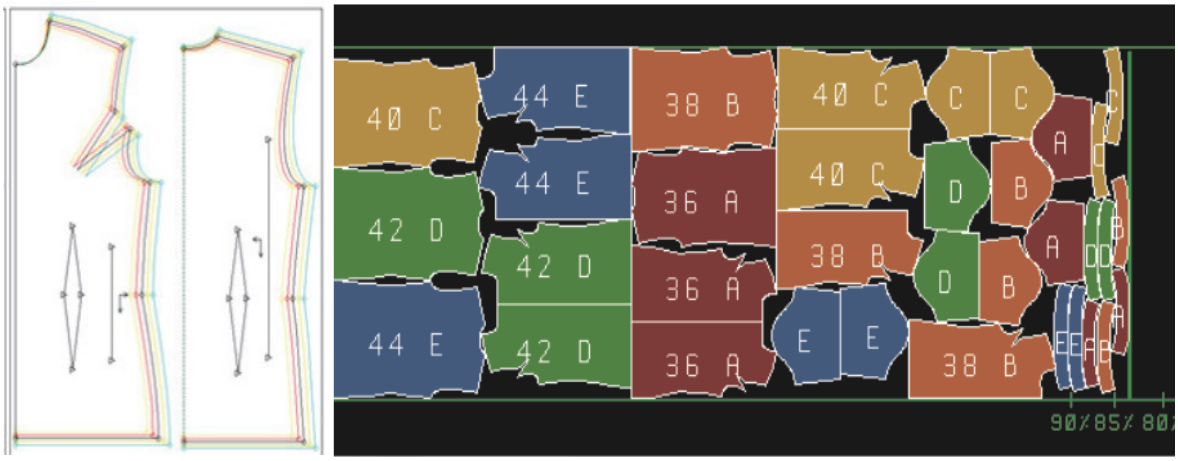

Figure 3. Examples of pattern and marker in 2D CAD systems

The purpose of virtual dressing systems, which are 3D CAD systems, is to garment design clothing models on virtual mannequins with the desired textile materials. Pattern pieces created in computer-aided pattern design systems are made three-dimensional with the help of these systems, and the necessary controls are carried out in terms of fit and aesthetics by dressing them on mannequins in the system. Taking advantage of 3D virtual clothing models significantly reduces both time-to-market and production costs of fashion products. 3D simulation allows designers to visualize the design and the draping effect without having to prepare prototype garments (Tama et al., 2016).

Figure 4. Virtual dressing in 3D CAD systems
https://masterkey.com.tr/masterkey/clo3d/

CONCLUSION

Product Lifecycle Management (PLM) is both a company strategy and a specialized information system (IS). The PLM approach can be seen as a trend towards full integration of all software tools used in design and operational activities throughout a product's lifecycle (Garetti et all., 2005). Therefore, PLM software packages require PDM systems, synchronous and asynchronous, local and remote collaboration tools and, if necessary, a digital infrastructure that allows exchange between software programs (Segonds, et all. 2005).

Considering the collection preparation processes in the fashion and ready-made clothing sector, trend analysis is carried out first. Within the scope of trend analysis, storyboards are prepared in accordance with the target audience, themes and colors are determined.

There are processes such as determination of suitable materials and auxiliary materials, determination of patterns, preparation of portfolio for presentations. Considering the parameters such as fast production and increasing season numbers, these processes are quite time consuming and lead to material consumption. All stakeholders in the supply chain should use PLM effectively in their processes in order to contribute to sustainability efforts in the fashion industry and at the same time adapt to the rapid competition in the market.

In the design process, with the effective use of CAD systems and PLM, collections can be evaluated with customers in a virtual environment without the need for fabrics to be knitted, woven, dyed, colored, patterned, and patterns prepared and sewn in the process of transforming designs into prototypes. Thus, while ecological sustainability is supported by the prevention of unnecessary waste, the savings in time, labor and materials provide a significant advantage to the sector in terms of economic sustainability.

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Reuse of Waste Clothes with Eco Print Method

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Abstract

After the production processes of the apparel and fashion industry, which is one of the global industries, and the consumption of customers, a significant amount of waste occurs and causes environmental pollution. Considering the parameters such as rapidly changing fashion, mass production, and water consumption in washing, it is seen that the waste problem in these sectors is quite high. These vital waste problems have led brands, producers and consumers to increase their awareness and to carry out many studies within the framework of the concept of sustainability.

In this study, first of all, evaluations were made on the sustainability studies of the apparel and fashion industry. Within the scope of the principle of reuse, which is one of the basic rules of the sustainability concept, the ecoprint method, which is an environmentally friendly approach, is explained for the reuse of waste clothes after consumer use. With the ecoprint method, completely different, original and unreproducible patterns were applied to the clothes that became waste after consumer use, such as faded or stained clothing. Thus, it has been possible for the apparel and fashion industry to transform and reuse waste clothes into unique and original products with an environmentally friendly approach. It is thought that this study will shed light on future studies within the scope of the concept of sustainability in the apparel and fashion industry, and will especially guide the designers in the field of reuse.

Keywords: fashion, sustainability, ecoprint, consumer waste, reuse.

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Introduction

Sustainability has become a common topic in the fashion industry (Thomas, K., 2020: 724). Especially in the last decade, with the increase in awareness on this issue, many fashion companies have started to include sustainability issues in their products (Puspita, H. and Chae, H., 2021: 133). Events such as global population growth, climate change, land and water scarcity have intensified in recent years, and sustainability pressures on both products and production processes have become more important in this sector (Gazzola, P. et al., 2020: 3).
In this context, the concept of sustainable fashion has emerged. Sustainable fashion seek to empower workers throughout the supply chain, utilise upcycling, recycling, and traditional production techniques, and incorporating renewable and organic raw materials (Henninger, C. E., 2016). It includes all aspects of a garment's life cycle, such as fiber, fabric and garment production, distribution, reuse and waste management (Fletcher, 2008: 42).
When considering the life cycle stages of a garments, it is seen that the consuption of energy, chemicals and water high and this causes the environment pollutions (Jung, S. and Jin, B. 2014: 511). Regarding the parameters such as rapidly changing fashion, mass production, and water consumption for washing, it is seen that the waste problem is quite high. These vital waste problems have led brands, producers and consumers to increase their awareness and to carry out many studies within the framework of the concept of sustainability.
It should be designed and constructed a new system and basis for value creation, to help face future challenges in the fashion industry (Niinimäki, K., 2015:2).

Sustainability in Apparel and Fashion Industry

Increasing awareness of producers and consumers about environmental problems has also made them conscious of sustainability. Consumers prefer environmentally friendly clothing and manufacturers are looking for ways to meet these demands. With the increasing consumer interest in the environmental effects of clothing production, many companies such as Coop Switzerland, Levi Strauss & Co, Marks & Spencer, Nike, Noir, Patagonia and Marta have implemented sustainable practices (Parali, A., 2020:123).

The concept of sustainability in the clothing industry came to the fore in the 1960s and 70s with the transition to large volumes of production, decreasing manufacturing costs and increasing consumption amounts. The 1987 report of the United Nations World Commission on Environment and Development and the 3R: Reduce, Reuse, Recycle principle, which developed around the concept of ecological efficiency, constitutes the main idea of sustainable practices in the clothing industry today (Akdoğan Öneme, A. and Bursalıgil, 2022:26).

Increasing awareness of consumers has pushed manufacturers to work in this field, and 3R applications have come to the fore in the effective management of textile waste. The aim of the 3R approach is to extend the life of the products and to provide maximum benefit from these products (Yücel and Tiber, 2018: 375).

Recycling means recycling the product into new materials or fibers. The concept of recycling includes two meanings as downcycling or upcycling. Downcycling means that some of the value of the product is lost and its quality is lower than that of the original material. Upcycling, on the other hand, means higher quality of the product and increasing the value of the product through design. (Niinimaki, K., 2013:18)

Upcycling in terms of clothing design; is the application of creative ideas for the reuse of products. The natural dyeing and printing technique applied to used clothing is among the practices that represent upcycling and support sustainable clothing design.

The following items can be mentioned for the sustainability gains of the products, which are upcycled with eco print method and whose lifecycle is extended;
• Extending the life cycle of garment for an extra 9 months can reduce carbon, water and waste footprints by 20% to 30%,
• Reducing new clothing production 5% by increasing first use, reuse and repair times will provide environmental benefits equivalent to 20 tons of greenhouse gas emissions,
• If the number of times a garment is worn doubles, greenhouse gas emissions will decrease by about 44% compared to the production of a new garment (Botta, V. and Cabral, I., 2021:8).

Improvement techniques applied on garments that are considered to have completed their life cyle increase in direct proportion with the consumer's awareness of sustainability. As Türkmen states, these methods include reshaping, stylization, embellishment and printing techniques to give an added value to old, stained or damaged pieces and give life to them. The garments that are reshaped and worked on are restyled as unique pieces that contain manual labor (Türkmen, N. 2009: 90).

The ecoprint technique, which is within the scope of the principle of reuse, which is one of the basic rules of the concept of sustainability, is an environmentally friendly approach that extends the service life of clothes. Natural dyeing and printing methods make a significant contribution to reducing the environmental burden by enabling the reuse of clothing.

The eco-print technique directs the producers and consumers to offer solutions for excessive consumption, uncontrolled clothing waste and social negativities. Natural dyeing and printing methods, which extend the life cycle of clothing, which are called as an user waste, with aesthetic and environmentally friendly approaches, are being reconsidered.

In this study within the scope of the principle of reuse, which is one of the basic rules of the sustainability concept, the ecoprint method, which is an environmentally friendly approach, is explained for the reuse of waste clothes after consumer use. With the ecoprint method, completely different, original and unreproducible patterns were applied to the clothes that became waste after consumer use, such as faded or stained clothing. In this way, it has been possible for the apparel and fashion industry to transform and reuse waste clothes into unique and original products with an environmentally friendly approach.

Application of Ecoprint Technique to Garments That Have Become Waste After Consumer Use

Eco print techniques, which are applied to garments that have become waste after consumer use, are considered as a design activity that emphasizes reuse within the concept of sustainable fashion.

It can be said that natural dyeing methods, which have been used traditionally from the past to the present, are being questioned and reviewed today, and some applications have turned into innovative approaches supported by technological developments. In this context, the use of natural dyes and renewable natural resources such as plants in coloring/patterning is a very interesting method in the textile and fashion industry in terms of both its environment friendly aspect, aesthetically and artistically unique print designs. All over the world, there are intensive researches on the revival of natural dyes, their widespread use and finding new sources (Özen, İşmal, 2021: 110).

In this part of the study, the ecoprint technique, which extends the life of the garments that have become waste after the consumer, is explained. The students of Ege University Faculty of Fashion and Design, carried out their studies within the scope of the course they took on natural patterning techniques in 2022. Each student emphasized the recyclability and reusability of shirts and t-shirts in their sustainable fashion projects.

Figure 1. Ecoprint studies carried out in Ege University, Faculty of Fashion and Design, Natural Patterning Workshop.

Ecological printing (ecoprint) is a method of patterning various surfaces using natural materials, with different mordant substances, with techniques such as steaming, boiling, burying in the ground, and soaking in the sun. The mediators used to ensure that the dyestuffs bind to the fiber more strongly are called “mordant”. The pre-processing to dye the textile fiber with natural dyestuffs is called “mordanting”. As Karadağ stated, in the mordanting process in mordant dyeing, respectively; Add enough water to the dyeing bath to cover the textile fiber to be dyed. The amount of mordant is weighed and added to the dyeing bath and mixed. The mordanting bath is started to be heated, then textile fiber is added and heated at 80-100 °C for one hour. The fiber extracted from the mordanting bath is first squeezed and then left to dry in the open air (Karadağ, 2001: 145-146; Karadağ, 2007: 12).

In the ecoprint technique, the processes generally start with the preparation of the fabric for dyeing. Flowers and plant leaves are placed on the fabric. The fabric wrapped on a cylinder is covered with a film and tied tightly with a rope. Wrapped fabric is boiled and kept waiting. After the plant parts are removed from the fabric surface, it is dried. Alum mordant solution was used in the studies. The ground was colored with the tied batik method, and the ecoprint technique was applied with various leaves and flowers. Rose leaves, velvet oak leaves, pepper tree leaves and yellow flowers were used extensively.

In the ecoprint technique seen in the examples, the garments were mordanted with alum. The background of the worn and stained garments, which are white in color, is colored in light tones by natural dyeing method. Various leaves and flowers are placed on the front body of the garments, which are colored with the tied batik method. In order to obtain a symmetrical pattern, a composition was created with flowers and leaves on the half of the front body. The

leaves were kept in vinegar water before the work. In the examples shown in Figure 4, the leaves were dipped in a mixture of iron sulfate and placed on the t-shirt. Shirts and t-shirts were folded from the vertical center axis a and wrapped around iron cylinders. After being kept in boiling water for about two hours, the cylinders were taken out of the water. They were opened after cooling. The leaves were removed and the garments were left to dry.

Figure 2. The background of a faded, stained white cotton shirt was dyed with natural dyestuff obtained from pomegranate (Punica granatum) peel off before applying the ecoprint technique.

Figure 3. Front and back view of cotton shirt with ecoprint technique.

Figure 4. The faded, stained white 100% cotton t-shirt is printed with Kasu Acacia (Acacia Catechu).

Figure 5. Cotton t-shirt samples with ecoprint technique.

Conclusions

In this study, individual application examples were given with the ecoprint technique. As part of the slow fashion and upcycling approaches, new suggestions were made to the users, and an activity proposal that could be developed within the framework of sustainable fashion was presented. It is thought that this study will guide future studies within the scope of the concept of sustainability in the ready-made clothing and fashion industry. It is seen that various projects

are carried out by including sustainability in fashion design education in universities. In this regard, besides the theoretical education, the environment where applied design practices can be carried out should be provided to the students.
It is supposed that the outputs of sustainable fashion design concept can be transferred to environment and nature by using this natural methods.

It is important for sustainable fashion to create social awareness about extending the life of garments and to offer new suggestions. The intense energy and resources spent in the production of garments due to fast fashion lead consumers to develop new methods for longer use of garments. Ecoprint applications recommended in this direction offer effective solutions to extend the life of garments.

When the ecoprint technique is applied to stained, torn and ripped garments with a usage story, a new look can be given to the garment, and every practitioner can become a designer who creates his/her own fashion, as in sewing and repair techniques.

Natural dyeing and printing techniques applied to the garments after use create an opportunity for effective waste management without creating resource consumption. It contributes to the formation of social clothing culture by influencing consumers' clothing preferences, methods and durations. Therefore, ecoprinting applications offer strong alternatives to the fashion industry in terms of ecological sustainability, social/cultural sustainability and economic sustainability in terms of the positive effect on the lifespan of garments.

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Quilt Design with Traditional Production within The Scope of Cultural Sustainability

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Abstract

Tradition is a set of customs, knowledge, habits and values that are passed on from generation to generation. The whole process of design and production has been affected by traditional values. Designers have included traditional values in the process with this cultural knowledge from the point of perception of life, daily life need and art.

This study conducted within the framework of cultural sustainability which is one of the main component of sustainability. The feasibility of textile surfaces and patterns created by traditional methods in the preparation of commercial and fashion collections was examined.

A quilt, which is a home textile product, was designed with traditional methods and motifs that represent Turkish culture as a result of our work aiming at the continuity of Anatolian traditions with sustainable materials.

In the design, it is aimed to contribute to ecological sustainability by using felt, cotton woven and natural dyestuffs, and to cultural sustainability by using traditional methods and Anatolian motifs.

In addition, it is thought that the countryside will be revitalized and it will contribute to the dimensions of sustainability in economic and social terms by the basis of design with traditional production methods and cultural values.

Keywords: Cultural Sustainability, Fashion Design, Quilt, Turkish Culture.

Introduction

Natural resources are being depleted rapidly due to the developing technology as a result of industrial revolutions and the big increase in the world population. The concept of sustainability has emerged as a solution to the careless consumption in natural resources and the increasing amount of waste. The concept of sustainability was first mentioned as "Sustainable development" in the Brundtland Report titled "Our Common Future" prepared by the UN World Commission on Environment and Development [WCED] in 1987. According to this report, sustainable development; It is defined as the provision of daily needs without compromising the ability of future generations to procure their own needs (Şen, Kaya, Alparslan, 2018).

The concept of sustainability first emerged in the fields of agriculture, forestry, fisheries and renewable resources (Bozdoğan, 2005). The main characteristic of this concept that is it deals with the future of human beings and includes the protection of the resources of the area in which it is used (Tıraş, 2012). Sustainability is the progress of an institution by taking steps that will positively affect economic development, human life and environmental balance in the interaction of these three dynamics, taking into account its economic, social and environmental dynamics (Utkun and Ünal, 2020).

Essential dimensions of sustainability are economic, environmental and social/cultural sustainability. The economic dimension of sustainability is about the concept of welfare and the protection of a capital and the prevention of its deterioration. The environmental dimension of sustainable development involves issues such as maintaining the existence of resources in the future, preferring renewable resources, and using only sufficient amounts of non-renewable resources (Şahin and Kutlu, 2014). The social/cultural dimension of sustainable development aims to ensure the basic needs of the individuals living in the society. Culture includes an important factor in the dimensions of sustainability. Culture must be evaluated against ecological, social and economic demands and sustainability requirements. Culture has an influence that drives sustainable development across social and ecological pressures and needs (Türkoğlu, 2020). Socio-cultural sustainability is important in terms of maintaining the lifestyle and habits in the society, and protecting the cultural heritage (Alptekin, 2021). The eventual loss of cultural heritage can have a significant social and emotional impact on a community, leading to loss of social cohesion and sense of identity. Such problems that the society will

experience can cause international unrest. (https://sustainability-success.com/cultural-sustainability/).

Sustainable design concept and sustainable product design emerge as an important concept for designers today, where sustainability is on the agenda in every aspect of life. Sustainable design; is the philosophy of designing social/cultural, economically and ecologically sustainable objects, spaces and services (Findikci, 2021). This approach is a systematic expression in which design performance is evaluated together for economic, environmental, health, culture and safety purposes throughout the entire product and process lifecycle.

In this study, the applicability of textile surfaces and patterns created by traditional methods in the preparation of commercial and fashion collections was examined within the framework of cultural sustainability. Quilt is defined as a wide blanket used for covering, obtained by filling and sewing between two fabrics with a filling material generally consisting of wool or cotton. The first quilt samples of Turks with nomadic culture are animal skins and felt technique covers. However, traditional quilting has begun to lose its value in the past as a result of the development of technology and industry and accordingly the change in lifestyle and conditions, and today it has come to the brink of being forgotten (Özcan and Bozkaya, 2021). In this study, a quilt, a home textile product, was designed as an example of sustainable design, inspired by traditional quilting, especially within the framework of cultural sustainability. In this quilt, it is aimed to ensure the continuity of Anatolian traditions with sustainable materials and motifs belonging to Turkish culture are used in patterning works.

Sustainable Product Design Example: Quilt Design Process

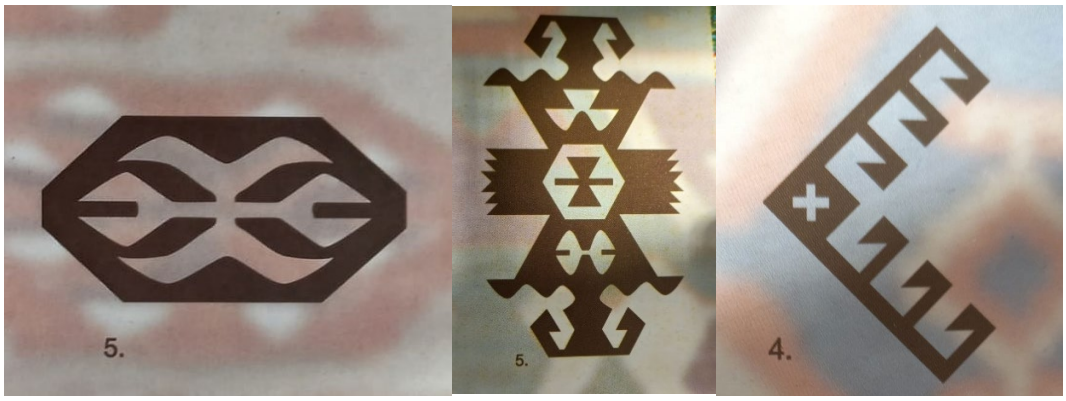
In this study, it is aimed to design a multifunctional quilt in accordance with the concept of sustainable product design, inspired by traditional quilt making. It is aimed that the comfort and ergonomics standards during rest and sleep as well as the quilt is also intended to fulfill a separate function by using it as a bedspread. The designed quilt consists of a two-layered cover and a filling material placed between it. It is thought that the lower surface that the user touches should be made of a non-sweating soft touch fabric. For this reason, textured poplin fabric from 100% organic cotton material was preferred for the lower surface of the quilt. The organic cotton material used in the inner layer is an environmentally friendly material that is considered highly sustainable because cotton fiber is a renewable natural fiber and produced by organic

methods. (Eser, Çelik, Çay, Akgümüş, 2016). Compared to conventional cotton, organically produced cotton reduces CO_2 emissions by 45% and water consumption by 87% (Kurtoğlu Necef, Tama, Boz, 2020).

In the design of a sustainable product, it is necessary to focus on the 3R or 4R concepts of sustainability. 3R concept;

- Reuse
- Reduce and
- Recycle it includes three basic concepts, including (Kurtoğlu Necef, Tama, Boz, 2020).

In the study, 50% organic cotton and 50% recycle cotton blended material was used on the upper surface of the quilt cover. Felt material made of 100% recycled wool was used as the inner filling of the quilt. Thus, in the product design, the recycling principle of sustainability was followed. The thin smooth non-woven surface felt layer to be used in the inner filling of the quilt is produced by compressing with the traditional wet felting method, with a maximum thickness of 4 mm. The felt layer, which will be produced in a single layer with the dimensions of 195x215 cm, is fixed to the inner and outer body and the fabric edges. Traditional felt making has a cultural value from the past (Ovacık and Gümüşer, 2016) and is accepted as an intangible cultural heritage for various regions of our country (Pekerşen and Çalik, 2017, Koçak, 2020). Felting art was formed in line with the needs of Turkish society and has continued to be preserved until today (Begiç, 2016). The nomadic life based on animal husbandry adopted by the Turks in Central Asia has led to the formation of felt making (Begiç, 2017). Maintaining the lifestyle and habits in the society and protecting the cultural heritage are important in terms of socio-cultural sustainability (Alptekin, 2021). Accordingly, the quilt filling designed in the study is a product suitable for sustainable design in terms of its production method. In addition, felt making has an ecological value, as felt is a natural material and its production takes place in a nature-friendly process. (Ovacık and Gümüşer, 2016). In the patterning of the upper layer of the quilt cover, traditional motifs belonging to the Turkish carpet and rug art were preferred, contributing to cultural sustainability.The design was inspired by Konya carpet- rug designs. In the design created, a pattern was designed by using motifs such as kurtağzı, elibelinde, bird and dragon (Figure 1. a, b, c,) (Erbek,1995). The motif pieces cut in the designed form were stitched with cross stitch on the main body in patch technique. (Figure 2.)



a. Kurtağzı b. Elibelinde and bird c. Dragon

Figure 1. a,b,c. (Erbek,1995)

Figure 2. Quilt Design

Conclusion

Sustainable design, which is the philosophy of designing social/cultural, economic and ecological sustainable objects, spaces and services (Findikci, 2021); Today, product design emerges as an important concept for all sectors. In recent years, design thinkers have argued that designers should have social responsibility. For this reason, in sustainable design, it is

necessary to consider the socio-cultural and economic effects of the design as well as the environmental effects (Selamet, 2012). In the study, a quilt, a home textile product, was designed as an example of sustainable design, inspired by traditional quilt making, which is a part of Turkish and Anatolian tradition, within the framework of cultural sustainability. In this quilt, while contributing to environmental sustainability by using sustainable materials, the felt production technique used in the creation of the inner filling material and the motifs belonging to the Turkish culture used in the patterning also contributed to cultural sustainability. In addition to these, it is thought that the traditional production methods and cultural values will form the basis of the design and the commercial revitalization of the rural area will contribute to the dimensions of sustainability in economic and social terms.

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Clothing as an Element to Enhance Visual Identity in Pop Culture: An Analysis from the "Art Pop" Album

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Abstract

This paper analyses the identity construction process of the artist Lady Gaga from her stage clothing on the album "Art Pop". From the technical point of view of the fashion/clothing area and linguistic analysis, it is interesting to understand how pop singers develop advertising strategies beyond just exploring songs and clips but bringing to their clothes identity elements that refer to their current work. These choices help generate a complete experience for fans based on the launch of various products, creating a consumption field beyond the music itself. Given the potential of these strategies for contemporary marketing, fashion, more specifically clothing, takes part as a possible enhancer of this experience. Clothing collaborates in maintaining the visual identity of the albums, which, consequently, will keep fans involved and generate more profits for the artists. Regarding methodology, this is hybrid research, using theoretical bases of fashion and applied linguistics, with exploratory objectives of a qualitative approach. We conduct a case study with a historical basis, analyzing Lady Gaga's album "Art Pop". Thus, we use the discourse analysis technique, focusing on understanding the role of clothing in constructing the visual identity of the singer's albums. "Artpop" marks the beginning of a radical change in performance, visual and communication style between Gaga and her fans. The singer's third work was released in 2013 regarding different musical styles and inspired by themes already addressed by the artist in other albums, such as love, sex, art,

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Textile and Fashion (ICESMATF 2023)
January, 26-27 Madrid, SPAIN

fame, etc. In this new era, Gaga tries to bring the image of "rebirth" already on the album's cover, with an allusion to the painting "the birth of Venus" by Sandro Botticelli. Using new communication tools to promote the work, the singer launched an application for more significant interaction with her followers. By proposing this hybridization of references in her art, Lady Gaga and her label sought to associate her star image with another mixing process between cult and so in the products launched during the CD's promotion, including the attempt to associate the singer's image with the Renaissance period, materialized by the image of the goddess of love from Roman mythology, Venus. From the conclusion, we expected to discuss the importance of clothing in creating artistic experiences in the musical area.

Keywords: communication, costume, Lady Gaga, recording industry, clothing.

Introduction

Pop culture refers to general and contemporary media products, such as series, movies, and songs, but mainly elements observed in the entertainment industry, massified among the large population, becoming mainstream pop culture, highly consumed (Soares, 2014; Soares, 2015). Although this general conception defines the core of what pop culture would be, not every cultural product that becomes massified is part of this type of paradigm. With this line of reasoning, pop culture products have common characteristics that point, in a central way, to pop-rock music, an artistic musical genre mainly consumed among young people, derived from the Rock of the fifties (Janotti Júnior, 2015).

In this scenario, the demand for building fan experiences makes it possible to generate a series of capitalizable products, such as dolls, plush toys, books and fashion items, returning in financial profit in licensing and cultural capital for all brands involved. , considering the value added to these marketable artifacts. Soares (2014) comments that:

> We are at a stage of capitalism where we cannot work on binary analyzes of the relations between capital and culture. Today, cultural products have the interference of a sense of wealth in their genesis, linked to marketing and the ways of positioning brands within a culture (Soares, 2014, p. 2).

Therefore, when studying these products, one considers the potential for added value and the symbolism that permeates them. In the modern pop phonography industry, singers and their marketing teams understand these needs because, when releasing music albums, they are concerned with developing tangible and virtual experiences that go beyond just listening to songs or buying albums (Fontana, 2018; Ferrari; Zamberlan, 2019; Zorzo, 2019). It is noticed that these producers seek to build a macroenvironment that connects fans to the semantic meanings that permeate the central product, enhancing the musical experience with the album and generating positive affective associations that will be marked in the individual and imagery particularities of these individuals.

By fans, these artistic experiences can be called “eras”, paralleling the historical period that begins with a remarkable and striking fact or originates a new order of things. Therefore, what is called in this work as “eras”, within the musical perspective, as well as among fans, refers to the period of launch of a music industry product, more specifically one or more albums by a particular pop singer that, together with this main element, a series of other products are developed that follow the aesthetic-symbolic dimension of the central artifact. In this way, each of these eras has specific aesthetic and stylistic particularities commonly related to the messages the songs on the album seek to communicate. The combination of these products enhances a deeper immersion of fans in the works and releases of an artist.

In this context, the clothing, more specifically the costumes, used by these singers, inside and outside the shows, can serve as a booster of the identity and intended visual experience, especially in the development of the character, as they also use the aesthetic elements -symbolic elements of the albums and manages to communicate its generating concept (Sales et al., 2019). Clothing as a social element serves as an artifact of a silent

communication of meanings, which designers can configure in such a way as to develop the maintenance of the consumption experience with fans (Miranda, 2008).

With that in mind, the importance of the singer Lady Gaga is highlighted, having started her career in 2008 and won several awards in the creative industry, both musical and cinematographic (Herbert, 2010). Thus, it is observed that the singer mentioned above's musical releases are permeated by visual constructs that generate a holistic experience for fans in the different spheres of marketing. These strategies communicate her character to the public, where she can effectively use clothing to create conceptual and semantic uniqueness with her artistic eras (Silva Júnior, 2011; Nascimento, 2018). This can be proven by the iconicity obtained by the singer with her costumes, becoming a reference when talking about conceptual fashion and striking costumes.

With the exponential increase in multimedia platforms, the entertainment industry has been showing significant growth, standing out from the planning of innovative marketing strategies, and overlapping cultural barriers. In the context of the music industry, this need is no different. Bearing in mind that we live in a time when the experience of users/consumers takes center stage in purchasing decisions, focusing on ensuring a positive response in this relationship is configured as a means of standing out from other artists, obtaining more profit and cultural capital for the brand itself and its sponsors. With this, clothing, from a costume perspective, plays an important role.

In the development of musical shows, artists, especially in the pop music genre, tend to have a clothing creation team. These select costumes have a semantic relationship with the album and tour that is being presented. Therefore, the relevance of this research lies in need to understand the strategies of musical artists regarding the use of clothing products as a means of symbolic innovation for the visual identity of album promotion, focusing on the marketing of the fans' experience.

Therefore, this paper aims to discuss the role of clothing in constructing the identity of the album "Art Pop" by the singer Lady Gaga.

Methodology

This paper is research of an introductory nature, as its purpose is to focus on the construction of analyzes and discussions to contribute to theoretical knowledge in creating costumes in Fashion (GIL, 2008). Regarding the objectives, it is understood as exploratory research, as it seeks greater familiarity with little-explored areas, such as the application of clothing in creating marketing experiences in the music sector (Gil, 2008). A qualitative approach will be applied to consider the data, as it deals with the analytical view of the researchers involved in the project towards the studied phenomenon (Gil, 2008).

Regarding the technical procedures, the project is analytical research based on history, as explained by Santos et al. (2018, p. 152), "The study of history in the scope of Design involves the interpretation of the process of transformation of cultures and modes of consumption and production over time, through the collection of information from individuals and documents or artifacts". This way, it analyses the general visual identity of albums previously released by singers. The case study method will also be applied (Santos et al., 2018), considering that it is intended to focus on the phenomena and experiences specifically involved in the releases of the singer Lady Gaga.

The singer Lady Gaga has launched, until 2021, 7 different artistic eras, a concept defined in the introduction topic. Chronologically, these eras are called "The Fame", "The Fame Monster", "Born This Way", "Cheek to Cheek", "Artpop", "Joanne", and "Chromatica", each with its own artistic identity. For this paper we examine the clothing of the "Artpop" era, comparing the strategies employed in each of these with the other compositional elements.

For a pertinent analysis to be carried out, it is necessary to establish legitimacy criteria, as these are the ones that will guide researchers in the process of visual decoding of costumes from each era (Orlandi, 2005 [1999]). To establish these criteria, the concepts of discourse analysis by Eni Orlandi (2005 [1999], p. 67) will be considered, in which "we start by observing the way of construction, the structuring, the way of circulation and the different gestures of reading that constitute the meanings of the text submitted to analysis". In the context of this research, the text to be submitted to the analysis process deals with the clothing of each album and its relationship with the general experience. To this end, an analysis sheet will be built considering the main points to be observed, guiding analysts through the process.

The performative nature and the extravagance brought about in the conception of her costumes since her first appearances in public made Lady Gaga a contemporary symbol of post-modernity by reaching the same level as artists who influenced her musically and culturally to build her image. To express the different messages in her songs, the artist used signs, symbols and icons that refer to pop icons such as Madonna, Elton John, David Bowie and Michael Jackson to reinforce this balance between music and aesthetics, thus constituting new narratives and discussions for the public. To understand the discourse contained in her compositions is to understand "how symbolic objects produce meanings, thus analyzing the very gestures and interpretation that she considers as acts in the symbolic domain, since they intervene in the realm of meaning (...) to know how an object symbolic (statement, text, painting, music, etc.) produces meanings" (Orlandi, 1999).

Results and Discussions

"Artpop" marks the beginning of a radical change in performance, visual and communication style between Gaga and her fans. The singer's third work was released in 2013, concerning different musical types and inspired by themes already addressed by the artist in other albums, such as love, sex, art, fame, etc. In this new era, Gaga tries to bring the image of "rebirth" already on the album cover (Figure 1), with an allusion to the painting "the birth of

Venus" by Sandro Botticelli. Using new communication tools to promote the work, the singer launched an application for more significant interaction with her followers. Created by the American plastic artist Jeff Koons, the composition and conception of the album by the American singer Lady Gaga called "ARTPOP" brings together references from the Renaissance Sandro Botticelli (1445-1510) to the modernist Pop of Andy Warhol (1928-1987).

Figure 1 - "Artpop" (Lady Gaga) album cover

In this work, it is possible to observe that the singer unites the classic and the contemporary. Even with some changes in the stereotype created in other musical eras, Gaga has not abandoned her performative and theatrical character, reaffirming her identity as part of this culture created by her. By proposing this hybridization of references in her art, Lady Gaga and her label sought to associate her star image with another mixing process between cult and so in the products launched during the CD's promotion, including the attempt to associate the singer's image with the Renaissance period, materialized by the idea of the goddess of love from Roman mythology, Venus. (Birth, 2018). A month after the release of 'Artpop', Forbes magazine published a review of the album on its portal. The text informs that after a quick survey of positive and negative criticisms of the album, a consensus on the material found indicates that the project does not present anything new to the public and is just a mix of different musical genres (Martins, 2014). During this period, a discussion begins about the trend of stagnation in Gaga's musical style and more significant pressure from the media for

reformulations in the artist's career. One of the successful singles from this work is "Applause", which follows the famous speech started in "Born This Way"; that is, it is a complete one from the previous album (Figure 2).

Figure 2 - Lady Gaga costume in "The Tonight Show" presentation. Simple and white look that emphasizes the sensuality of the singer's body

Presenting herself more maturely and sensually in some musical performances with this work, Gaga initiates a change in her "mother monster" costume by showing herself as a mighty woman already on the cover of the album, with artistic nudity amid references to artworks. The girl image gives way to a woman, mature, sensual, and able to say how to express her body and existence.

Final consideration

Within artistic experiences, clothing is used as a form of communication. Therefore, clothes enhance symbolic meanings projected by the pop singers' styling and costume creation team in a way that makes sense with the era in question. Thus, we observe clothing as part of

the construction of culture, which also involves constructing and exchanging meanings. The application of clothing in the context of performance in the eras of pop divas can be read through the paradigm of the stage, and theatrical costumes, in which these artifacts characterize characters and contribute to narrative cohesion, both for marketing and for the aesthetic-symbolic dimension of the artistic/musical work delivered by these singers. With that in mind, this essay aims to discuss the role of clothing in the narrative construction of Lady Gaga's "Artpop" album. Thus, we observe that clothing manages to play a significant role, serving as a means of conveying the music's messages.

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The Interaction and Acceptability of Potential Fashion Consumers in the Use of Virtual Reality for Fashion Shows: A Study with Generation Z

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Abstract

In recent years, virtual reality (VR) technology has grown in various industries, including fashion. VR in fashion shows can revolutionize how consumers interact with and experience fashion shows. As a reflection of social transformations, the fashion world follows the virtualization of social interactions, from developing personalized clothing for avatars to running fashion shows in a wholly digital environment. However, this human adaptability to different social contexts is conditioned to several things; among them, age directly influences this acceptance process of the virtual environment. Therefore, the acceptability of VR for fashion shows among potential fashion consumers, particularly Generation Z, is poorly understood. This study aimed to investigate the interaction and acceptability of potential fashion consumers in virtual reality for fashion shows, explicitly focusing on Generation Z. A survey was conducted with 66 Brazilian individuals from Generation Z. The study aimed to assess the influence of fashion involvement, attitude, and cybersickness on the user's

1st International Congress and Exhibition on
Sustainability in Music, Art,
Textile and Fashion (ICESMATF 2023)
January, 26-27 Madrid, SPAIN

experience with virtual reality for fashion shows. We asked the survey participants about their agreement with statements about their involvement with fashion, attitude towards virtual reality, symptoms of cybersickness, and demographic information such as age, gender, and income. The results of the study showed that involvement with fashion positively influences the attitude and experience with the use of virtual reality for watching fashion shows among Generation Z. Participants who reported higher levels of involvement with fashion also said more positive attitudes towards virtual reality and better experiences with virtual reality for fashion shows. Additionally, the study found that Generation Z participants reported cybersickness symptoms, which can negatively influence the user experience. The results of this study can provide valuable insights for businesses and marketers in the fashion industry who are interested in incorporating virtual reality technology into their fashion shows, as well as for researchers interested in using virtual reality technology in the fashion industry. The study highlights the importance of understanding the potential fashion consumers' involvement and attitude towards virtual reality for fashion shows and the adverse effects of cybersickness in the user experience.

Keywords: virtual reality, fashion show, generation, user experience, Metaverse.

Introduction

The industrial revolution, which took place in the second half of the 18th century, marked the beginning of significant technological innovations, which, with the emergence of capitalism, accelerated until the present day (Cavalcante; Silva, 2011). One of the creations since this period was virtual reality, which consists of a three-dimensional space produced by computers that simulate real life, whose visual elements can be accessed, among other ways, through augmented reality glasses (Machado; Netto; Oliveira, 2002). One of the functions of this device is to transmit images from different places in real-time. Such functionality has applications such as promoting events and immersing individuals in environments designed to

have social and consumer experiences, such as musical concerts, visits to museums, or, as it is used in the fashion world, for fashion shows (Marques, 2018).

For Madeira et al. (2022), the currently known internet would have a successor, the Metaverse. This term is not new and was already heard in some science fiction writings of the 90s, such as Snow Crash by Neal Stephenson, and consists of a three-dimensional cyberspace that promises significant changes in people's lives, from the digitization of education in schools and universities, even for social interactions such as work meetings and online games (Fernandes, 2022). Issues like this are becoming more and more relevant since avatars represent human bodies in a "world" where there is interaction and social contact, which can lead to alienation and disconnection from the real world (Bakes; Schlemmer, 2008).

In his article, Marques (2018) points out that technology and fashion have been going hand in hand from the first magazines of famous brands to the present day. In this way, it is possible to perceive this fact in the phenomenon of social networks, which is currently one of the means that most influences the world of clothing since it has a great reach throughout the social mass. The author still believes that many changes are yet to come and that technological trends ended up shaping the way that fashion is consumed, produced, and disseminated, as shown in her speech:

> Some of these macro trends are already clearly perceived and should influence the way we make and consume fashion, such as, for example, access, tracking, and sharing of items, the result of the revolution caused by cheapening and the use of artificial intelligence in all things (Marques, p. 263, 2018).

Under this bias, the context of the Sars-CoV-2 virus pandemic enters, which affected the entire world due to its high transmissibility rate. As a disease prevention measure, health authorities recommended quarantine, a form of social isolation, to reduce the spread of the virus (Dominguez et al., 2020). Thus, from the most conservative to the innovative, workers had to find an alternative to continuing their jobs. The home-office style, already adopted by some companies before, despite presenting adaptation difficulties for some people, was one of the possibilities to face now (Bridi et al., 2020). Since then, the use of digital platforms has

become increasingly common to the entire world population, promoting significant advances in how technology is used.

In this sense, some people were harmed in the migration to the digital world, among them the elderly, since this generation may have more difficulties in handling devices or accessing the internet correctly, feeling excluded to the detriment of a necessary digital inclusion (Guimarães, Ito, and Yamanoe, 2019). On the other hand, younger individuals, especially Generation Z, did not feel the damage of this change, as they were born in a context of constant advances in information technology (Verona et al., 2006).

Fashion shows are a crucial point of the clothing industry (Vilaseca, 2011; Mcassey, 2013; Treptow, 2013). We are considering that they aim to disseminate the result of production, which involves research, idealization, and development of the piece for a particular target audience, as well as the presentation of the message and concept present in the launched collection (Esteves, 2018). We can say that access to fashion shows is an essential tool for students in the clothing area, as well as for marketing communication developed by brands (Cavalcanti, 2017) and for people interested in consuming this type of media or the products offered by it.

In this context, it is necessary to point out that, despite the advantages that parades can bring, it is known that, in reality, not everyone has the opportunity to witness this type of spectacle, either because of the distance, financial situation, authorization of a responsible, absence of an invitation or opportunity. Therefore, to identify new opportunities for solutions to this dynamic, this project intends to verify the acceptability of potential fashion consumers regarding a new way of experiencing fashion shows and see how people react to the catwalks in the middle of virtual reality.

According to Manuel Castells (2003, p. 6), “The internet is a means of communication that allows, for the first time, the communication of many with many, at a chosen moment, on a global scale.” That is, it is possible to interact with people or places simultaneously without being physically in the place or close to the person being spoken to. Nevertheless, the internet can be used as a means for people to watch fashion shows from the comfort of their homes as

they happen. In addition, we intended that viewers use virtual reality glasses to make the sensory experience of the fashion show even more real as if the person were in the same place.

Therefore, this paper aims to identify the acceptability of virtual reality applied to fashion shows by potential fashion consumers from Generation Z.

Methodology

The research analyzed consumers' acceptance of following clothing shows in virtual reality, and the negative symptoms felt from such interaction, if any, that virtual reality may be linked to. This research is associated with the survey method previously exposed (Santos et al., 2018). However, it is essential to appropriate the following questions: What? As? Why? Emphasizing that the researcher will not have control over the variables (Pinsonneault; Kraemer, 1993) since the analysis of each user becomes individualized.

Based on this principle, the influence of age (generations Z) was investigated along with the "user experience," "cybersickness," and "attitude" scales (Huygelier et al., 2019) to understand the acceptability of immersion virtual to follow fashion shows. Still, to understand whether people with greater familiarity with fashion are more likely to accept such interaction, the "involvement with fashion" scale was added to measure whether acceptability is linked to how much the person is interested in that area. (Suhud et al., 2020) (Table 1).

Table 1. Questions/Dimensions studied in the survey

DIMENSÕES - ESCALAS
Experiência do usuário *(User experience)*
UE1. Gostei da experiência.
UE2. Eu descreveria a experiência como interessante.
UE3. Achei a experiência confusa.
UE4. Senti-me tenso durante a experiência.

UE5. Eu estava interessado na experiência.
UE6. Achei a experiência chata.
UE7. Achei que poderia usar os controles facilmente.
UE8. Achei a experiência frustrante.
UE9. Me sair bem durante a experiência foi importante.
UE10. Gostaria de reviver esta experiência.
UE11. Achei muito difícil.
UE12. Senti como se tivesse pouco controle sobre a experiência.
UE13. Após a experiência, senti-me como se voltasse de uma viagem.
UE14. Fiquei desapontado porque a experiência acabou.
UE15. Durante a experiência perdi a noção do tempo.
UE16. O ambiente e os objetos no ambiente não pareciam reais.
UE17. Senti como se estivesse visitando o ambiente.
UE18. Dei mais atenção à experiência do que aos meus próprios pensamentos.
UE19. Queria que a experiência terminasse o mais rápido possível.
UE20. Achei que o ambiente não ficou legal.
UE21. Senti como se os objetos do ambiente pudessem me tocar.
UE22. Fiquei curioso para descobrir o meio ambiente.
UE23. Não me senti como se estivesse no mesmo lugar que os objetos do ambiente.
Ciberdoença ***(Cybersickness)***
CS1. Náusea.
CS2. Desconforto geral.
CS3. Desconforto no estômago.
CS4. Sudorese.
CS5. Salivação aumentada.
CS6. Vertigem.

CS7. Dificuldade de concentração.
CS8. Dificuldade de foco.
CS9. Fadiga ocular.
CS10. Dor de cabeça.
CS11. Visão turva.
CS12. Tontura.
Atitude ***(Attitude)***
AT1. Usar óculos de realidade virtual me deixaria nervoso.
AT2. Estou animado para usar a realidade virtual.
AT3. Usar a realidade virtual me deixaria desconfortável.
AT4. Estou ansioso para usar a realidade virtual.
AT5. Acho que há muitos usos para óculos de realidade virtual.
AT6. Acho que a realidade virtual é difícil de usar.
AT7. Acho que a realidade virtual terá um grande impacto no futuro.
AT8. Acho que poucas pessoas estão abertas ao uso da realidade virtual.
AT9. Acho que gostaria de usar a realidade virtual com frequência.
AT10. Acho que teria que aprender muito para usar a realidade virtual.
AT11. Acho que a realidade virtual é segura de usar.
AT12. Sinto-me preocupado em usar a realidade virtual.
AT13. Se eu tivesse acesso a um dispositivo de realidade virtual, gostaria de usá-lo.
AT14. Estou relutante em usar a realidade virtual.
AT15. Acredito que a realidade virtual pode ser utilizada para diferentes faixas etárias
AT16. Acho que a realidade virtual é inútil.
AT17. Eu recomendaria o uso da realidade virtual para amigos e conhecidos.
AT18. Acho a realidade virtual intimidante.
Envolvimento com Moda

1st International Congress and Exhibition on
Sustainability in Music, Art,
Textile and Fashion (ICESMATF 2023)
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(Fashion involvement)
FI1. Para mim pessoalmente, a moda é um produto importante.
FI2. Moda é importante para mim.
FI3. A moda é uma parte importante da minha vida.
FI4. Estou muito envolvida(o) com moda.
FI5. Estou interessado em moda.
FI6. Achei a moda um produto muito relevante na minha vida.

Source: Adapted from Huygelier et al. (2019) and Suhud et al. (2020)

The glasses used to mediate the experience were the Tecnet Virtual Reality Headset model from the VR Shinecon brand (Figure 1).

Figure 1. Immersive virtual reality glasses used in field research

Source: Prepared by the authors according to research data (2022)

The entire research team tested the virtual reality glasses with a video of just over 1 minute before starting the data collection process as a form of methodological validation. We observed the need to compress the video time, as there would possibly be fatigue in the experimentation and response process. Once all project members approved the final method, the field research participants subsequently watched the last 40 seconds of a 2017 Dior fashion show, available in 360° on YouTube, to have a complete and objective experience - centered on the fashion show (Figure 2).

Figure 2. Video used as an object of study in field research
Source: Prepared by the authors according to research data (2022)

When it comes to sampling, we used the concept of non-probabilistic convenience. Gil (2008, p. 94) explains, "The researcher selects the elements to which he has access, admitting that these may, in some way, represent the universe." This choice is justified based on the time available to develop the research, as well as its exploratory-descriptive objective, where it is not possible to map all individuals, potential consumers of fashion, from Generation X, Y, and Z with internet access, nor is this configured as part of the objective of the research.

A minimum of 30 respondents was established for each Generation (X, Y, and Z) based on the premise seen in the central limit theorem that "samples greater than 30 are normal, regardless of the shape of the probability distribution of the population from which the sample is being taken" (Luchesa; Chaves Neto, 2011, p. 43). It focused on obtaining at least 90 general responses, with a distribution of 30 for each generation. In the same sense, a maximum limit of participants was not set, reaching 126 answers at the end, distributed as follows: Generation X (30 volunteers), Generation Y (30 volunteers), and Generation Z (66 volunteers). This paper proposes to analyze only the data of Generation Z.

Results and Discussions

Firstly, regarding previous knowledge of fashion, generation Z, in its majority (53%), claims not to have seen any fashion show during their lifetime, showing their low mastery over the subject, and, of the 31 who have already attended one, 25 had remote access, a fact that accentuates the lack of disposition and availability of the parades for this generation, with only six claiming to have participated in one in person.

This parameter continues to decline when asking about knowledge of fashion shows through virtual reality, where 54 claim not to know, 12 of which are already familiar with the subject. However, in the case of virtual reality, there is a great interest of the participants in the subject, since only one person interviewed declares that he does not want to know more or claims that he has not heard of virtual reality, thus showing a greater understanding in the regarding augmented reality environments among people aged 13 to 20 years. Such interest may result from their previous contact with technology, the generation called "digital natives." In this way, from an early age, there is a proximity between this generational cut and the digital world, making them more able to deal with modernity, as Guerin et al. (2018) argued.

Next, a survey was carried out on the involvement with the fashion of the people interviewed, which was generally positive (46%). However, despite considering fashion a vital product, it was possible to analyze that there is not a significant engagement in this segment on the part of the generation since only 19% (12 people) placed themselves in position 4 or 5 when questioned about your involvement with fashion.

About the attitude of this generation towards virtual reality, more specifically in the positive constructs, the data show the great connection with the technology, already foreseen, and the enthusiasm when talking about the subject, presenting a portion of potential consumers of this innovation, when giving a positive general picture, of 84%. The acceptance of this public to the use of virtual reality devices is also noticeable, with positive topics when asked if they agree that there are many uses for virtual reality, with a positive response of 84%, also regarding animation to use reality virtual, which corresponded to 88% of positive responses, or when asked about the impact of this use in the future, which varied to positive, with 90% of responses.

In this sense, the most relevant points can also be observed, such as the topic "If I had access to a virtual reality device, I would like to use it", which had 91% of positive responses, and "I would recommend the use of virtual reality for friends and acquaintances", with 92% consenting to the statement. The lowest percentage of positive responses is found in "I think I would like to use virtual reality often", with 54 affirmative answers, in contrast to the previous statements, where great excitement was observed with virtual reality.

Still, the results indicate the facility that respondents would have with virtual reality. In this sense, the results tend towards the negative part of the graph. However, they point out that the public claims not to have significant difficulties or aversion to virtual reality, revealing a positive attitude towards technology. Concerns raised by the survey, such as nervousness, discomfort, or reluctance, are not reported by about 75% of respondents. This shows that the

generation would suffer less from possible problems caused by using technology. However, when asked if they thought that few were open to virtual reality, 51% agreed with the statement, demonstrating that some people resist dealing with the subject. Furthermore, according to the data, only about 10% of respondents claim to have great difficulty using virtual reality, and 35% say they have to learn a lot to use virtual reality, a fact that would change with more significant investment in disseminating knowledge of this technology.

In summary, the general picture of the attitude of generation Z to the use of virtual reality tends the positive in most of the questions raised by the research, showing its relevance for the technological research environment. Such data can be used both for the topic in question and for future work that needs to know the level of acceptability of people aged 13 to 20 to use this technology.

The survey also carried out a study regarding the perception of cybersickness, which in all topics was negative in generation Z, revealing that this generation did not experience significant discomfort when using virtual reality glasses. The overall picture shows a negative trend of 83%. The most frequent cybersickness were eyestrain and blurred vision, with 21% and 24% positive responses, respectively. The problem least reported by the interviewees was sweating, where only one person claimed to have felt it.

In the foreground, about the experience of each user of Generation Z, it is possible to emphasize that the level of satisfaction was average since 50% of the opinions about the user experience were positive. Being the variable about having enjoyed the experience the most contributed positively to the participants' satisfaction level (95%), showing that the practice was pleasant for the vast majority. In addition, another point that had a beneficial influence on the users' experience was that they found the experience enjoyable (92%), which is directly linked to the fact that 82% of the participants responded that they would like to repeat the experience, thus demonstrating, a certain degree of curiosity, acceptability, and excitement with this new modality of watching fashion shows.

Furthermore, analyzing the negative constructs, the variable that most generated dissatisfaction in public was the one about the experience being boring (83%), which may be directly related to the fact that 84% of the participants found the experience least a little confused, and 73% of them didn't see the environment and objects in the environment real.

Examining the survey data, it turns out that Gen Z has a 46% engagement with fashion; it presents low symptoms of cybersickness since only 11% of the participants felt some discomfort; in addition, 51% of this generation showed a positive attitude towards virtual

reality shows, the main highlight being the desire to use virtual reality glasses again if they had one; and, finally, regarding the user experience, Generation Z demonstrated that they enjoyed the experience and found it interesting, variables that most contributed to the total of 50% positive opinions about the experiment they experienced.

Final Consideration

Technological innovations emerged in the mid-eighteenth century under the influence of the industrial revolution. Since then, these innovations have evolved more and more. One of the inventions that emerged was virtual reality, which consists of a three-dimensional space produced by computers which simulate virtual reality, whose visual elements can be accessed, among other ways, through augmented reality glasses. One of the functions of this device is to transmit images from different places in real-time. With the final considerations of writing the project, one should remember where and why this research was developed.

In such a way, the importance of fashion shows for the clothing industry was addressed. They are the critical point for promoting the result of production and have the objective of dissemination. However, despite fashion shows' advantages, there is a lack of practicality in person. That is, not all audiences have access to fashion shows in person. Thinking about technological advances, the idea of using virtual reality as a facilitator to watch fashion shows was developed to develop a more practical technique for watching these shows. Therefore, it would also be a way to promote different fashion shows, which, as has been said, are the critical point of the clothing industry. And for that, it was necessary to survey to identify the interaction and acceptability of potential fashion consumers in the use of virtual reality for fashion shows based on age observation, where people from generations X, Y and Z were interviewed, comparing dimensions such as attitude, experience, and symptoms of cyber-illness.

In Generation Z, 66 people aged between 13 and 21 were interviewed. The analysis of the answers showed that the dimensions of involvement with fashion, attitude and experience positively influenced the project; in addition, there were symptoms of cyber-illness, which can negatively affect the individual's experience, causing discomfort and possibly poor use of the experience.

Finally, we have the general and specific objectives completed. The general aim of identifying the acceptability of virtual reality applied to fashion shows by potential consumers of Fashion Generation Z could be determined from the data analysis. Furthermore, the specific objectives were identified from the division of data into dimensions of the general data, such

as analyzing the experience of using virtual reality by generations; and defining the perception of cyber-illness symptoms from using virtual reality by ages.

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The Role of Digital Influencers in Fashion Consumption in Brazil

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Abstract

The expansion of the internet has given rise to new forms of communication and consumption. In the meantime, one of the main features is the role of digital figures responsible for influencing a particular audience, be it food products, hospitality, and fashion products in this project's context. With that in mind, this paper aims to understand digital influencers' role in consuming clothing products in Caicó (Rio Grande do Norte – Brazil). Methodologically, it is applied research with exploratory-descriptive objectives and a qualitative-quantitative approach. We conduct a virtual survey with 103 potential fashion consumers. We test the relationship between two variables (source credibility (reliability, style, expertise) and personal connection) and their influence on purchase intention. With that, it was possible to conclude that 73% of the respondents agreed they are highly likely to buy fashion products promoted by local digital influencers. Reliability awakens about 54% of agreement as an item that directly influences the purchase intention endorsed by digital influencers. The digital influencer's style

evokes 72% agreement on its importance on purchase intention. The expertise dimension showed 67% agreement. Personal connection showed 51% agreement. Therefore, we can conclude that the style of digital influencers has a higher impact on the purchase intention endorsed by such individuals, followed by expertise. The results of this study provide important insights into the effects of digital influencers on fashion consumption in Brazil. The findings suggest that digital influencers significantly shape consumer behavior and trends in the fashion industry. We also find that source credibility with influencers may significantly impact purchase intention more than personal connection. The study also underlines the importance of understanding the role of digital influencers in shaping consumer behavior and trends. Nevertheless, this study highlights the need for businesses to consider the impact of digital influencers on their marketing strategies.

Keywords: communication, digital influencers, consumption, fashion, source credibility.

Introduction

The current way of life is marked by growing globalization, which implies strengthening interpersonal relationships that were impossible before due to geographic distance and low access to multimedia communication. This is due to technological advances in telecommunications and transport, for example, which evoke connectivity in a virtual environment, making the whole world interrelated (Burdek, 2010). In this sense, the emergence of the internet and its improvement over the years began to influence many people's lives in different ways, changing their way of living, thinking and even their values. Therefore, the possibility of choosing products and services has become more expansive in the face of virtual access parameters.

From this perspective, creating digital media such as Instagram, Facebook, and TikTok, among others, implied the emergence of figures responsible for handling them. Characters become prominent on multimedia platforms from a series of factors that make them known, follow and influence a particular target audience. In this context, living in a capitalist world, the need to expand the market is increasing more and more. Thus, the existence of bloggers

and, more every day, digital influencers has become extremely important for this movement of capital since its work consists of promoting services and products of specific brands around the world, having an audience made up of loyal consumers, who take what they have been told as something to be acquired.

Thus, for Lipovetsky (2003, p. 24), fashion is a phenomenon that encompasses the language and manners of society, from its tastes to its ideas, artists, and cultural works. Therefore, it is related to the different sociocultural influences of consumption and how these individuals, who guide an audience's particular taste or purchase demand, bring to light the aspect of fashion as a need to belong, to be part of a group. Rech (2002, p. 29) complements this thought by stating that advances in science also encompass the phenomenon of fashion and are present in the sociological, psychological, and aesthetic changes that occur in society, with digital influencers being one of the contemporary traits of this form of change.

For Castilho (2004, p.17), "fashion is an abstract entity that mobilizes ways for the subject to materialize as presence; proposes continuities and ruptures; inaugurates, recovers, and anticipates trends and perspectives". The man becomes present in a group when he adopts a costume that goes against his identity, belonging to the whole and making himself individual (Erner, 2015).

In this way, through a temporal and logical analysis, it is possible to perceive and understand why and for what these people, digital influencers, just called bloggers, emerged. Concerning fashion parameters, the role of this part of the population is to create content for other people to consume, using their popularity among social networks to give visibility to stores, brands, products, and services, converting them into a desired product, necessarily to be consumed. Thus, they use fashion and clothing as work tools, and the people who accompany them use them for inspiration and reference, whether in their dressing style or way of living.

Fashion, nowadays, is one of the most important and present industries in our daily life, being necessary for the formation of a unique and exclusive style and a way of expressing tastes, opinions, ideologies, and social issues. Bearing this in mind, the influence carried out by influencers has become an extremely decisive factor for the marketing and promotion of a given brand. In this way, today's consumers consider the entire process when making a

purchase, ranging from well-elaborated disclosure, which draws their attention, to qualified service.

Considering that technological advances have made social networks take over everyday life, consumers currently prefer to research and purchase online. Therefore, the role of the digital influencer in the fashion sector becomes essential because, through it, the consumer will consequently be influenced by their opinions and tastes. When this influence is carried out in a well-elaborated way, it influences other people, thus becoming an endless cycle of opinions formed around social media posts. For the local context, this paper brings a series of research that tries to understand the role of digital influencers in the consumption of fashion in that city, taking mainly the region around us, commonly known as Seridó, which has its particularities in the fashion sector.

Therefore, this paper aims to identify the role of local digital influencers in local fashion consumption.

Methodology

Regarding technical procedures, this research is a survey which was conducted in a virtual environment and disseminated only among residents of the Serido region (Rio Grande do Norte, Brazil). Santos *et al.* (2018, p. 178) define this type of research as "a quantitative research method that seeks to profile a known population about a limited number of questions" and complements by saying that "this method is applied when there is a need to purpose of profiling a group of people about their demographic characteristics, attitudes, activities, or opinions". This investigation appropriates this type of research by directly questioning potential consumers of Fashion products about how their relationship with local ID develops.

In this context, to access the self-perception of individuals, a replica of the questionnaire was used in the research conducted by Silva and Costa (2020), who investigated the role of ID in hotel chains, as previously discussed, but in this case, bringing to the context of Fashion products. In such a way, the possible relationships of these individuals were verified from the identification of the correlation between the psychometric scales of source credibility,

containing in this medium the reliability, style/attractiveness, experience, and parasocial relationship. As a dependent variable, the purchase intention scale was used (Table 1).

Table 1. Questions/Dimensions studied in the survey

CREDIBILIDADE DA FONTE
Confiabilidade *Considere o quanto você concorda que as características abaixo representam as influenciadoras digitais de Moda de Caicó.*
Confiáveis
Honestas
Transparentes
Sinceras
Fidedignas
Estilo/Atratividade *Em quais estilos ele (o digital influencer) mais se encaixa*
Esportivo/Casual
Clássico/Tradicional
Elegante
Romântico
Criativo
Moderno/Urbano
Experiência *Considere o quanto você concorda que as características abaixo representam as influenciadoras digitais de Moda de Caicó.*
Especialista
Experiente
Conhecedora
Qualificada
Habilidosa
Relação parassocial *Agora, selecione o seu grau de concordância com as afirmativas abaixo, tendo como base a sua percepção sobre a(as) influenciadora (as) de moda de Caicó RN*
Eu me sinto perto o suficiente para entrar em contato com ela (as)
Eu me sinto confortável com uma mensagem dela (as)
Eu posso confiar em informações que recebo dela (as)
Eu me sinto fascinado(a) com ela (as)
No passado, senti pena dela (as)quando ela cometeu um erro
Eu acho que ela é útil para os meus interesses
Intenção de compra *Agora, selecione o seu grau de concordância com as afirmativas abaixo, tendo como base a sua percepção sobre a(as) influenciadora (as) de moda de Caicó RN*

Há uma grande probabilidade de que eu compre produtos de Moda anunciado pelos influenciadores digitais de Caicó
Eu recomendaria o produto de Moda anunciado pelos influenciadores digitais de Caicó para meus amigos ou parentes
O produto de Moda anunciado pelos influenciadores digitais de Caicó seria uma boa compra

Source: Adapted from Silva e Costa (2020)

To classify the statements during the questionnaire response process, a Likert scale of five positive points (1; 2; 3; 4; 5) was used, ranging from "totally disagree" (1), "neutral" (3) and "totally agree" (5).

In addition, a section of the questionnaire aimed at sociodemographic issues was also used for a better definition of consumption profiles. The questions dealt with the definition of age, gender, marital status, level of education, city, frequency of consumption, most used forms of consumption (physical, online or thrift store), monthly income and the amount you are willing to pay for garments. Such data could be crossed with the delimited segmentation, pointing out marketing characteristics.

The questionnaire was built using the Google Forms platform, being disseminated in the leading digital media (Instagram, Facebook, and WhatsApp). All volunteers agreed to a Free and Informed Consent Form (TCLE). As inclusion/exclusion criteria, it was defined that respondents should have an active account on Instagram, follow at least two DIs in the city of Caicó (Rio Grande do Norte), and live in the Seridó region of the state of Rio Grande do Norte, as they are more susceptible to ID considered local.

Responses were collected from 147 individuals; however, after considering the established inclusion/exclusion criteria, particularly the need to follow at least two digital influencers from Caicó, this sample was reduced to 103 people (71%). For data collection, non-probabilistic sampling was used for convenience due to the subjective quality of the research.

Regarding the sociodemographic profile, it was observed that 80.6% (83) of the respondents were female, while 19.4% (20) identified themselves as male. The age of the individuals varied between 15 and 65 years old. About 84.8% of the respondents comprised people from Generation Z (between 15 and 27 years old). The remaining 15.2% were aged between 31 and 65. Therefore, it is worth emphasizing that these results more significantly

reflect the perspective of younger individuals than a broad and normal age distribution. Marital status did not vary considerably, with a significant predominance of single people (82.5%), followed by married (15.5%) and divorced (1.9%). On the other hand, the level of education showed a high variation between elementary (39.8%), secondary (33%) and higher (20.4%), even reflecting a relationship with the predominant age group.

Results and discussions

In the first section of our form, applied to the public in the Seridó region, we obtained 147 responses from people willing to participate in our survey. However, in the second section, about 1.4% (2 people) of the initial total stated that they did not have an account on the social network Instagram, reducing our sample to 145. In the third section of the questionnaire of the 145 respondents who claimed to have an account active on the network, only 71% (103 people) followed at least two fashion influencers in the region and were classified according to the inclusion criteria.

In the third section of the form, respondents should mark at least two fashion influencers who most follow from Caicó - the project's members chose the influencers indicated in the survey. Through these answers, it was possible to list Bruna Maia as the fashion influencer most followed by the respondents, with a percentage of 40.7% of the answers (59 people), followed by Letícia Isadora with 32.4% (47 people), Lohaynne with 30 .3% (44 people), Karinna Guedes with 25.5% (37 people), Jéssica Araújo with 20.7% (30 people), and finally Tayane Ramos with 13.1% (19 people).

Still, in the third section, with 103 respondents, it was observed that the purchase intention scale reached 73% agreement. In this context, it was observed that 51.5% agreed there is a high probability that they buy fashion products advertised by digital influencers from Caicó. In comparison, 21.4% said they were neutral, 20.4¨% ultimately agreed, disagreed 3.9%, and only 2.9% strongly disagreed.

Of these 103 participants, 59.2% agreed they would recommend the Fashion product Caicó's digital influencers advertised to their friends or relatives. In contrast, 22.3% said they were neutral, 16.5% strongly agreed, and only 1.9 % disagreed. When asked if the Fashion product advertised by digital influencers from Caicó would be a good buy, still in the third section, 60.2% of the 103 respondents agreed. In comparison, 27.2% of this public said they were neutral, 10.7% agreed utterly, and finally, only two people (1.9%) disagreed.

Moving on to the fourth section, data was collected about the characteristics that most represent the respective digital influencers of Moda de Caicó, mentioned in the third section of the form. For the reliability scale, 54% of the agreement was identified (Figure 1).

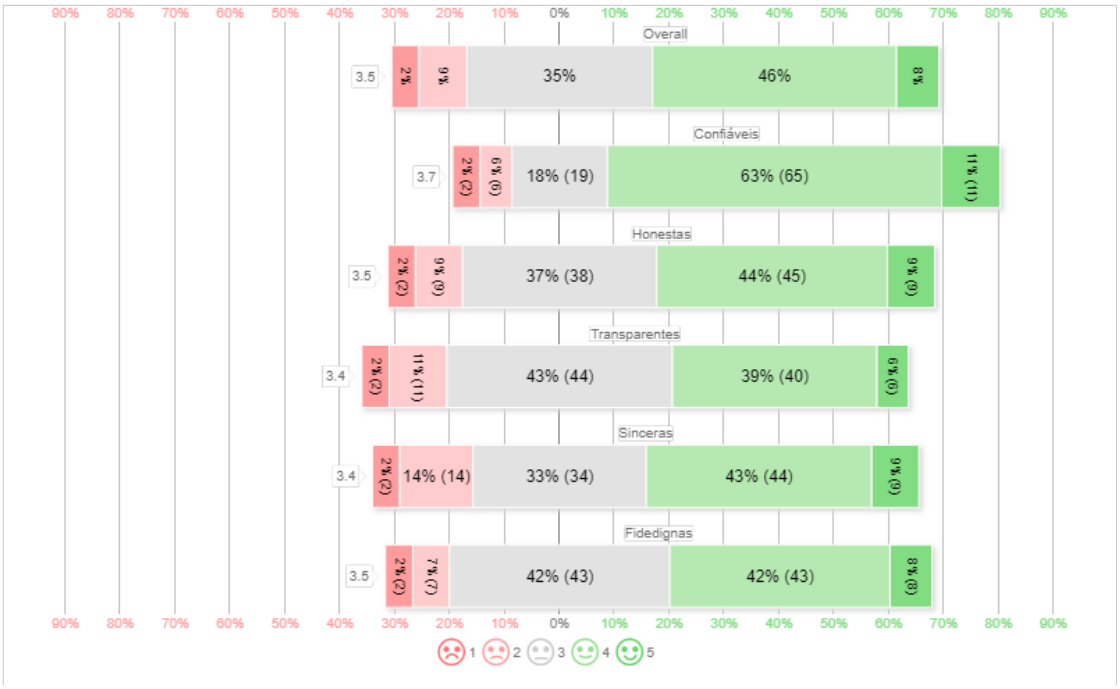

Figure 1. Results of the Reliability Scale of the Speech of Digital Influencers

Source: Prepared by the authors according to research data (2022)

When asked if influencers are reliable, of the 103 respondents, 65 agreed, 19 had a neutral position, 11 agreed, six disagreed, and only two totally disagreed; In terms of being honest, the vast majority (45) agreed, 38 were neutral, 9 strongly agreed, 9 disagreed, and 2 strongly disagreed; Regarding transparency, 44 had a neutral opinion, 40 agreed, 11 disagreed,

6 strongly agreed and 2 strongly disagreed; As for sincerity, 44 answered that they agree, 34 were neutral, 14 disagreed, 9 totally agreed, and 2 totally disagreed; Finally, when asked if they consider themselves to be trustworthy people, 43 had a neutral opinion, 42 agreed, 8 totally agreed, 7 disagreed, and only 2 totally disagreed. Thus, it was observed that "reliability" aroused greater agreement among respondents, while "transparency" was the variable observed with less agreement.

Still remaining in the fourth section, they should select the styles that best fit with the digital influencers that were mentioned in section 3. The styles that stood out the most were elegant, creative, and classic/traditional. Meanwhile, the least mentioned were sexy and romantic (Figure 2).

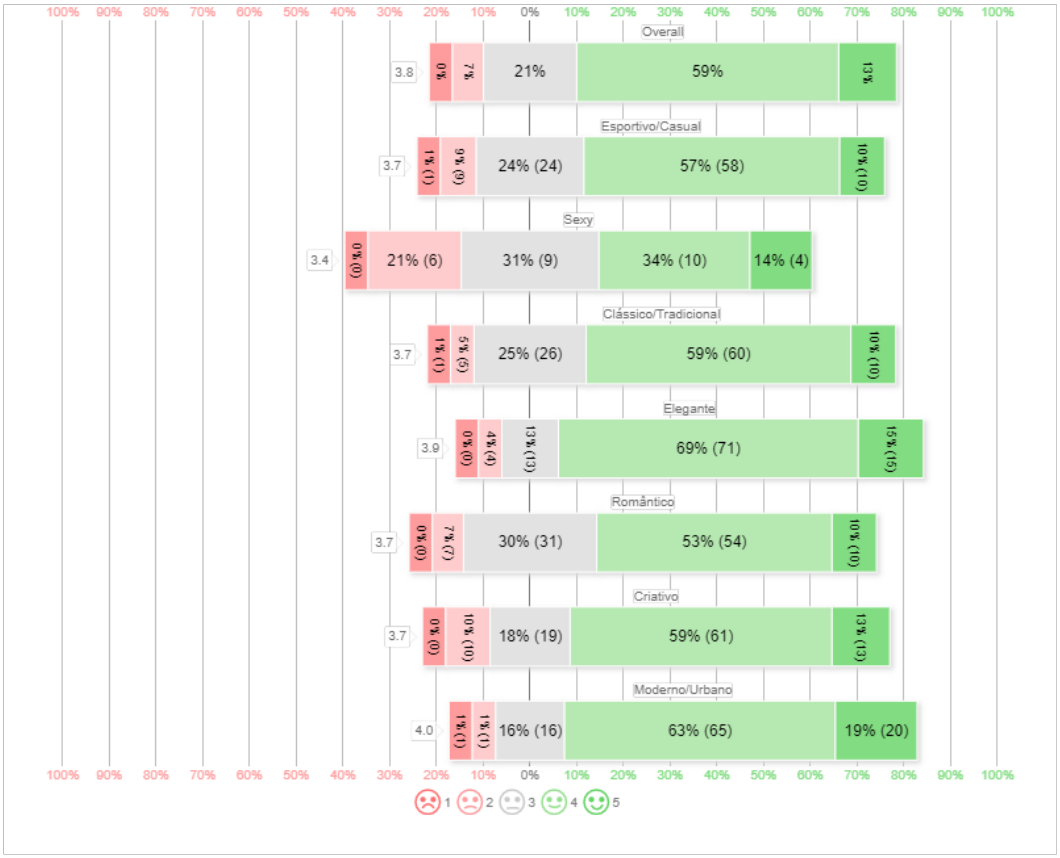

Figure 2. Results of the style scale of digital influencers

Source: Prepared by the authors according to research data (2022)

Concerning the sporty/casual style, of the 102 respondents, 68 agreed, 24 were neutral, 10 completely agreed, 6 disagreed and 4 strongly disagreed; In the classic/traditional style, 60 agreed, 26 opted for the option of being neutral, 10 completely agreed, 4 disagreed and only 2 strongly disagreed; On the question of being elegant, the vast majority (71) agreed, 15 strongly agreed, 13 were neutral and 4 disagreed; On being romantic, 54 agreed, 31 were neutral, 10 strongly agreed, 5 disagreed, and 2 strongly disagreed; As for creativity, 61 agreed, 19 were neutral, 13 completely agreed, 8 disagreed and 2 strongly disagreed; Finally, when asked if the respective digital influencers belonged to the modern/urban style, 64 agreed, 20 completely agreed, 16 had a neutral position, 1 disagreed and 1 totally disagreed.

Concluding the fourth section, it is questioned the level of experience the digital influencers most seem to have. Regarding this dimension, respondents expressed 67% agreement (Figure 3).

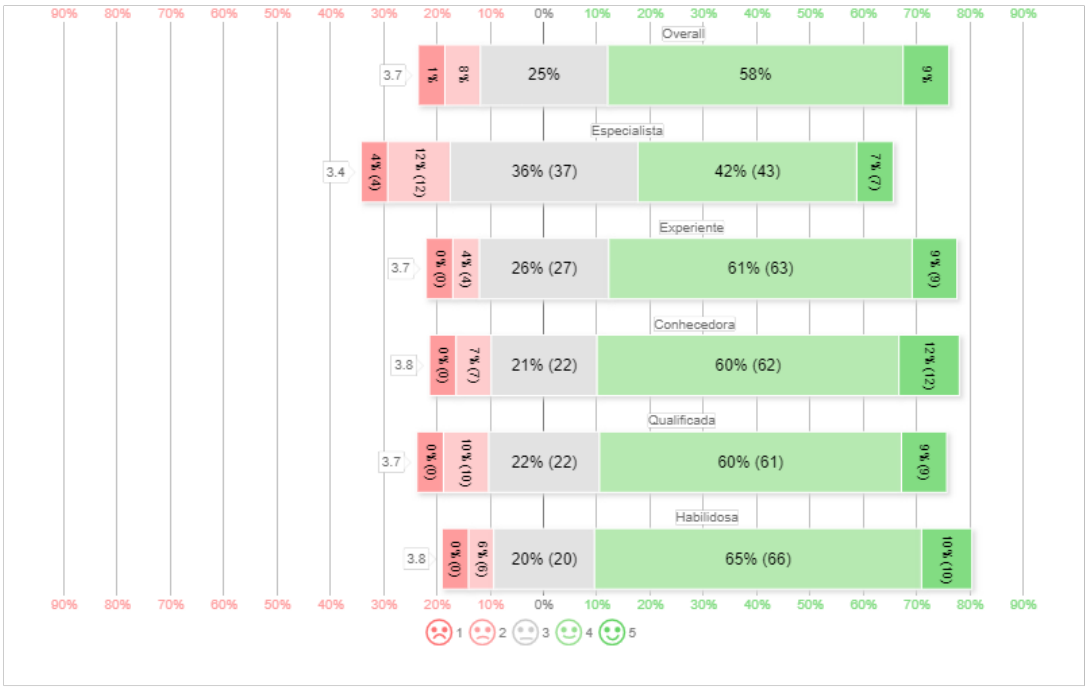

Figure 3. Results of the experience scale of digital influencers

Source: Prepared by the authors according to research data (2022)

In the "expert" style, 4 strongly disagreed, 12 disagreed, 37 answered neutral, 43 agreed and 7 strongly agreed. In the "experienced" style, no one selected the option "completely disagree", 4 disagreed, 27 responded neutral, 67 agreed and 9 strongly agreed. In the "knowledgeable" style, no one strongly disagreed, 7 disagreed, 22 responded neutral, 62 agreed and 12 strongly agreed. In the "qualified" style, the "completely disagree" option remained unselected, 10 disagreed, 22 responded neutral, 61 agreed and 9 completely agreed. And finally, ending section 4, we have the "skilled" style, which had the highest percentage of agreement. Once again, the "completely disagree" option was not used, 6 disagreed, 20 responded neutral, 65 agreed and 10 strongly agreed.

In the fifth section, data were collected on the degree of agreement based on the interviewee's perception of their proximity to fashion influencers from Caicó (Rio Grande do Norte). In this context, it identified a level of 51% agreement (Figure 4).

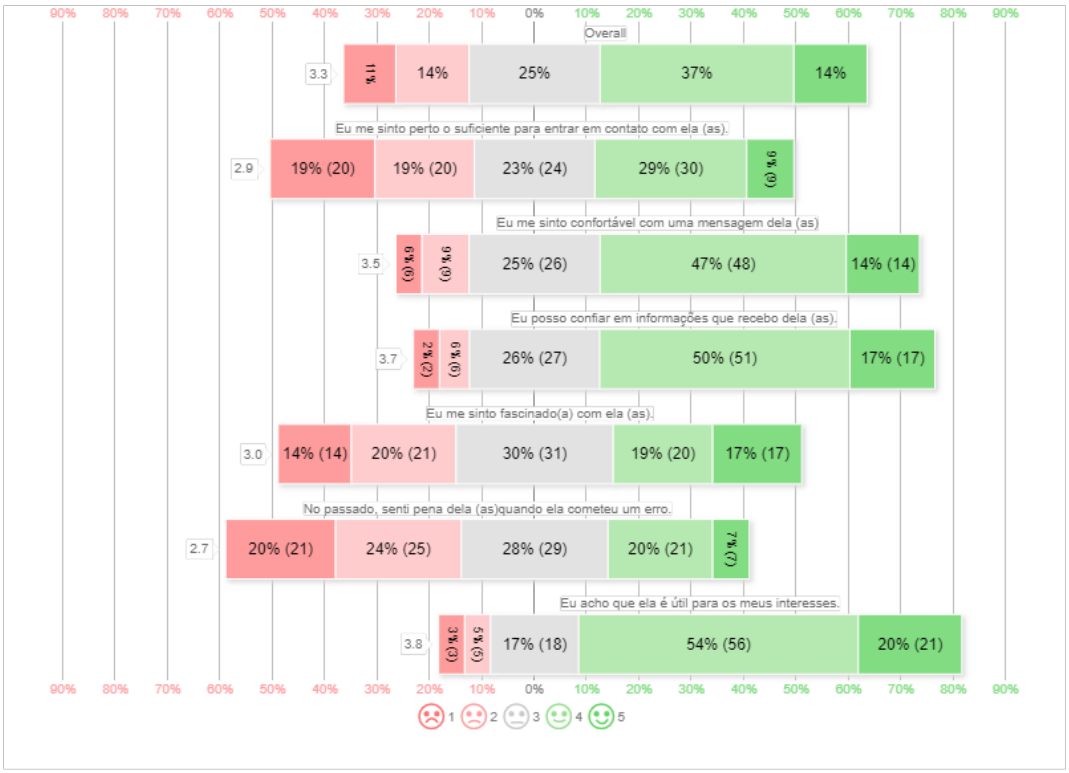

Figure 4. Results of the parasocial relationship scale with digital influencers
Source: Prepared by the authors according to research data (2022)

Of the 103 respondents, 30 agreed when asked if they felt close enough to contact the influencers, 24 had a neutral opinion, 20 strongly disagreed, 20 disagreed and only 9 strongly agreed. When asked if they felt comfortable receiving a message from such an influencer, the vast majority agreed (48), 16 people strongly agreed, 26 answered neutral, 9 disagreed and 6 strongly disagreed. 51 people agreed that they could trust the information passed on by influencers, 27 had a neutral opinion, 17 strongly agreed. 6 disagreed and only 2 strongly disagreed. When asked if they felt fascinated with the chosen influencer, 31 indicated a neutral statement, 21 disagreed, 20 agreed, 17 totally agreed and 14 totally disagreed. When questioning whether in the past, they felt sorry for influencer x when she made a mistake. 29 had a neutral response, 26 disagreed, 21 strongly disagreed, 20 agreed and 17 responded that they strongly agree. Finally, we asked if the respondents think that the influencer is helpful for their interests. The majority of respondents accounting for 56 people, agreed, 21 strongly agreed, 18 had a neutral opinion, 5 disagreed and only 3 of the 103 respondents strongly disagreed.

In section 6, 4 questions were asked related to the scale of use of social media. This level of 63% of the agreement was noted (Figure 5). When asked about liking to verify their social media accounts, 2 people strongly disagreed, 4 disagreed, 11 responded neutral, 43 agreed, and 43 strongly agreed. Regarding not liking using social media, 57 people strongly disagreed, 25 disagreed, 7 answered neutral, 10 agreed, and 4 strongly agreed. On using social media as part of their daily routine, 4 people strongly disagreed, only 1 disagreed, 7 responded neutral, 37 agreed, and 54 strongly agreed. Finally, regarding whether they respond to content others share on social media, 8 strongly disagreed, 7 disagreed, 22 responded neutral, 37 agreed, and 29 strongly agreed.

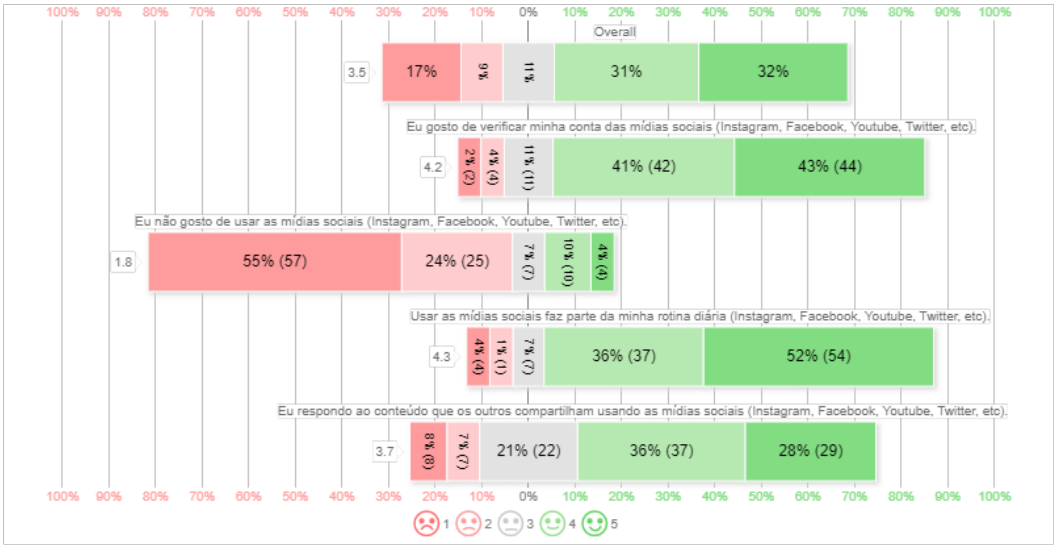

Figure 5. Results of the scale of use of social media by respondents

Source: Prepared by the authors according to research data (2022)

Final Consideration

Considering these aspects, this paper consists of research on the influence played by digital influencers in the consumption of Fashion in Caicó (Rio Grande do Norte, Brazil). In this sense, the objective was to identify the role of local digital influencers in endorsing fashion consumption, considering the perception of potential consumers/followers and local shopkeepers about this process. This way, these objectives were achieved by applying the questionnaire to the target public to determine their opinions.

Through the results of the questionnaire applied to the public, descriptive analyses were carried out. From this, it was possible to conclude that more than half of the respondents (51.5%) agreed that there is a high probability that they will buy fashion products advertised by digital influencers from Caicó. The analysis pointed out that the dimensions of reliability, attractiveness/style and parasocial relationship play significant factors in the purchase intention endorsed by digital influencers. Therefore, we notice that these influencers' experience is not essential for supporting the purchase intention.

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