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From Textile Waste to Fashion: A Study on Reusing Textile Waste for Promoting Sustainable Fashion for its Prospects

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Abstract: ***This research paper explores the imperative shift towards eco-friendly waste fabric management, emphasizing sustainable and recycle as key elements in environmental impacts. This survey investigates the perspectives of tailors and youngsters regarding sustainable practices in textile industry. By collecting responses from a diverse group of tailors and youngsters the study aims to understand their adoption and challenges related to eco-friendly materials, recycling methods, and sustainable techniques. The main purpose of this investigation was to promote awareness regarding sustainability and reuse of textile waste. During this study, the primary research from the tailors was done at (T- Nagar Tailors Street in Chennai) and youngsters were collected with the help of written questionnaire as well as personal interviews at Saveetha College of Architecture and Design in Chennai. This paper emphasizes more on eco-friendly environment and less wastage of textile fabric. Altogether of 20 respondents as youngsters and tailors were taken and their responses in terms of questionnaire and personal interviews were noted. This paper aims to contribute to eco-friendlier and more circular zero waste fashion industry addressing both environmental concerns and fostering a more sustainable future and know about the things that can possibly be reused and what they are making and understand the youngster's perception about reusing waste & promoting the use of eco-friendly materials and encouraging consumers to adopt a more mindful approach to fabric consumption. By identifying the areas for improvement and reusing textile waste materials we not only can help the fashion industry but also our mother earth for future prospects.***

Keywords: ***Eco-friendly, waste materials, recycling, sustainable fashion, up cycling, zero waste, ethical Fashion.***

I. INTRODUCTION

Being eco-friendly means living in a way that is not harmful to the environment. It is nature friendly; these substances are obtained from either plant or animal sources, and are bio-degradable in nature. They are recyclable and reusable. In the fashion industry, brands are exclusively established with the intention to produce eco-friendly products. Example: Tentree- designed in Canada and ethically manufactured globally. Sustainable fashion describing efforts within the fashion industry to reduce its environmental impacts, protect workers producing garments, and uphold animal welfare. It also uses biodegradable components from natural or recycled fibers; it consumes less energy and water, and employs no chemical treatment. Sustainable fashion aims to reduce the negative impact that the fashion industry has on the environment and to promote ethical practices that are good for the planet and the people. It refers to the practice of creating clothing, accessories and footwear using sustainable materials and production methods that have a minimal impact on the environment. The notion of up cycling and recycling has got more attention from many designers and business professional. The concept of taking waste and reimagining, reusing, and reinventing it is really a new-fangled idea since the substances are liberated and in frightful abundance, the after effects about the environment are none or minimal and consumers obtain the satisfaction of buying and using something potentially wasteful at a new and thrilling circumstance. Supporting up cycled fashion, consumers can actively contribute to reducing textile waste and promoting a circular economy within the fashion industry. From discarded garments to fabric scraps from manufacturing processes. The production of textiles involves various resources, including water, energy, and raw materials, where clothes are worn for shorter periods before being discarded. Designers, brands, and innovators are adopting innovative approaches to recycle, repurpose, and up cycle textile waste, giving it a new lease of life and reducing its impact on the environment. Now there is a growing moment towards sustainable fashion, where the focus is on reducing waste and promoting ethical practices. Choosing quality over quantity, opting for timeless designs, and investing in durable garments are some of the ways individuals can contribute to a more sustainable and environmentally conscious fashion industry.

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In recent years, there has been a significant shift towards sustainable fashion, and the transformation of textile waste lays a crucial role in this movement. Mechanical recycling has been a prominent method used to tackle textile waste. this process involve breaking down used garments or waste fabric materials into fibers, which are then particles into new yarns for creating a new fabric. Most of the designer's up cycling the old fabric to new. For example, old denim jeans can be repurposed into a trendy denim skirt or a patchwork jacket or corsets giving them a new lease on life. Repurposing, on the other hand, involves using textile waste for purposes other than its original indented use. For instance, old t-shirts can be turned into tote bags or jewelry, while fabric scraps can be woven together to create intricate tapestries or rugs. For youngster's one of the ways to support sustainable fashion is exploring second-hand options, Thrift stores, consignment shops, and online platforms offer a wide array of pre-loved clothing that can be given a new life.

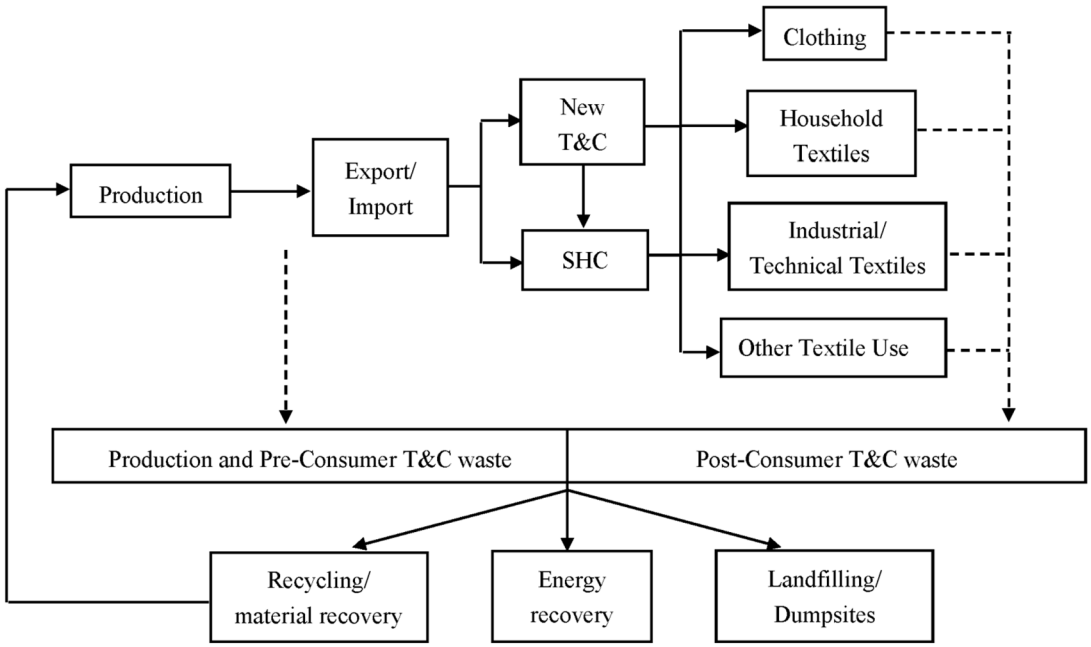

Figure 1. Life cycle of textile and clothing [1].

II. OBJECTIVES

Investigate the current methods and technologies used to repurpose textile waste in the textile industry, analyze the role of consumer behavior in contributing to textile waste and explore strategies to raise awareness and promote sustainable choices among consumes. The environmental impact of reusing textile waste for sustainable fashion production and to create fashion products made from recycled products or household items. Sustainable practices in the fashion industry, including eco-friendly materials, circular fashion, and responsible production methods, analyze youngster's perception and attitude towards sustainable fashion. Explore the challenges and opportunities up the adoption of waste to fashion practices in the industry. To analyze the opinions of tailors and youngsters on sustainable fashion and how to reuse them.

III. REVIEW OF LITERATURE

Textile industry is one of the oldest and the largest industries in the world. The Eco-fashion market has attracted a great deal of attention, which indicates the rising concerns of textile consumers on environmental friendly fashion products [2]. Textile waste is mainly categorized into three types per-consumer, post-consumer and industrial textile waste which can be recycled by physical and chemical recycling. Pre and post-consumer waste are reprocessed into products using rec lamination process by physical recycling and it is more favorable than chemical recycling. The recycling of textile waste is carried out in the fiber stage and garment stage. In the fiber stage, fibers are recovered from textile mill and it is to be produced blended yarns in varying portions [3]. Most of the industrial units are making the fabric to fiber methods; the fabric to fiber process typically involves the reverse of the conventional textile production. It starts with collecting used textiles, which are then sorted, cleaned and shredded into fibers [4]. Sustainable fashion is also known as eco-fashion is a term describing efforts within the fashion industry to reduce its environmental impacts, protect workers producing garment, and uphold animal welfare.

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One such success story is that of ''Renew Apparel'' a renowned brand that has made it their mission to turn textile waste into beautiful, high-quality clothing. They collaborate with textile manufactures, recycling facilities and even individual consumers to collect unused or discarded fabrics [5]. Brand making waves in textile waste transformation is ''Reborn Couture.'' With a strong focus on creativity and craftsmanship, they take textile waste from various sources including surplus fabrics from fashion houses [6]. Designer Sarah Thompson is another shining example of an individual championing the cause of transforming textile waste. Her label, ''Reclaim & Revive,'' sources textile waste from local thrift stores, garment factories, and even household donations, reconstruction, she breathes new life into these discarded fabrics, creating stunning garments that blend vintage charm with contemporary style. Her sustainable fashion creations not only make a fashion statement but also promote a more responsible approach to clothing production [7].

IV. METHODOLOGY

In this study structured addressing awareness, attitudes, and practice related to sustainable fashion. Tailors and youngsters, ensuring relevance of their roles in the fashion eco-system. Implement a combination of online surveys for youngsters and in-person interviews for tailors to gather comprehensive data from tailors at (T-Nagar) Tailors Street, and this questionnaire in indented to collect data about recycling and reusing textile waste promoted resources that are available at a household level. The target population for the survey, specifying (18 to 25) age groups of youngsters the ideal youngster's respondents will be in Saveetha College of architecture and design, Thandalam, Chennai.

V. FINDINGS AND DISCUSSION

As per the first question on importance of sustainability it was noted that all the respondents agreed 100% to this and knows the importance of sustainability in their life.

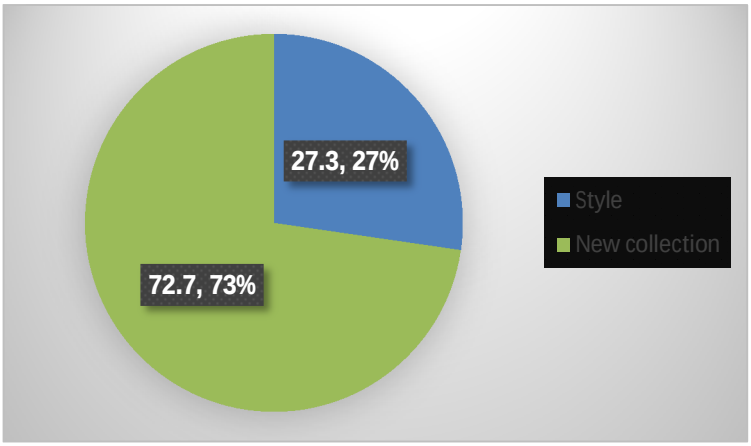

Fig.2 Decision to purchase clothing. This pie chart depicts that 72.7% of people choosing the new collection for purchase clothing, while 27.3% represents the style.

On certain questions like "whether they will be interested in learning more about how to recycle old items or discarded fabrics'', all the respondents agreed to this. Also some suggestion from the respondents is listed below.

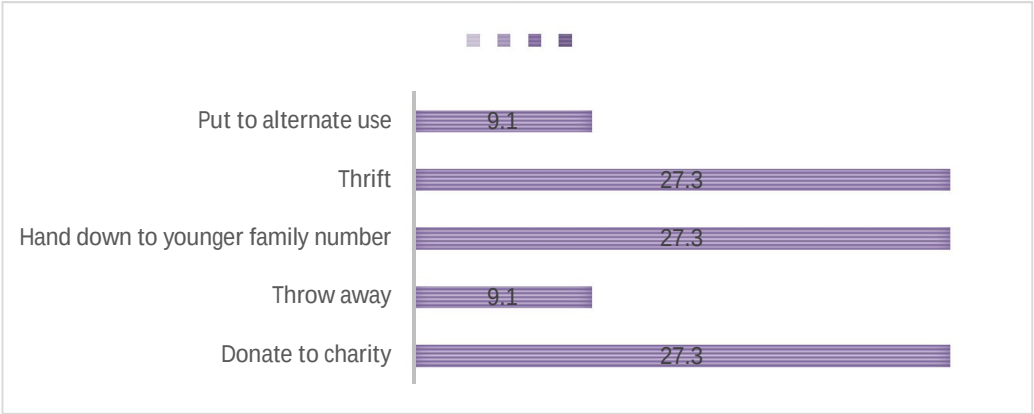

Fig.3 Some suggestion from the respondents on how they recycle old and discarded clothes

Discarded denims	Bag(tote), pencil holder, purse, rugs, bags, basket, floor mat, scrunches etc.,
Old Kurtis	Stylish jacket, pillow cover, coin purse, napkin holder etc.,
Discarded shirts	Reusable bags, hair accessories, stylish pillow, plant hangers etc.,

Fig.4 Dispose of unwanted clothes.

This table represents how people dispose off their unwanted clothes, 27.3% of the people hand down to younger family member, similar number of people's using as a thrift. Alike 27.3% of people are donating to the charity and remaining people put to alternate use and throw away.

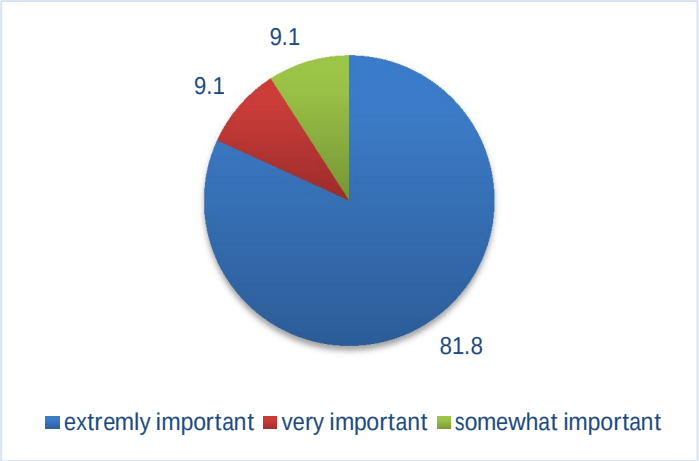

Fig.5 Sustainable fashion and its importance

This visual depiction represent about how important is fashion trends for people, 81.8% of people's response for extremely important and 9.1% of people response for very and somewhat important. On questions on whether they are interested to learn about eco-friendly clothing100% of respondents agreed and were willing to learn new ways to recycle old clothes..

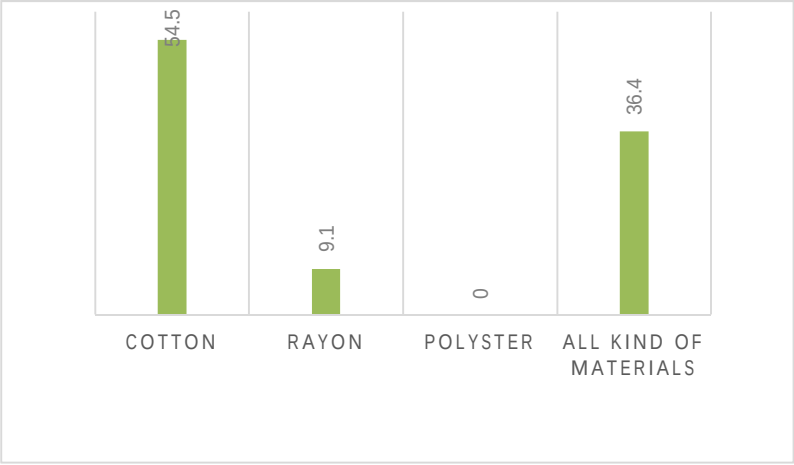

Fig.6 Fabrics used in day to day life

In this bar graph represent as types of materials people mostly used in their day to day life, 54.5% of people mostly wear cotton outfits, 36.4% of people mostly used all kind of materials and least 9.1% people response for rayon fabric material.

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Also 100% of respondents were keen to wear up cycled garments, like tops and skirts made up of discarded denims, maxi gowns and frocks made up of sarees etc.,

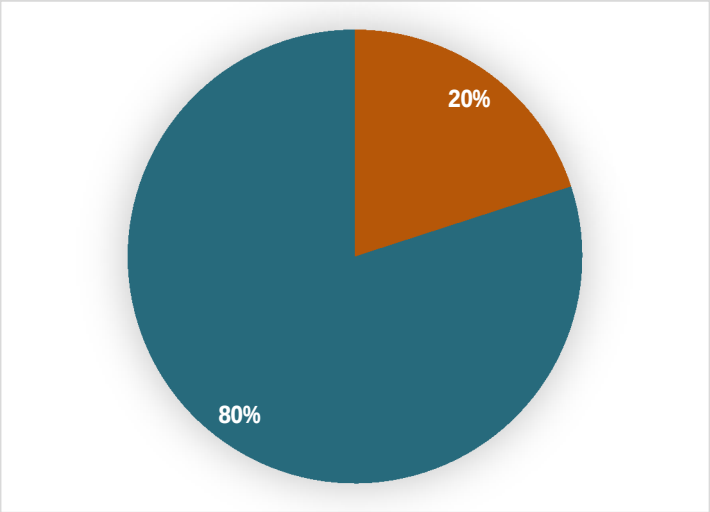

Fig.7 Represents how people concerned about the social environmental and ethical impacts in the fashion industry, 81.8% of people respondents for very high and 18.2 % respondents for high, mostly people are concerned about the social environmental and ethical impacts in fashion industry.

Ways to Dispose off waste fabric
Eco -disposal
Donate to charity
Donate to mechanic shops
Pillow stuffing
Fabric to fibre process

Fig. 8. Represents the dispose of fabric waste from tailors responsibly, consider recycling options, donating unused fabric to local charities or purposing scraps for additional uses.

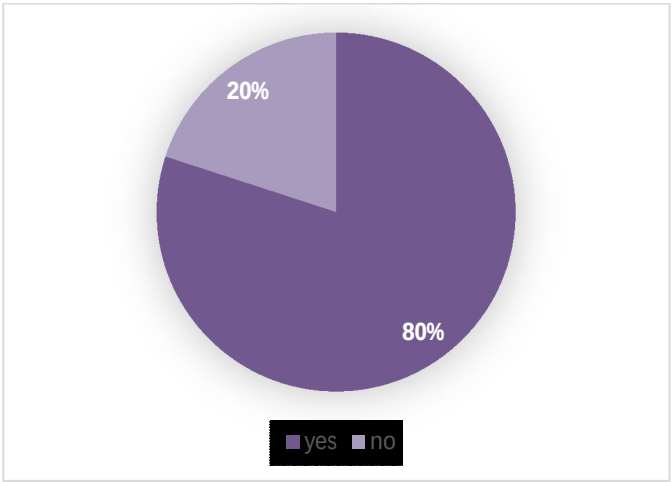

Fig.9. Represents 80 % of respondents are aware of sustainable practices often understand and support environmentally friendly.

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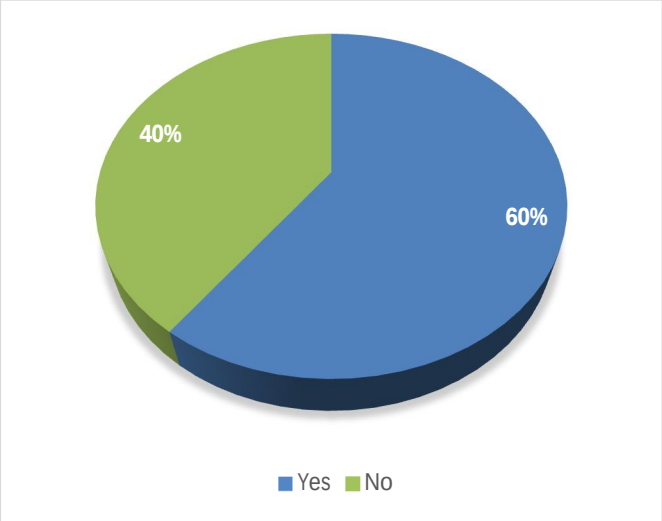

Fig.10 Represents 60% of tailors using up cycled materials in designs is a sustainable approach that repurposed discards items into new and unique clothing pieces.

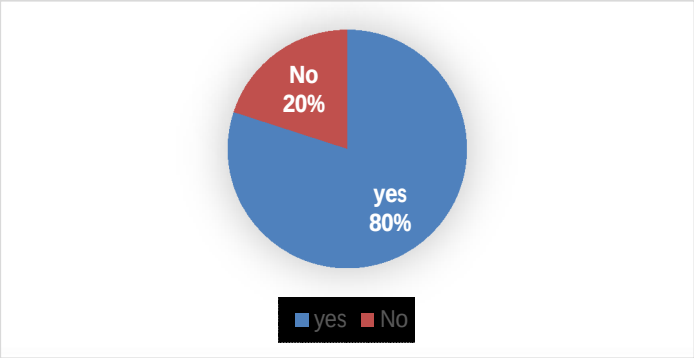

Fig.11 Represents 80% of tailor's implementing the sustainable and reusable practices to their clients, it makes help to create good impression about sustainable fashion.

Questions on whether packaging materials are environmental friendly, many tailors are now prioritizing and using Eco friendly packaging materials to reduce environmental impact.

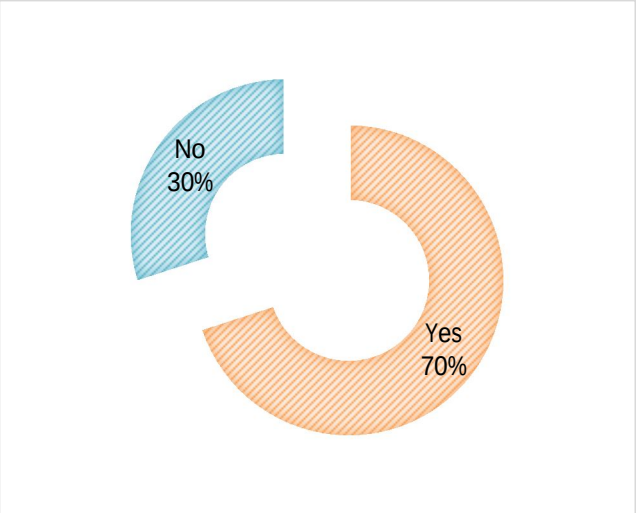

Fig.12. Represents 70% of tailors, when educating clients about sustainable aspects, emphasize the environmental benefits of choosing eco-friendly materials, energy efficient designs, and ethical production methods.

VI. CONCLUSION

Transforming textile waste into sustainable fashion presents a crucial opportunity for environmental conversation and ethical consumption. Through innovative recycling techniques, circular economy models, and increased awareness, the fashion industry can mitigate its environmental impact. Embracing sustainable practices not only addresses the issue of waste but also fosters a more responsible and eco-friendly future for the fashion sector. The impact of sustainable fashion is not merely a trend but a crucial paradigm swift in industry. As consumers increasingly prioritize ethical and Eco- friendly choices, Through innovations in materials, production methods, and consumer education, the industry can forge a path towards a more sustainable and responsible future, ensuring the beauty of fashion coexists harmoniously with the well being of inhabitants. Tailors offer industry expertise, highlighting the challenges and possibilities in integrating eco-friendly practices. Youngster's perspectives unveil consumer preferences, indicating a growing interest in ethical and sustainable fashion choices. Bridging these insights can guide the industry towards creating environmentally conscious designs that resonate with the evolving preferences of the next generation.

VII. ACKNOWLEDGEMENT

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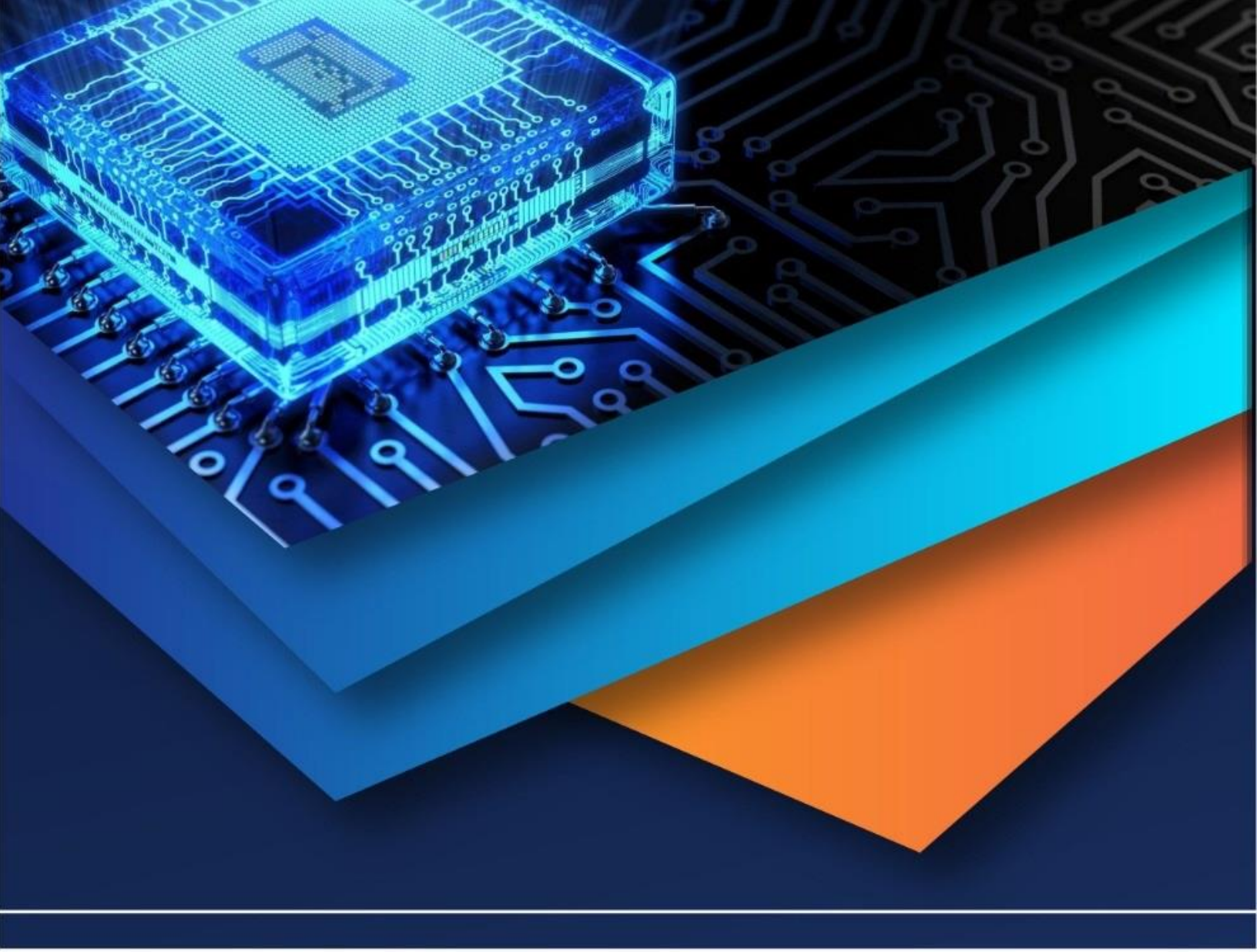

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