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Impact of the New Textile Policy and Textile Waste Management System in India and a Move towards Sustainable Management

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Abstract: Textile Industry is a very old and second most growing industry in India . It is also the second largest producer after China. Textile manufacturing process produces humongous amount of chemical toxic and utilizes excess amount of water which can serve a rural village for a year , Textile industry has contributed to climate change and air and water pollution ,today the world is adopting sustainable methods in textile sector to reduce their emission followed by Textile waste , India produces 1 million tonnes of textile waste per years where the household also amounts to good amount of it . Many of brands have to burn their product because of less sell and many because of over production which not only results in lost but also contributes to carbon footprints. Countries have started to utilize alternative textiles like pineapple leaves instead of cotton to reduce soil erosion , followed by man made fabric , use of plastic for making clothes. We need to introduce PPP model to collect waste and adjoin skill development programme and entrepreneurship for better sustainable economical growth and proper management.
Keywords: Textile Industry, manufacturing, textile waste, carbon footprints, alternative textile, cotton, water pollution

I. INTRODUCTION

Textile and Human civilization have grown together . The first trace of textile was found in the 6th and 7th century BC with the invention of wool and flax near the Swiss Lake . Silk was first found in India is 400 AD and spinning started in 3000BC with time it started spreading to different parts of the world .Industrial revolution brought in machines which was used in the processing of natural fibers in the 18th and 19th century .Later on we had the discovery of synthetic fibers like Nylon which steadily created a huge market for textile products .Indian textile can be trace back to the period of Indus valley civilization where homespun cotton was used for weaving clothes . Rigveda mention about textiles and provides information and refers to weaving. Even in Mahabharata and Ramayana , depicit the existence of a variety of fabrics found in ancient India . These fabrics made cloth for both rich and poor people .Textile Industries in Modern India in 1850s with the first cotton textile Industry opened in Bombay in 1854 .The Indian textile is one of the oldest and largest, after the agricultural Industry , it is the textile Industry which holds large importance and appoints most number of employees . It contributes maximum to the export market making up to 13% of the export . The Industry is divided into two categories the informal and formal sector . the formal sector comprises of spinning , apparels and spinning which requires techniques and modern machines where as the informal/unorganized sector consist of handicraft , sericulture , handlooms which operates in small scale and the rural sector are appointed in the informal sector . India is the second largest producer of textile producer , it is also the largest producer of cotton and silk and the second largest product of jute and many other natural fibers . India also uses natural fibers to produce clothes . It is among the top 6 countries in the export of textile products . Over the years with advancement in industries and technology , India has improved its quality of material , earlier it used to poor in recent years the industry has achieved success .

The Industry primary deals with design , distribution and production of yarn , cloth and clothing , the raw material are synthetic , chemical and natural. Where cotton is the most important fiber which is cultivated in many countries and the process of cultivation is long. Synthetic fibres is basically the artificial fibres which are extracted a polymer through a spinneret. Natural fibres would

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comes from animals , plants and minerlas Animals like goat , sheep , silk -worm and rabbit , minerals like Asbestos and plants produced cotton , flax and sisial . India is trying to become self sufficient in the textile Industry for which the government has introduced a new policy for textile along with adopted eco friendly method of production to tackle textile waste management.

II. RESEARCH METHODOLOGY

For the purpose of this exploration, I have used a amalgamation of two of the archetypical social sciences research tools application –as they are authentic and brilliant method to assemble statistics from multiple appellant in an methodical and convenient way. Question were asked to the common youth, public policy Analyst, rural people, farmers, survey, interviews –consisting of several interrogation which were dispersed among representative of each contender group .

III. OBJECTIVE OF THE RESEARCH PAPER

The main areas of exploration in this paper incorporates

1) A study on the manufacturing and waste generated by the textile industry .
2) The government textile policy to boost economy and become self reliant
3) What can we do to reduce textile waste in India .

IV. LITERATURE REVIEW

The Indian textile industry produces variety of produce which can be suit different markets for both India and foreign countries . The government has introduced a new textile policy for managing textile waste and made India self-reliant in the textile Industry .Textile perform a wide range of uses are made of different and mixed fibres proportion . Application of fibres come under 3 category – Apparel , furnishing and industrial.

Most of the products are of short or medium term last for a period of one to two years , small would includes disposables product and medium would include carpet, automotive, interior.

Textile industry has a history of being prudent with it resource but unfortunately they land up producing unnecessary waste each year .Textile waste generated depends on the production of textile goods , while the waste has a limited impact in the manufacturing sector and more on the household textile waste.

People change their clothing and interior with change in trends and fashion , with changing seasons people change their clothes and the old become outdated , the demand for manufacturing increase and so does the textile waste for both home and industry ,around 1 million tonnes of textile waste is thrown every year .Textile waste and textile industry has a greater impact on the environment . The textile industry discharge huge amount of chemical into water resulting in water pollution where as the textile industry uses excess amount of water for manufacturing , followed by high energy is consumed in the production process which results in air pollution , Packaging and excess production of excess solid waste along with that it produces an odour smell which is a produce of bleaching , dyeing and printing process .

Which is followed by waste water treatment plant , Knitting and weaving produce excess amount of noise pollution which has resulted in the lost of hearing power of 80% of the working people . In the textile industry 2000 variety of chemical are used which also includes dye and transfer of agents .Dyeing and finishing amounts to 17.20% of the Industrial water pollution , in which 72 can detected rest 30 cant be.

Textile waste is maximum compared to other waste in India . however the textile industry 2% of the GDP where 45 million people are employed and 60 million in allied sources . .The government has introduced a new textile policy where the focus is on waste management , boosting economy making India self -sufficient and providing employment to its people . India is also a major exporter of textile and it allows 100% foreign direct investment . India recycles textile waste , which is not enough , as the important of pollution it has affected the environment and contributed to climate change . The industry is moving towards sustainable development through innovation , technology and creating a space in the market . It is the 5th largest exporter of textile and apparel exporter followed by Bangladesh .

V. FINDINGS

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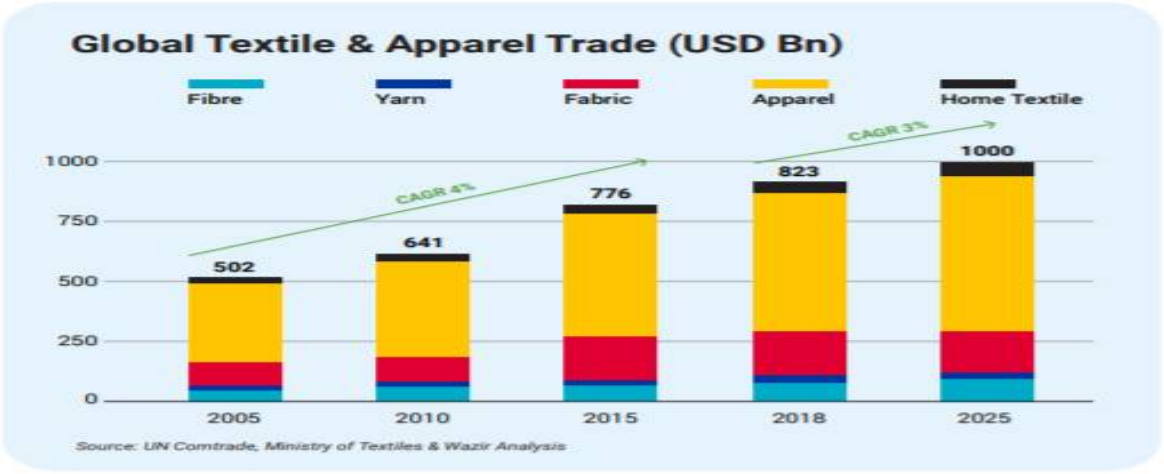

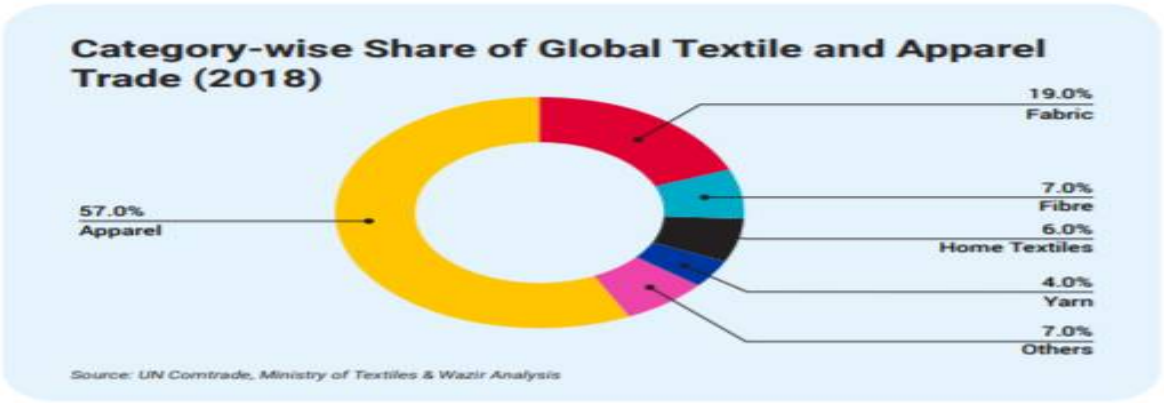

The government is working on stimulating the MMF and technical textile under the Productive Linked Incentive Knitting and Tricot Section project : Administration has introduce an individual programme for evolution of spinning and Tricot Sector to enhance manufacturing in knitting and Tricot congregate in Ludhiana ,Tirupur and Kolkata Government is executing modify Technology ameliorate capitalize Policy for technology ameliorate of the textile fabrication to inducement manufacture with an expenditure of Rs.17,822 crore for the period 2016-2022. It is anticipated to enchant speculation of Rs.1 lakh crore and create 35.62 lakhs opportunity in the textile division by 2022. Government has inaugurate a exclusive conglomeration of Rs.6000 crore in 2016 to enhance speculation , application and market overseas in the outfit and made-ups zone with the following areas there will be complete reparation under Revocation of State charge to the vendors for the State levy and manufacture connected with extra inducement of 10% is supplied under the modify Technology ameliorate capitalize policy . Nationwide Handloom evolution scheme, All-inclusive Handloom Congregate , Development policies , Handloom craftsman all-inclusive Well-being Programme and Fibre Providing programme Nationwide craftsmanship enlargement Plan of action and all-inclusive craftmanship Congregate growth Policy . Power levy India: An inclusive programme for Powerloom area, Silk Samagra – An unified programme for the growth of silk. Jute ICARE for intensifying the allowance of farmers through different intercession. North East Region fabric marketing policy for enhancing textiles fabrication.

For 2021-22 budget the ministry has announced mega integrated textile region and park scheme will be inaugurated with the aim to invest and generate employment , which will rise domestic economy and manufacturing followed by it plays to create infrastructure with plug and play provisions . This will provide textile industry to growth in size and become a global champion in exports , 7 new mega textile parks will be established over the next 3 years . In April 2021 the government is going to work on reducing their import of machines for textile industry and manufacture their own by partnering with engineering agencies and PLI scheme will be implemented followed by the scheme will promote man – made fiber (MMF) technical and apparel industry by supplying incentive from 3 to 15% which will increment the turnover for years .

To aid the handloom enterprise, the government has launched the Weaver MUDRA scheme to supply margin money support at 20% loan , maximum of 10,000 rupees per weaver , with a credit guarantee of 3 years . A MoU has been signed between the

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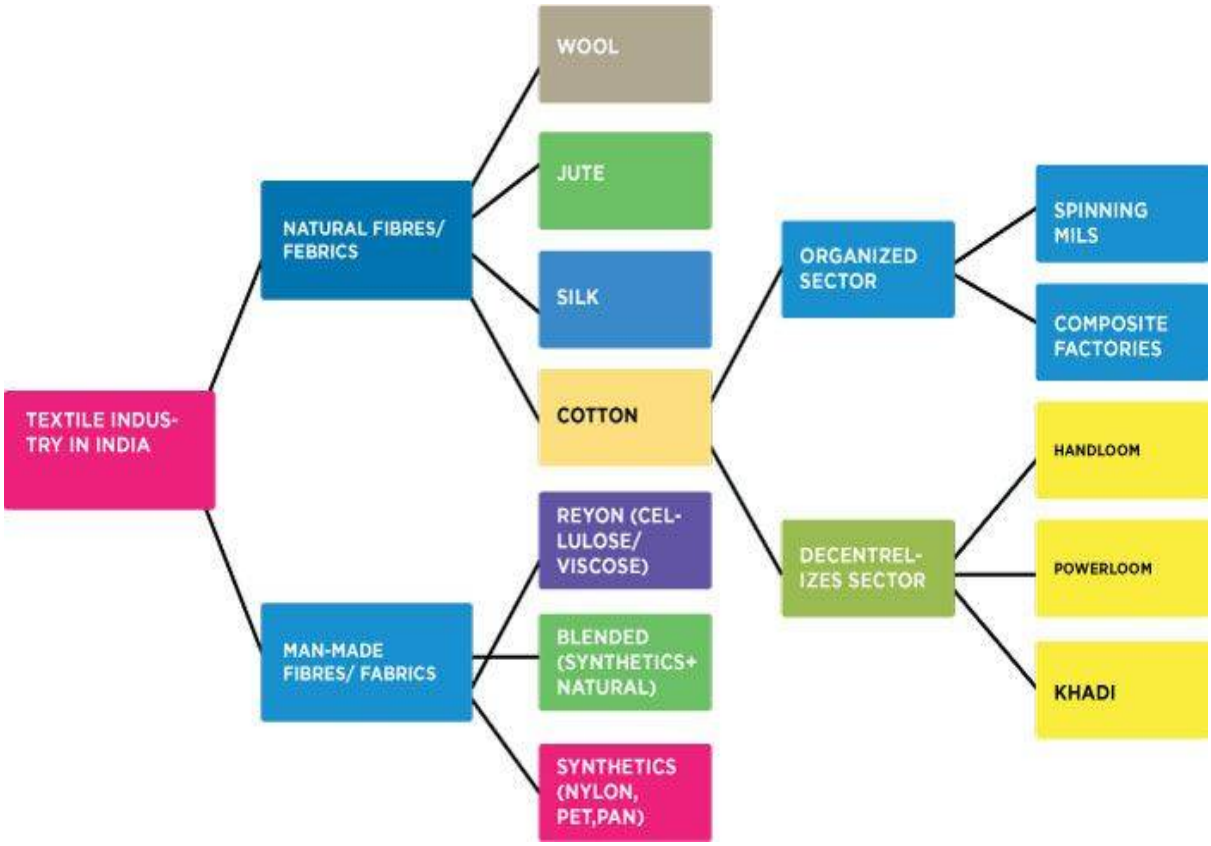
Ministry of Agriculture and farmer welfare and Ministry of Textiles on a jointly working on a model to implement agroforestry in the silk sector . The Defence Research and Development Organization is assisting the textile industry to produce yarns and reduce its dependence on China and other foreign countries for military uniforms . The government has made it mandatory that food packaging(100%) and sugar packaging (20%) has to be done in Jute bags from October , 2020 , this will enhance employment , reduce plastic waste and boost economy .



In the fashion industry there is being over production and wasted which is resulting in an increase in textile waste production leading to climate change .The biggest branch are facing the problem of overproduction and water like H&M brand reported a global inventory of unsold clothes which amount to $4 billion in 2018 , In 2017 Burberry brand has to bure 3 million dollar worth clothes , perfume and unsold bags , Even after use , the people who purchase and use it , 73% of the outfit are thrown into the dumping ground or burn .It is estimated that the textile Industry will be responsible for a quarter of carbon footprints .

With advancement in Technology , we are moving towards a sustainable industry by adopting substitute fabric , rejuvenate cultivation , making style circinate , labour saving production , a more crystalline logistics network , progressive biotech . minimize utilization through attire tariff , repair and make new , turning pre-loved to re-loved .

For instance natural fibers like cotton are resource intensive for the manufacture of one cotton shirt 713 gallons of water is required which a person can drink for 2 years where as other synthetic material take time to degrade . So certain companies have started using agricultural waste products to create an eco friendly textile alternative , where pineapple leaves is being converted into leather fabric referred to as Pinatex , fibres are uprooted from pineapples frond British company Ananas anam does that , followed by there is start up which is using biodegradable fabrics by extracting glucose from the skin of extracted oranges and converting the substance into a produce which is similar to silk , an Italy based fashion company .People have adopted circular economy in textile industry companies like H&M , Gap, Nike , Stella McCartney , Burberry , moving towards zero waste and closed loop system . including sustainable material and reprocessing of used clothing for production more .H& M is cooperating with a Hong Kong Organization of Textiles and Apparel to form a magmatic way to recycle cotton and polyester to form a new fibric.

Hemp plant is being used a natural fiber which requires much less water compared to cotton and is considered as the best fabric , its third times lighter than cotton and wool , very comfortable , it has antimicrobial features and can stay longer even after many wash , the material becomes light after every wash. It has 95% resistance to ultraviolent Radiation, the plant is being used for making all

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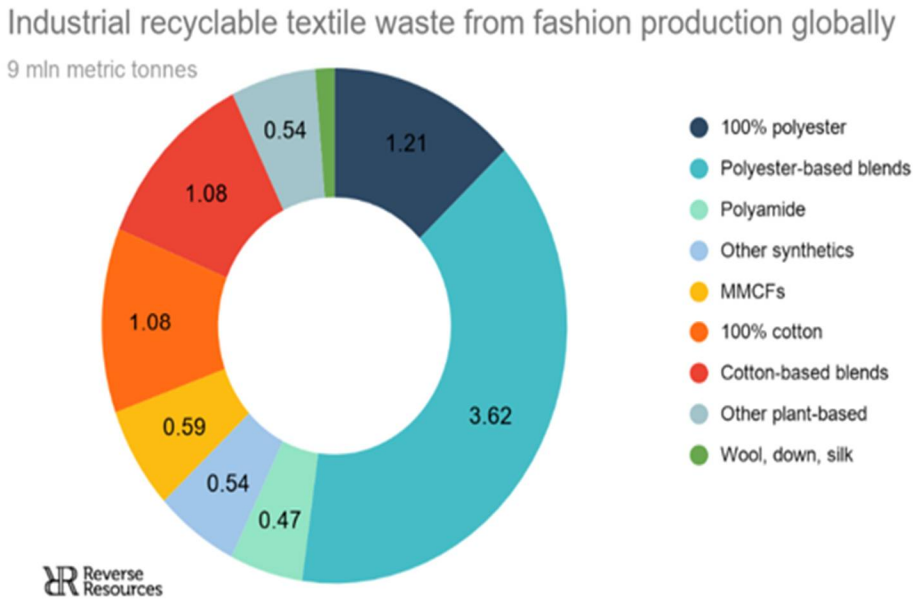
kinds of clothes, shoes, curtains, bedsheet and paper. In Madhya Pradesh , India Banana stem is being used to product natural fibres which are being used to manufacture papers , tissue papers and clothes , bananas stem don't require water or soil for cultivation , pineapples leaves are being used to extract fibres. India is adopting sustainable textile to reduce textile waste. In Malaysia Lotus stem is used for extraction of fibres. We see a lot of agricultural waste and product being used for the extraction of fibres which require less water and is environmental friendly.

A software Automatic sewbots can help to recue the emission by 10 % by creating products direct use for consumers and minimize matter squander, Style for the betterment, a global initiative has reduce waste . Using of 3D technology which can help labour free production activity where adidas has partnered with 3D compositor start up carbon to introduce 3D footbed for its 4D cleat . 3D printer impact can be doubled when coupled with renewable product

Tamicare's cosyflex mechanization has enhanced 3D compositor for fishing textile from viscose fibres and natural hazards which will alleviate waste from trimming and cutting and eliminate toxic risk of the textile pigment task. These are some of the method to reduce and manage textile waste and promote manufacturing of the textile in an innovative way.

Today, India is using geo-textile for the defence sector and infrastructure growth, like in the construction of roads, railways, airports. It is being used for agricultural and drainage purpose also. India's textile industry is growing and the use of textile is multiplying in different sectors.



VI. PROPOSAL

The Indian Textile Industry carries heritage and economy parallel both from the ancient world . As India establish significant position in market size , export and import sector , textile trade , government initiative for textiles and share 2.3% of the GDP of India where more than 45 million people are employed. India inculcate textile trade related foreign collaboration with Japan and other countries to reform a strong developed reform policy for India which includes making India SGSY, TMTT, ITDS,MEIS,MDA and MAI for boosting up young entrepreneurs in this field but shortage in supply of raw material , their imbalance price not only create pressure to meet several social and environmental norms including low quality infrastructure, uneven regional development, lack of efficiency due to poor labour governance , unorganized weaving sector Constant gas supply with suitable pressure, fluctuation in yarn pric, succession of the price for poor farmers, government fund allocation for research and development, lack of skill training , modern equipment , promotion of domestic brands, providing capital subsidiary and changing demography of this sector, increase penetration of organized retail for different types of textile goods and crafts

VII. STRATEGY

Explore untapped market and tapped for global industry and create manufacturing excellences .

Diversification of product portfolio as compared with global demand

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Improving services and quality levels , increase communication between merchandisers and buyers
Strengthening Indian explores to incorporate robust client management system
Employment generation through growth in domestic market which will become growth of 12% and reach US$ 350 billion by 2030 , introduce the tribal heritage and provide them a digital platform for their sustainable economy growth , secure and healthy labour management .
Textile waste management by several procedures through a proper channel which will not only save economy but also direct us towards Sustainable Development Goals by qualitative and logistic smart textile management.
Introducing textile jewellery (Jute , cotton , wool etc) to maintain waste management in a new fashion . Now a days technical textile become a sun rise sector during COVID-19 crisis where the global production has come to a block on export of analytic medical apparatus which covers
Innovation of special fibres and introduction of new segment of technical textiles such as

1) Medi tech
2) Mobile tech (helmet , airbags)
3) Jute tech (Sacks)
4) Oekotech
5) Sport tech (swim wear tech)
6) Protech (Bullet prove jackets, fire tender apparatus)
7) Agro tech (Fishing tech)
8) Build tech (wall coverings)
9) Geo tech (geo composite)
10) Cloth tech(umbrae cloth , shoes lays)
11) Hometech(pillow fillings) .

Introduce PPP model to collect waste and adjoin skill development programme and entrepreneurship for better sustainable economical growth and proper management. Create environmental awareness by introducing biodegradable fibres instead of plastic materials, economic boost for agro-industry. Connect global market and foreign investment by introducing innovative textile related domestic products to high economic growth, better global trade , large number of employment will experience to create strong domestic consumption as well as export.

VIII. CONCLUSION

In order to make India self -reliant and eliminate textile waste India requires a new textile policy and a textile waste management system. With the use of sustainable tools we can minimize our textile waste Textile industry is one of the largest industries which contributes a huge sum to the export market . Textile waste has a drastic effect on the climate change, the whole manufacturing process of textile industry contributes to air and water pollution. We need to bring in new technology and adopt some of the techniques being implemented worldwide to cute down our waste , a circular economy approach in India is required with reuse and recycle of the products to make New . Instead of disposing clothes it can either be used for some other purpose or collected and send to the recycling team or organization where fabric recycling business is taking momentum in India.

REFERENCES

[1] Pirenbauer, B., Bartl, A. (2019), Textile recycling processes, state of the art and current developments: A mini review
[2] Enis, I. Y., Ozturk, M. K. (2019), Risks and Management of Textile Waste: The Impact of Embedded Multinational Enterprises
[3] Aishwariya, S. (2018), Innovations and Research Ideas for Recycling Textile Wastes, International Journal of Application or Innovation in Engineering & Management, Volume 2, Issue 6
[4] Roos, S., Sandin, G., Peters, G., Spak, B., Bour, L.S. Perzon, E., Jonasson, C. (2019), The white paper on Textile Recycling, A Mistra Future Fashion Report
[5] PIB -New Textile Policy .
[6] Ca Dr Gaurav Bhambri , 2021 , February , Contemporary policies and programmes of government of India for rising export of textile products and fabrics & its impact especially in Haryana .International Journal of Management , Volume 12 , Issue 2 .
[7] Pradosh Nath , N.Mrinalini , Sandhya Datt , 2001 , January , National Textile Policy and Textile Research , Economic and Political Weekly , Volume 36 Issue 5.
[8] Future of work in Textiles , Clothing , leather and Footwear , International Labour office , Geneva .
[9] Aligina Anvitha Sudheshna , Meenu Srivastava , 2020 , April ,Different issues related to textile business and social changes due to current situation of COVID - 19 in terms of textiles and clothing introduction ., ResearchGate .

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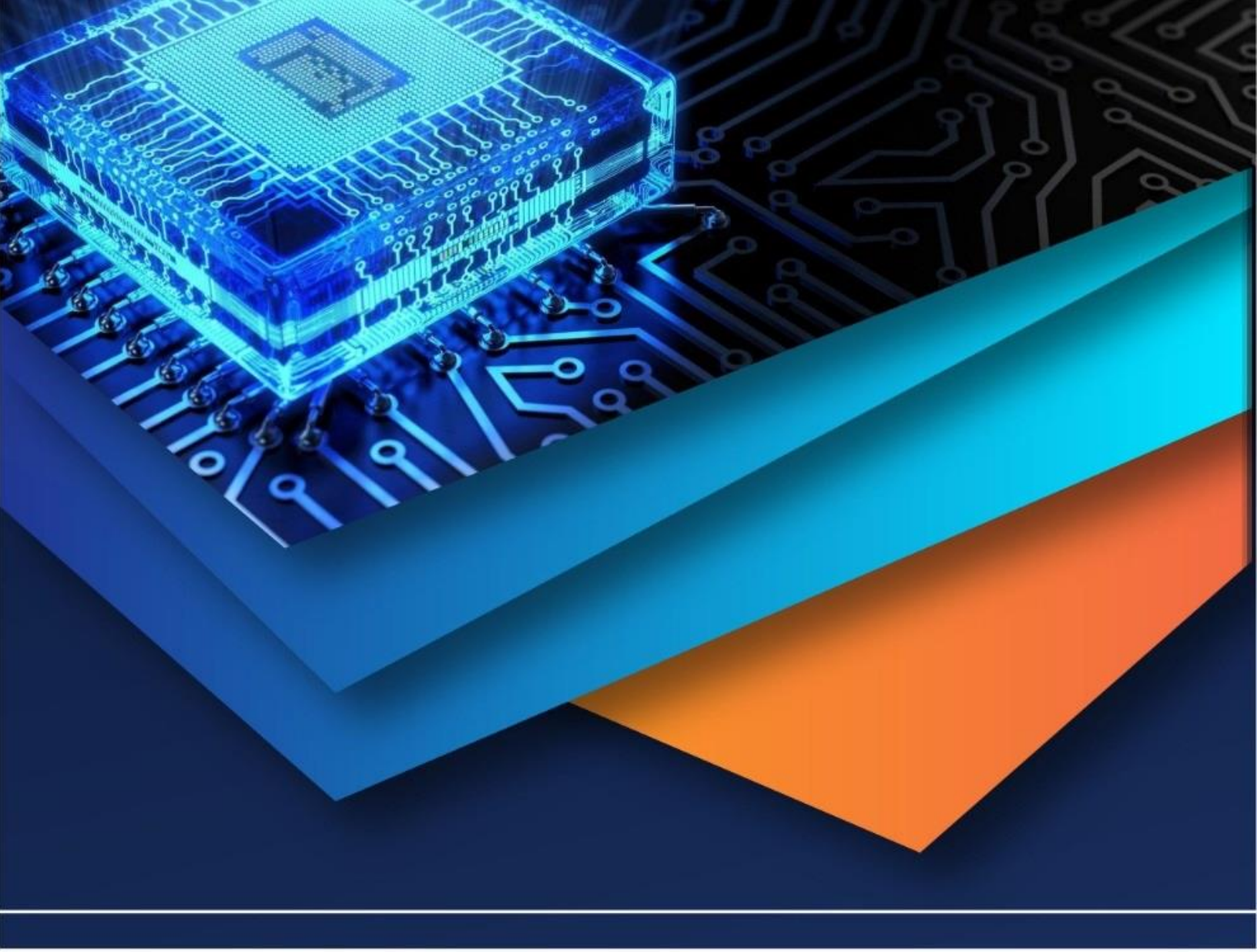

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