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Utilizing Fabric Materials into Earrings

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ABSTRACT:

The paper "Utilizing Fabric Waste Materials into Earrings" investigates fabric waste materials that can be recycled to create earrings as a means to lessen the solid waste in the textile industry. Employing a mixed methods approach, combining qualitative and quantitative data collection, the study follows an exploratory sequential design. Qualitative data, gathered via questionnaires, examine fashion trends and preferences among jewelers, while the quantitative conducts three trials to assess the quality, design, and uniqueness of the fabric waste earrings based on the responses of the Jewellers in qualitative questionnaires. Respondents praise the earrings for their trendy fashion, durability, and sustainable product. Overall, successful development of earring jewelry from fabric waste materials, demonstrating its quality, design appeal, and customer satisfaction. The researchers suggest strategies to address solid waste pollution, including attending recycling seminars for fashion designers and developing business plans for jewelers to support growth and financial stability. Overall, the study explores the potential of recycling fabric waste in developing accessories as a solution to environmental pollution.

Keywords: *Jewelry, fabric waste materials, textile industry, recycling fabric, sustainable product*

Introduction:

The textile industry ranks as the second largest contributor to pollution, as highlighted by Patel et al. (2022). Clothing, an essential aspect of daily life, is increasingly mass-produced by industries to meet demand. However, this mass production often leads to significant fabric waste that remains unused. Earring jewelry serves as a decorative accessory for various garments and was developed using recycled fabric waste from factories in Guiguinto, Bulacan. Building upon previous research by Manalad et al. (2023), which proposed ways to minimize fabric waste in the Ready-To-Wear (RTW) industry, this study focuses on utilizing fabric waste to create innovative earring jewelry. Rapsikevičienė et al. (2019) suggested repurposing discarded industrial textiles into new items such as purses, accessories, and clothing. By addressing the lack of the influence regarding fabric waste recycling in different factories, particularly in Guiguinto, Bulacan, this study aims to encourage RTW factories to reduce textile waste. Ultimately, this research offers opportunities for individuals to establish businesses by recycling and innovating with fabric waste.

The general problem of the study is: How may fabric waste materials be used to develop

Earring Jewelry as Accessories

Specifically, this study seeks answer to the following questions:

1. How do Jewelers describe their product as a trend in fashion and its process?

2. What process may be developed to produce Earring Jewelry using fabrics waste

materials?.

3. How may the created Earring Jewelry from the fabric waste materials be evaluated by

the experts and students based on?

3.1 Quality,

3.2 Design; and

3.3 Uniqueness

This study used the CIPO Method which consists of content, input, process, and output. Under the **Content**. This research is based on the previous research titled Suggested Utilization process of Scrap Fabrics in the Ready-To-Wear (RTW) Industry: Minimizing the Fabric Waste, their research suggests that to adopt and implement the recommended utility model for the recycling of fabric scraps. With this, the factories from Guiguinto, Bulacan

can have an effective way of recycling their fabric waste materials. In line with this, the law of Ecological Solid Waste Management Act of 2000, also known as R.A. 9003, provides for a comprehensive ecological solid waste management program by creating the necessary institutional mechanism and incentives, appropriating funds, declaring certain acts prohibited, and providing penalties. **Input.** This research is the interview from the earring jeweler who's knowledgeable in making Jewelry. In order to create Earring Jewelry, fabric waste materials is one of the materials needed. On the other hand, the raw materials are resin, earring molder, earring hook, UV light, The interview results are used to create products with the use of fabric waste materials together with the raw material like resin etc. P**rocess**. In making the Earring Jewelry considered through the interview's result. The researchers conducted 3 trials to compare which fabric is suitable in developing Earring Jewelry. **Output**. At the end of the study, developed Earring Jewelry from the Recycled Waste Fabrics.

This study is an Assumption. Developing Earring Jewelry from the waste of the fabrics can help to recycle those used fabrics and turn them into a new and sustainable product. Creating earrings from fabric waste shows potential as an eco-friendly approach to lessen the fashion industry's environmental footprint. Buying waste materials for innovation can help stakeholders support a circular economy and encourage sustainable consumption. Further studies should tackle the challenges mentioned and seek more ways to utilize textile waste in fashion. Ultimately, collaboration among industry, policymakers, and consumers is vital for advancing a sustainable fashion sector.

Methodology:

This study employed a mixed methods approach, integrating qualitative interviews with five jewelers and quantitative surveys with one hundred students from Bulacan State University (Main Campus). Qualitative data delved into jewelers' perspectives on fabric waste jewelry trends, analyzed through structural coding and thematic analysis. Meanwhile, quantitative surveys gauged student preferences for the jewelry using Likert scale responses, with descriptive statistics utilized for analysis.

Population sampling involved purposely selecting five jewelers based on their relevance to the research topic and utilizing quota sampling to recruit one hundred students from Bulacan State University (Main Campus). This strategy aimed to ensure diverse perspectives from both populations, contributing to the study's comprehensiveness and validity.

Data collection methods included online interviews with jewelers for qualitative data and face-to-face surveys with students for quantitative data. Ethical considerations were paramount, with the researchers obtaining informed consent and ensuring confidentiality throughout the study process.

Results

Part I. Jewelers describe their product as a trend in fashion along with its process.

Table 1. Jewelers described their product as a trend in fashion based on the theme of Purposes

Themes	***Codes***
Purpose	Importance of Earrings for Completeness and Appeal
	Completeness and Attraction
	Expression of Personal Style through Earrings
	Role of earrings in Garments Design

The research identified the significance of earrings in fashion, emphasizing their role in completing outfits, attracting attention, and expressing personal style. Earrings serve multiple purposes, including completing outfits, attracting attention, and expressing personal style. They contribute significantly to how people present themselves and interact with others, extending beyond mere accessories to influence garment design and aesthetics.

Table 2. Jewelers described their product as a trend in fashion based on the theme of Appearance.

Themes	***Codes***
Appearance	Enhancement of beauty and appearance
	Attraction Enhancement of Garments by earrings
	Enhancement of Appearance through earrings
	Impact of Earrings on Garments Appearance
	Beauty Enhancement and Charm Addition
	Enhancement of Outfit Appearance

The research highlighted the role of earrings in enhancing the appearance and attractiveness of individuals and their garments. Xu et al. (2022) emphasized earrings as a means for individuals to beautify their appearance and express themselves through art and aesthetics. Earrings contribute to enhancing

beauty, drawing attention to garments, and improving overall appearance. They serve as a means for individuals to realize and create themselves through art and aesthetics, indicating their significant impact on perceptions of beauty and style.

Table 3. Jewelers described their product as a trend in fashion based on the theme of Quality.

Themes	***Codes***
Quality	Emphasis on Quality Materials
	Focus on Durability Materials
	Enhancement of Appearance through earrings

The research emphasized the importance of quality and durability in earring production, particularly focusing on the materials used and ergonomic considerations. Quality materials and ergonomic design are crucial for ensuring the longevity and satisfaction of customers in earring production. The research underscored the importance of emphasizing safety, comfort, usability, and overall product quality in earring design, indicating the necessity of considering these factors for successful earring production.

Table 4. Jewelers described their product as a trend in fashion based on the theme of Methods.

Themes	***Codes***
Methods	Effective Process in Earring Jewelry Creation
	Methods for Creating Earrings
	Effective Method in Earring Jewelry Creation

This research explored the diverse processes and methods involved in creating earrings, highlighting the complexity and craftsmanship required in earring production. Yang et al. (2022) emphasized the significant impact of recycling methods on product quality, underscoring the importance of effective recycling methods in earring production. Various techniques and approaches are employed in earring production, reflecting the complexity and craftsmanship involved. Effective recycling methods play a crucial role in maintaining or enhancing the quality of recycled products, emphasizing the importance of considering sustainability in earring production processes.

Part II. The process in developing earring jewelry using fabric waste materials.

First Trial

The research encountered challenges related to rough edges and uneven surfaces in the initial trial of making earrings jewelry, impacting the overall aesthetic appeal of the pieces. In the first trial of earring jewelry production, the researchers faced common issues such as rough edges and uneven surfaces, which could detract from the aesthetic appeal of the pieces. To address this challenge, they implemented a refinement strategy for the second trial, focusing on sanding down the edges and surfaces to achieve a smoother finish. This iterative approach reflects the researchers' commitment to improving the quality of their jewelry pieces.

Second Trial

The research underscores the unpredictability of earring production trials, as evidenced by the emergence of air bubbles in the resin during the second trial, despite resolving previous issues. Even after successfully addressing initial challenges, such as rough edges and uneven surfaces, the second trial presented a new obstacle: air bubbles in the resin. These bubbles threatened the quality of the earrings. To combat this issue, the researchers devised a methodical approach, emphasizing slow resin mixing and careful removal of air bubbles with a torch before curing. This adaptability and problem-solving approach reflect the researchers' commitment to refining their production process despite encountering unforeseen complications.

Third Trial

The research highlights the importance of iterative refinement in earring production, as demonstrated by the successful creation of high-quality earrings with minimal imperfections in the third trial. Equipped with insights from previous trials, the researchers refined their techniques for earring jewelry production in the third trial. By employing careful resin mixing and strategic air bubble removal, they achieved earrings with minimal imperfections. This iterative process, characterized by trial and error and innovative problem-solving, culminated in the creation of high-quality earrings with a smooth finish. This outcome underscores the value of continuous improvement and adaptability in achieving desirable results in earring production.

Part III. The evaluation of created earring jewelry from fabric waste materials based on quality, design, and uniqueness by the experts and the students.

Table 5. The Quality of the Earrings Jewelry as Accessories evaluated by the experts

Indicators	**Ave Rating**	**SD**	**Description**	**Interpretation**
Q1.The quality of the earring jewelry is highly recommended.	4.67	0.49	Strongly Agree	Excellent

Q2. The Quality of earring jewelry is worth to buy.	4.54	0.66	Strongly Agree	Excellent
Q3.The materials used in the products are durable.	4.67	0.49	Strongly Agree	Excellent
Q4. The earring jewelry promotes sustainability.	4.80	0.40	Strongly Agree	Excellent
Q5. The quality of the earrings jewelry satisfied my standard.	4.47	0.61	Agree	Very Good
OVERALL	4.63	0.53	Strongly Agree	Excellent

The research evaluated earring jewelry quality and satisfaction standards among experts, indicating overall high satisfaction with quality and standards, but with some variability in opinions regarding worthiness for purchase. Table 6 presents experts' evaluations of earring jewelry quality, with an average rating of 4.84, suggesting excellent quality. The highest average ratings, both at 5.00, were for earring jewelry quality and satisfaction with standards, indicating strong agreement among respondents. However, the worthiness of purchasing the earring jewelry received a slightly lower average rating of 4.60, with a standard deviation of 0.55, indicating more variability in opinions. Overall, while experts highly regarded the quality and standards of the earring jewelry, there were some differing opinions regarding its worthiness for purchase.

Table 6. The Design of the Earrings Jewelry as Accessories evaluated by the experts

Indicators	Ave Rating	SD	Description	Interpretation
Q1. The design of the earring jewelry is fashionable.	5.00	0.00	Strongly Agree	Very Satisfied
Q2. The design of the earring jewelry is visually appealing.	5.00	0.00	Strongly Agree	Very Satisfied
Q3. The overall design of earrings dded attractiveness to the wearer.	4.40	0.55	Agree	Satisfied
Q4. The design of the earring jewelry is highly recommended.	4.80	0.00	Strongly Agree	Very Satisfied
Q5. The design of these earring jewelry is creative.	4.80	0.00	Strongly Agree	Very Satisfied
OVERALL	4.80	0.11	Strongly Agree	Very Satisfied

The research evaluated experts' perceptions of earring jewelry design, revealing high satisfaction with fashionability and visual appeal but slightly more variability in opinions regarding overall attractiveness enhancement. Table 7 displays experts' evaluations of earring jewelry design, with an average rating of 4.80, indicating high satisfaction. Fashionability and visual appeal received the highest average ratings, both at 5.00, suggesting strong agreement among respondents and no variability in opinions. However, the overall design's ability to enhance the wearer's attractiveness received a slightly lower average rating of 4.40, with a standard deviation of 0.55, indicating some variability in opinions. While respondents highly regarded the fashion and visual appeal of the earring jewelry, opinions varied slightly regarding its overall attractiveness.

Table 7. The Uniqueness of the Earrings Jewelry as Accessories evaluated by the experts

Indicators	Ave Rating	SD	Description	Interpretation
Q1. The color combination of the earings contribute to their uniqueness.	5.00	0.00	Strongly Agree	Extremely Satisfied
Q2. The combination of fabric in earrings contributes to their uniqueness.	4.80	0.45	Strongly Agree	Extremely Satisfied
Q3. The materials used in earrings contributes to their uniqueness.	4.80	0.45	Strongly Agree	Extremely Satisfied
Q4. The aesthetic appeal is key factor when choosing unique earrings.	4.80	0.45	Strongly Agree	Extremely Satisfied
Q5. The incorporated recycled materials added unique value to the earrings.	5.00	0.00	Strongly Agree	Extremely Satisfied
OVERALL	4.88	0.27	Strongly Agree	Extremely Satisfied

The research evaluated experts' perceptions of earring jewelry uniqueness, revealing high satisfaction with aspects such as color combination and incorporation of recycled materials, but slightly more variability in opinions regarding fabric combinations. According to Fanny et al., (2023), the designing thinking method was used to create accessories and elements from waste materials, resulting in a unique art jewelry line. Table 8 presents experts' evaluations of earring jewelry uniqueness, with an average rating of 4.88, indicating high satisfaction. The color combination and incorporation of recycled materials received the highest average ratings of 5.00, suggesting strong agreement among respondents and no variability in opinions. However, the combination of fabric in earrings, while still rated high at 4.80, showed slightly more variability in opinions with a standard deviation of 0.45. While respondents highly valued the uniqueness of the earrings, especially the color combination and use of recycled materials, opinions were somewhat more varied regarding the contribution of fabric combinations to their uniqueness.

Table 8. The Quality of the Earrings Jewelry as Accessories evaluated by the students

Indicators	Ave Rating	SD	Description	Interpretation
Q1.The quality of the earring jewelry is highly recommended.	4.67	0.49	Strongly Agree	Excellent
Q2. The Quality of earring jewelry is worth to buy.	4.54	0.66	Strongly Agree	Excellent
Q3.The materials used in the products are durable.	4.67	0.49	Strongly Agree	Excellent
Q4. The earring jewelry promotes sustainability.	4.80	0.40	Strongly Agree	Excellent
Q5. The quality of the earrings jewelry satisfied my standard.	4.47	0.61	Agree	Very Good
OVERALL	4.63	0.53	Strongly Agree	Excellent

The research assessed students' evaluations of earring jewelry quality, revealing high satisfaction overall, particularly regarding sustainability aspects, but with slightly more variability in opinions regarding perceived worthiness. Ilhamuddin et al. (2021) highlighted consumers' interest in purchasing pearl jewelry mainly due to pearl quality, along with other quality attributes. Table 9 presents students' evaluations of earring jewelry quality, with an average rating of 4.63, indicating overall excellent quality. The promotion of sustainability received the highest average rating of 4.80, suggesting strong agreement among respondents and very close data around the mean. Additionally, the quality of the jewelry and the durability of materials both received high average ratings of 4.67, indicating excellent interpretations. However, opinions were slightly more varied regarding the worthiness of purchasing the earring jewelry, with a lower average rating of 4.54 and a slightly higher standard deviation of 0.66. Overall, the results indicate that while students highly valued the quality and sustainability of the earring jewelry, opinions were slightly more varied regarding its perceived worthiness for purchase.

Table 9. The Design of the Earrings Jewelry as Accessories evaluated by the students

Indicators	Ave Rating	SD	Description	Interpretation
Q1. The design of the earrings jewelry is fashionable.	4.60	0.55	Strongly Agree	Very Satisfied
Q2. The design of the earring jewelry is visually appealing.	4.68	0.53	Strongly Agree	Very Satisfied
Q3. The overall design of earrings added attractiveness to the wearer.	4.52	0.59	Strongly Agree	Very Satisfied
Q4. The design of the earring jewelry is highly recommended.	4.49	0.59	Agree	Satisfied
Q5. The design of these earring jewelry is creative.	4.80	0.43	Strongly Agree	Very Satisfied
OVERALL	4.62	0.54	Strongly Agree	Very Satisfied

The research assessed respondents' evaluations of earring jewelry design, indicating overall high satisfaction, particularly with creativity, but with slightly more variability in opinions regarding overall attractiveness enhancement. Neeru and Phophalia (2023) highlighted that a majority of respondents prefer to buy Eco Fashion jewelry due to their innovative designs. Table 10 presents respondents' evaluations of earring jewelry design, with an average rating of 4.62, indicating overall high satisfaction. The creativity of the design received the highest average rating of 4.80, suggesting strong agreement among respondents and very close data around the mean. However, opinions were slightly more varied regarding the overall design's ability to enhance attractiveness, with a lower average rating of 4.52 and a slightly higher standard deviation of 0.59. Overall, the results suggest that while respondents highly valued the creativity and visual appeal of the earring jewelry, opinions were slightly more varied regarding its overall attractiveness enhancement

Table 10. The Uniqueness of the Earrings Jewelry as Accessories evaluated by the students

Indicators	Ave Rating	SD	Description	Interpretation
Q1. The color combination of the earrings contribute to their uniqueness.	4.75	0.46	Strongly Agree	Extremely Satisfied
Q2. The combination of fabric in earrings contributes to their uniqueness.	4.78	0.42	Strongly Agree	Extremely Satisfied
Q3. The materials used in earrings contributes to their uniqueness.	4.78	0.44	Strongly Agree	Extremely Satisfied
Q4. The aesthetic appeal is key factor when choosing unique earrings.	4.71	0.50	Strongly Agree	Extremely Satisfied

Q5. The incorporated recycled materials added unique value to the earrings.	4.89	0.31	Strongly Agree	Extremely Satisfied
OVERALL	4.78	0.43	Strongly Agree	Extremely Satisfied

The research assessed respondents' evaluations of earring jewelry uniqueness, indicating overall high satisfaction, particularly with the incorporation of recycled materials, but with slightly more variability in opinions regarding the role of aesthetic appeal in choosing unique earrings. Table 11 presents respondents' evaluations of earring jewelry uniqueness, with an average rating of 4.78, indicating overall high satisfaction. The incorporation of recycled materials received the highest average rating of 4.89, suggesting strong agreement among respondents and very close data around the mean. Additionally, the combination of fabric in earrings and the materials used both received high average ratings of 4.78, also indicating extremely satisfied interpretations. However, opinions were slightly more varied regarding the role of aesthetic appeal in choosing unique earrings, with a lower average rating of 4.71 and a slightly higher standard deviation of 0.50.

Summary of Findings

This study investigates the feasibility of utilizing fabric waste materials to produce earrings as a means to reduce solid waste pollution. Findings from both qualitative and quantitative research questionnaires reveal that earrings are perceived as essential fashion accessories, completing outfits, attracting attention, and expressing personal style, with an emphasis on using high-quality materials and effective production processes to meet customer expectations and enhance garment design. The process of producing earring jewelry from fabric waste involves cutting scraps, blending epoxy resin, and refining techniques to overcome challenges like rough edges and air bubbles, resulting in high-quality earrings with a smooth finish. Evaluation of the created earring jewelry shows excellent quality, durability, and sustainability, with highly satisfying designs and extreme satisfaction regarding uniqueness, indicating the potential for fabric recycling to contribute positively to the fashion industry while addressing environmental concerns.

Conclusion

The researcher analysis focused on understanding the key aspects of earrings in fashion, examining their purpose, appearance, quality, and creation methods. The Purpose group highlighted how earrings complete outfits, attract attention, and express personal style, emphasizing their role in enhancing garment design. The Appearance group emphasized the impact of earrings on individuals and garments, underscoring their ability to enhance beauty and attractiveness. Quality-related codes stressed the importance of using high quality materials and ensuring durability to meet customer expectations. Lastly, the Methods group explored various techniques and approaches in earring production, emphasizing the need for effective processes to create appealing designs. Overall, our findings offer valuable insights into the multifaceted significance of earrings in the fashion industry, providing a comprehensive understanding supported by evidence from the analyzed codes.

The researchers concluded that in developing earring jewelry, in the initial trial of crafting earrings, researchers faced common issues like rough edges and uneven surfaces due to resin casting. Realizing the importance of a polished look, they sought solutions. For the second trial, they refined their approach by sanding the earrings after molding to achieve smoother surfaces. However, in this trial, they encountered a new problem: air bubbles in the resin. To address this, they adjusted their mixing technique and used a torch to remove bubbles. In the third trial, they combined these techniques, resulting in earrings with minimal flaws. This iterative process of trial and improvement led to the creation of high-quality earrings with a smooth finish.

The researchers concluded that the majority of the respondents answered that the quality of the earring jewelry is good and it is highly recommended, worth buying, and it satisfied their standard. And the result of the interpretation was excellent.

The researchers concluded that the majority of the respondents were very satisfied when it comes to the designs of the earring jewelry.

The researchers concluded that the respondents met their satisfaction in purchasing a product (earrings) and they value the uniqueness of the earrings, with an extremely satisfied interpretation.

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