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samvad

CIRCULAR ECONOMY

In collaboration with

RCUBE

WeChat

GAURAV PAUL

REGIONAL OPERATIONS MANAGER

Plastics For Change

MESSAGE FROM THE DIRECTOR

Prof. Dr. Uday Salunkhe
Group Director

Dear Readers,

It gives me great pride to introduce SAMVAD's edition every month. Our SAMVAD team's efforts seem to be paying off, and our readers seem to be hooked onto our magazine. At WeSchool, we try to acquire as much knowledge as possible and share it with everyone.

As we begin a new journey with 2022, I sincerely hope that SAMVAD will reach new heights with the unmatched enthusiasm and talent of the entire team.

Here at WeSchool, we believe in the concept of AAA: Acquire Apply and Assimilate. The knowledge you have acquired over the last couple of months will be applied somewhere down the line. When you carry out a process repeatedly, it becomes ingrained in you and eventually tends to come out effortlessly. This is when you have assimilated all the knowledge that you have gathered.

At WeSchool, we aspire to be the best and unique, and we expect nothing but the extraordinary from all those who join our college. From the point of view of our magazine, we look forward to having more readers and having more contributions from our new readers.

SAMVAD is a platform to share and acquire knowledge and develop ourselves into integrative managers. Our earnest desire is to disseminate our knowledge and experience with not only WeSchool students but also the society at large.

Prof. Dr. Uday Salunkhe,
Group Director

ABOUT US

OUR VISION

"To nurture thought leaders and practitioners through inventive education."

CORE VALUES

Breakthrough Thinking and Breakthrough Execution
Result Oriented, Process Driven Work Ethic
We Link and Care
Passion

"The illiterate of this century will not be those who cannot read and write, but those who cannot learn, unlearn and relearn." -Alvin Toffler.

At WeSchool, we are deeply inspired by the words of this great American writer and futurist. Undoubtedly, being convinced of the need for a radical change in management education, we decided to tread the path that led to the corporate revolution.
Emerging unarticulated needs and realities require a new approach in both thought and action. Cross-disciplinary learning, discovering, scrutinizing, prototyping, learning to create and destroy the mind's eye needs to be nurtured differently.
WeSchool has chosen the 'design thinking' approach towards management education. All our efforts and manifestations, as a result, stem from the integration of design thinking into management education. We dream of creating an environment conducive to experiential learning.

FROM THE EDITOR'S DESK

Dear Readers,
Welcome to the **121th** Issue of **SAMVAD**!

SAMVAD is a platform for "Inspiring Futuristic Ideas," we constantly strive to provide thought-provoking articles that add value to your management education.
We have an audacious goal of becoming one of the most coveted business magazines for B-school students across the country. To help this dream become a reality, we invite articles from all management domains, giving a holistic view and bridging the gap between industry veterans and students through our **WeChat** section.

In this issue of SAMVAD, we bring to you half a dozen articles focusing on **'Circular Economy'** with a section called **'Talk of the town,'** where we have got some exclusive deals happening under the nose of our theme.

In this edition, we collaborated with **R Cube** as our official sponsor. They work in the domain of Printer Cartridge refurbishing, recovery, and recycling. It provides a self-sustainable solution to one of the prominent socio-environmental problems of e-waste disposal.

The goods of today are the resources of tomorrow at yesterday's resource prices, this way the cycle of the products is extended. The circular economy is the practice of reducing waste and accomplishing sustainable living for generations. This is a departure from the traditional, linear economic model, which is based on a take-make-consume-throw-away pattern. Circular economy is estimated to bring in annual benefits of approximately US$ 624 billion in 2050. The greenhouse emission would reduce by 44% along with a significant reduction in congestion and pollution.

We hope you have a great time reading SAMVAD!
Let's read, share and grow with us!

Best Wishes,
Team SAMVAD.

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WeCollab

Mr. Ravi Ravariya

Managing Director

How has the journey been from being a student to the founder of RCube? What was the biggest hurdle in this journey that you overcame?

From being a student to creating a business from the ground up has been an incredible adventure. It's never easy to start something new, and we've had our share of challenges along the way, be it dealing with family pressure, financial support, connecting with the appropriate people, or building trust. People we associated with found it difficult to believe the recycling services and products we were delivering because of our young age, which was one of the main problems we had during the early stages of our journey. We were able to overcome this by showcasing our expertise and experience in this industry. Another barrier we had to overcome was getting into the spotlight. We had a lot of trouble connecting with the relevant people to start the beta version of our recycling services because we weren't from the top institutes like IITs or IIMs.

What prompted you to come up with a start-up that is primarily into the recycling of printer cartridge waste?

When faced the difficulty of disposing off the cartridges we had in an environmentally responsible manner, the thought of recycling waste printer cartridges struck me. In 2016, we had roughly 50-55 kgs of printer cartridges that we intended to recycle, but the recyclers demanded monetary compensation. Authorized e-waste recyclers have a difficult time recycling cartridges due to the inefficient traditional recycling procedure, which results in losses, hence they want monetary compensation for recycling them. Those incidents made us realise the importance of developing a recycling technology that makes

printer cartridge recycling financially viable. Two years after this incident we invested in developing the recycling process and finally in 2018 we commenced with the beta version.

Many small enterprises/colleges/ offices and shops in Urban as well as Rural areas don't send their cartridge for recycling due to the lack of awareness or absence of any such collection facility. How do you plan to tap those potential markets?

We are now collecting waste cartridges from e-waste recyclers that have already established a network of collection centres. By offering monetary incentives to e-waste recyclers who collect cartridges on our behalf, we encourage them to do it again. Apart from that, unorganised sectors play an important role in the recycling industry, so we've built a network of unorganised sector players in cities like Mumbai, Delhi, Pune, Bangalore, and Kolkata, also known as kabadiwalas, to collect waste cartridges from small businesses, households, and other sources from where organised e-waste recyclers are unable to collect.

RCube is on an inspiring mission to reduce the ever-increasing cartridge waste problem. At a broader level, what positive environmental impact will it make to our country?

In India alone, over 64 crore kgs of printer cartridges were produced in 2020, of which less than 2% were recycled by organised recyclers, with the remainder ending up in landfills or being passed over to the unorganised sector for unorganised processing. People in the unorganised sector burn the toner powder found in the cartridges, which causes a lot of environmental damage owing to improper treatment throughout the recycling process. By operating our organization, we are lowering the amount of waste cartridges that ends up in landfills or in the wrong hands, as well as bringing new life to materials such as plastics, aluminium, iron, and the residues, which are nothing more than toner powder. Toner powders produced by us serve as import alternatives, as all components, including toners, are now imported from China to India. We have decreased toner imports by at least Rs. 8.5 crores until today.

What's the vision 2030 for 'RCube'? What could we expect in near future from RCube?

Our goal is to make India a global

recycling powerhouse for used printer cartridges. By 2030, we envision having dismantled facilities throughout Europe and the African continent, with recycling units in India. We currently only recycle waste cartridges, but we plan to expand to all segments of the waste business that are currently ignored by other waste recyclers, because we feel that if we want to make a difference, we must do something that others aren't doing or don't want to do.

Gaurav Paul

REGIONAL OPERATIONS MANAGER

Plastics For Change

1. Could you please take us through your journey from being a Welingkarite to date?

Before joining WeSchool, I had 7 years of experience in the recycling and waste management sector. After completing my PGDM in Marketing from WeSchool in 2016, I went through a number of stages in my career. The course provided me with a thorough understanding of the various management skills required in the corporate world. I advanced in my career by working for companies such as Oryx Stainless Thailand Co Ltd, Ramky Enviro Engineers Ltd, and Plastics for Change Corporations. Skills such as design thinking, business analysis, and CRM enabled me to stand out from the crowd.

My core domain is to develop new businesses and handle business operations. I am passionate about the environment and that's why I am in this field. Currently, working for Plastic Change Corporation as the Regional Operation Manager, managing the supply chain and operations of plastic waste in Southern India.

2.Where does India stand in comparison to other countries in terms of incorporating a circular economy? Which industries are leading the way in terms of implementation?

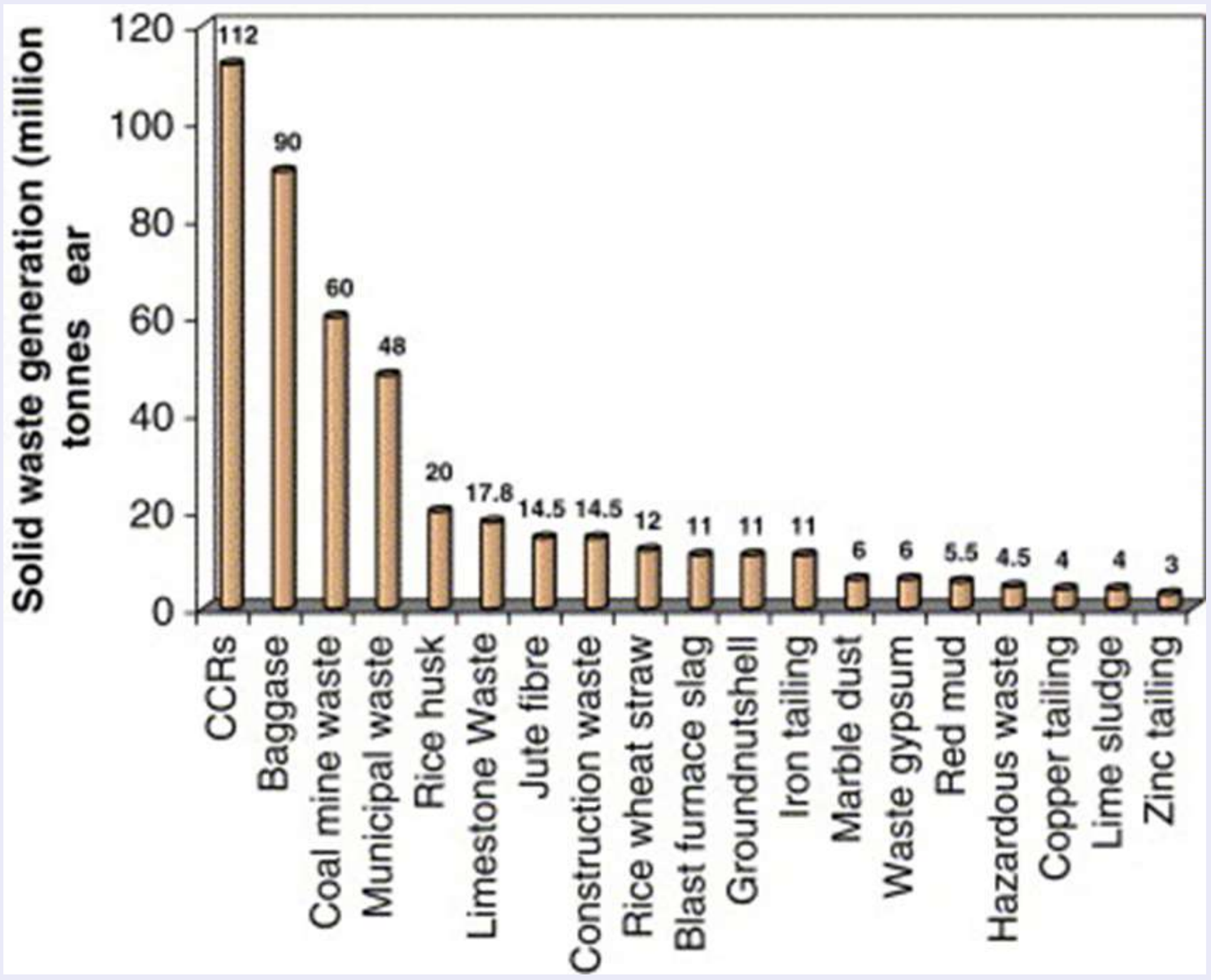
The concept of circular economy is not new for India; we Indians have been following circularity principles for ages, and it is part of our culture and tradition. **India is a**

developing country, and to mitigate the negative effects of population growth, urbanisation, climate change, and pollution, we must imbibe circularity into our economic development. Resources are limited, and if we want to achieve sustainable growth, we must redesign the system to optimise resource utilisation. The Indian government has been actively developing policies and promoting projects related to a circular economy. To support CE, the Ministry has developed various rules such as Plastic Waste Management Rules, E-Waste Management Rules, C&D Waste Management Rules, Vehicle Scrappage Policy, and so on. Niti Aayog is also working on several initiatives to ensure sustainable economic growth,we must redesign the system to optimise resource utilisation. The Indian government has been actively developing policies and promoting projects related to a circular economy. To support CE, the Ministry has developed various rules such as Plastic Waste Management Rules, E-Waste Management Rules, C&D Waste Management Rules, Vehicle Scrappage Policy, and so on.

Niti Aayog is also working on several initiatives to ensure sustainable economic growth.

Problematic wastes such as fly ash and steel slag are now being used in cement plants and road construction. The government is also working to implement policies on resource efficiency in the steel, aluminium, information technology, and construction industries. Many industries have also implemented CE initiatives as part of their business models. Companies such as HUL and R&B use recycled materials in the production of packaging material. As AFR (Alternative Fuel & Raw Material), cement companies such as ACC and Dalmia use hazardous and plastic waste.While increased manufacturing and changing consumption patterns will increase employment and per capita income, the environmental consequences of such increased production must also be efficiently managed and mitigated.

With only 2% of the world's landmass and 4% of freshwater resources, a 'Take-Make-Dispose' linear economy model would constrain India's manufacturing sector and, as a result, the overall economy. Hence, it is critical to recognise and revolutionize the material flow in the manufacturing process, as well as shift to a circular economy, which provides multiple economic and ecological benefits.

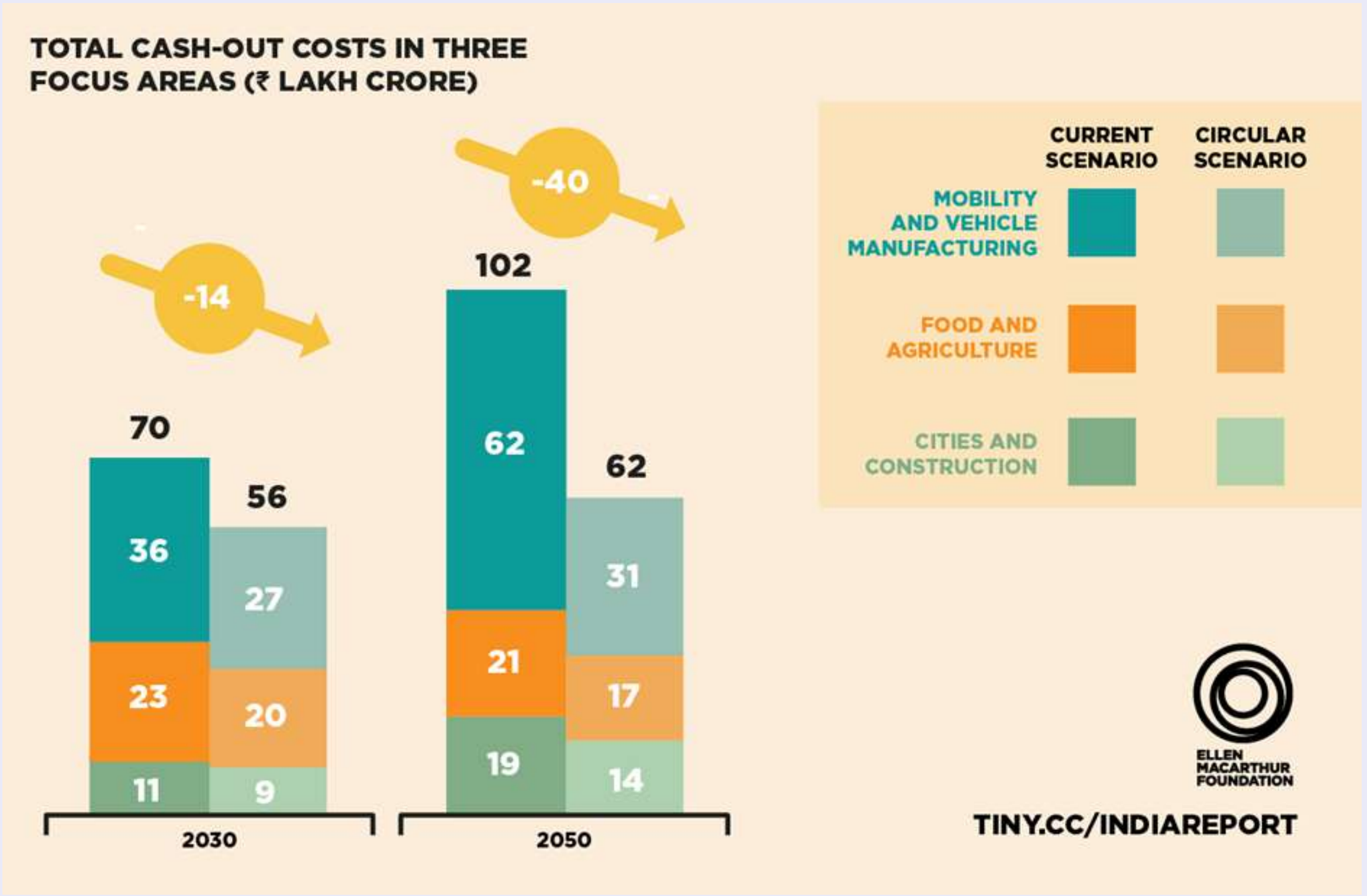


3. How can small and medium-sized enterprises incorporate the circular economy? Could you provide an example?

In India, there are around 6.3 crore MSMEs, which serve as the backbone of the national economy and large company's supply chains. There are a significant number of MSMEs in India that operate in highly polluting industries such as chemical and allied industries, leather industries, textile processing, drugs and pharmaceuticals, agrochemicals, and food processing. Apart from registered MSMEs, there is a scarcity of unregistered MSMEs operating in the informal economy. We will not see a complete or accelerated transition to the circular economy unless MSMEs, particularly those in the informal sector, are included. The government must provide policy support to SMEs. A future regulatory framework must be designed that can create the necessary structure and has the potential to facilitate a circular economy for everyone.

Governments can assist MSMEs by implementing incentive programmes such as tax breaks or infrastructure assistance. Government assistance is especially important for MSMEs and the informal sector because large corporations can move and adopt CE without government assistance, but MSMEs cannot.

MSMEs are an important part of the supply chain that feeds large corporations, so large corporations should try to provide overarching support to this sector as well. The government can help to establish an "Industrial Symbiosis." Different MSMEs can form innovative collaborations in industrial symbiosis, which leads to the discovery of ways to use waste generated by one as raw material for another. In Europe, there is an EU support network and various national programmes in place to foster such industrial symbiosis. The Kalundborg Symbiosis is a great example. There are different industrial clusters and different industrial areas in India, and such symbiotic relationships can be healthy and create a great CE model. In Punjab, one of the Zinc recycling companies is producing zinc ingots from the bag filter dust generated by induction furnaces. It's a fantastic way to conserve natural resources and energy. Many small and medium-sized plastic recycling businesses use plant and post-consumer plastic waste to create recycled products. Many companies are now using power plant boiler bottom ash to make bricks, paver blocks, and other products.



4. Could you elaborate a bit on the role of digital technologies in accelerating the transition to a circular economy?

Technology is playing a crucial role in promoting sustainability and accelerating the transition to different circular business models. It contributes to the transparency of the entire supply chain. Different digital technologies work together to manage the complex circular networks of suppliers and users.. For example, at Plastics For Change Corporation, where I currently work, uses digital technology to maintain system traceability; our stakeholders use our application to feed data,

Governments can assist MSMEs by implementing incentive programmes swhich is then analysed to understand the generation pattern of various types of plastic waste in different geographies. Digital technology simplifies life and will play a significant role in establishing circularity across various sectors. Technology aids in the optimization of manufacturing processes by allowing us to properly track the amount of waste generated and its utilisation within the system. Digital technology can aid in the development of industrial symbiosis, in which waste from one industry can be used as raw material in another. Blockchain, IoT, AI, and other technologies are assisting in the expansion of the circular economy.

To track the movement of waste, many municipal, corporations /waste management companies are utilising technologies and digitising the door-to-door waste collection mechanism. Their reverse logistics system made use of such technology to track the movement and analyse the consequences.

Technology and digital intelligence have the potential to transform the traceability of material flow across value chains and instil trust in industry participants and users of recycled products.

5. What are your thoughts on businesses attempting to integrate sustainability while also focusing on profit? To what extent is it possible to achieve sustainability while remaining profitable? Or do both go hand in hand?

When we talk about sustainability, I believe it is about maintaining three dimensions of performance for any industry: environmental, societal, and financial (The three bottom lines). Maintaining the triple bottom line is becoming increasingly important as nations around the world strive to achieve their long-term development goals. **Profitability and sustainability, in my opinion, can coexist, but businesses must reconsider the current linear economy framework.** During the last five decades of the industrial revolution, economic activities around the world had a lot of negative impacts on our environment, leading to ecological imbalance, while our sole focus was on increasing GDP. However, such development was never sustainable in the long run, which is why we are now dealing with issues such as climate change, high levels of pollution, and so on. Many Indian companies, such as HUL, Dabur, Asian Paints, Eicher Motors, Godrej Consumers, HZL, and others, are focusing on ESG and performing well on various sustainability indexes. Good ESG practises also attract investments; many Impact Funds invest in companies that meet ESG criteria. Bloomberg estimates that ESG assets will be worth more than USD 53 trillion by 2025.

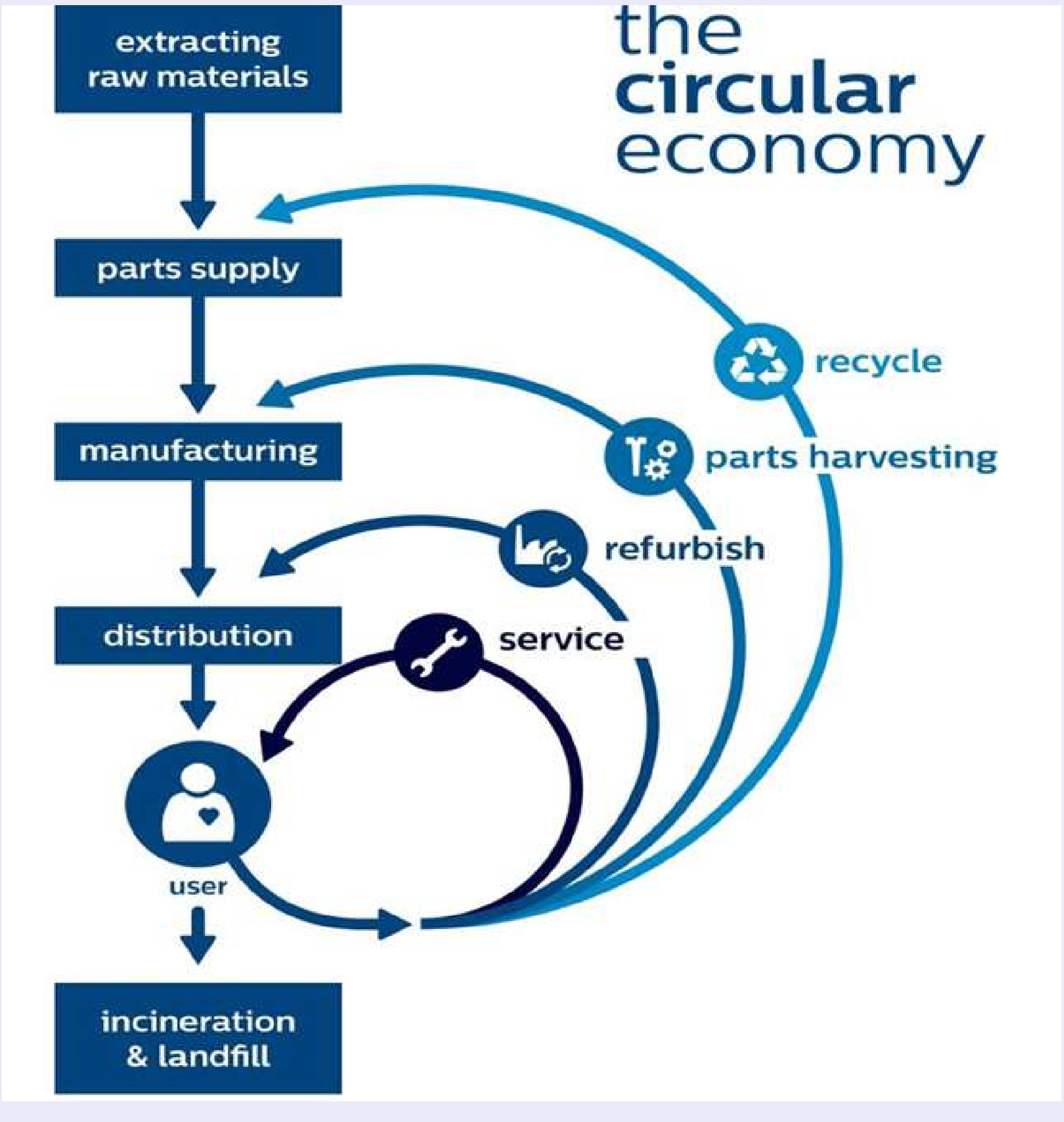
6. Although the Government of India is making efforts to transition from a linear to a circular model, how can we citizens help and how can we act consciously for the greater good?

▸WeChat

Citizens can play an important role in promoting the Circular Economy. **To become a part of CE, we can use the waste management hierarchy's 5R concept of Refuse, Reduce, Reuse, Repurpose, and Recycle**. . We cannot simply rely on and wait for governments and corporations around the world to act. **Individual actions, I believe, matter a great deal in this consumerist society, where urbanisation and population growth are accelerating. Furthermore, I believe that our small steps and actions can be effective in slowing resource depletion.**

Building and running a profitable and sustainable business in India is difficult, but businesses are now rethinking and redesigning the system to strike a balance between profit, people, and the planet. Consumers are becoming more aware, and this is putting pressure on businesses to adopt more environmentally friendly business practises. Companies must incorporate sustainability principles into their business strategy to achieve long-term growth. I've tried to improve my attitude toward this over the last two years, and I'm now attempting to reduce my consumption of goods. I avoided buying single-use items and fast fashion, and I tried not to buy more than what was necessary. The government has mandated Extended Producer Responsibility for producers, brand owners, and importers. They must now manage the waste generated by their products. But, at the same time, we should discuss ECR, or Extended Consumer Responsibility. As consumers, we can take small steps to better manage our plastic waste. We should always try to reduce our plastic footprint by using fewer plastics. Even if we use plastic, we must make every effort to dispose it off responsibly. Cleaning food containers before handing them over to waste collectors can greatly improve the recyclability of these single-use plastic containers.

A quick rinse requires little effort and increases the recycling rate of these PP food containers. It also assists waste collectors in obtaining higher scrap prices. This directly improves their standard of living. Consumers are becoming more aware and demanding that producers and brand owners answer difficult questions about whether raw materials were sourced ethically or not. There is a lot of change in society.



6. What's your advice for the young professionals who would be starting their careers soon?

I will advise young professionals who want to start a career in sustainability to focus on learning new ESG concepts. Businesses are becoming more purpose-driven, with many putting the planet before profit. Understand how you can help the SDGs. Take the initiative and have belief in yourself. In today's world, the business environment is quite dynamic, and we must adapt to such a dynamic ecosystem. Another important piece of advice is to have a mentor who can help you realise your competency and help you grow.

TALK OF THE TOWN

Grover has raised $330 million to expand its circular economy business with consumer electronics subscriptions.

Grover, for example, has created a business around getting people to buy and eventually discard fewer consumer devices such as phones, monitors, and electric scooters by providing them appealing memberships to utilize their stock of new or used gadgets instead.

Grover has successfully pioneered the subscription economy for consumer electronics, a move that is critical as we build a net-zero world

Grover has raised $330 million, $110 million in equity, and $220 million in debt, using which it plans to expand its stock of devices as it gears up for more user growth.

TALK OF THE TOWN

Covestro is plant-based resins that offer sustainable solutions and replace fossil fuels.

The high-quality polymer manufacturing behemoth has introduced a plant-based form of HMDA in various coatings, adhesives, and a common type of nylon.

It can highly progress the company's goal of CO2-neutral production with a 100% plant-based HDMA.

Covestro's acquisition of Resins and Functional Materials bolstered the company's efforts to provide environmentally friendly coatings and adhesives.

Using technology to liberate new value from the circular economy

National Winner

Ushmita Mohanta & Deep Arora
Symbiosis Institute of Management Studies (SIMS)

"The technology possesses unparalleled potential to allow humanity to take care of the biosphere in the best way and to usher in a truly circular economy more quickly and more effectively"

Within ten years, companies will no longer tolerate waste at every step of the value chain. The introduction of innovative technologies can enable companies to move more quickly and efficiently toward an inclusive circular economy.

The transformation towards a circular economy (CE) is increasingly becoming a strategic priority for organisations around the world. CE is considered an alternative to the linear economy (take-make-waste), and it operates on the principles of regeneration, preventing waste and pollution while maintaining materials in use. The CE system replaces the 'end-of-life' concept with reducing, reusing, recycling, and recovering.

"How" technology unlocks new value from the circular economy

As a transformation toward a resource-efficient economy and as a means of achieving climate neutrality by 2050, the circular economy concept is increasingly seen as the only way forward. In the circular economy, resources are used, but not exhausted.

By redesigning global value technology based on a circular economy paradigm, businesses, social enterprises, governments, and communities could unlock $4.5 trillion in additional output.

Many-to-many interoperability: The key to scaling digital interoperability and standardisation throughout the business ecosystem is many-to-many digital interoperability. As a result, enterprises can deal with up-and-downstream partners anywhere in the business ecosystem and exchange information in a trustworthy way.

Allow differentiating and eliminating monopolisation: It is vital that the backbone be designed as an open software platform that allows innovators and companies around the world to perform individual value-adding and differentiating functions while retaining interoperability.

Strategic system Enablers of technology-driven CE

The following four strategic system enablers can be used to accelerate waste crisis solutions and develop a model for broader circular economy initiatives:

- **Sourcing and Markets:**

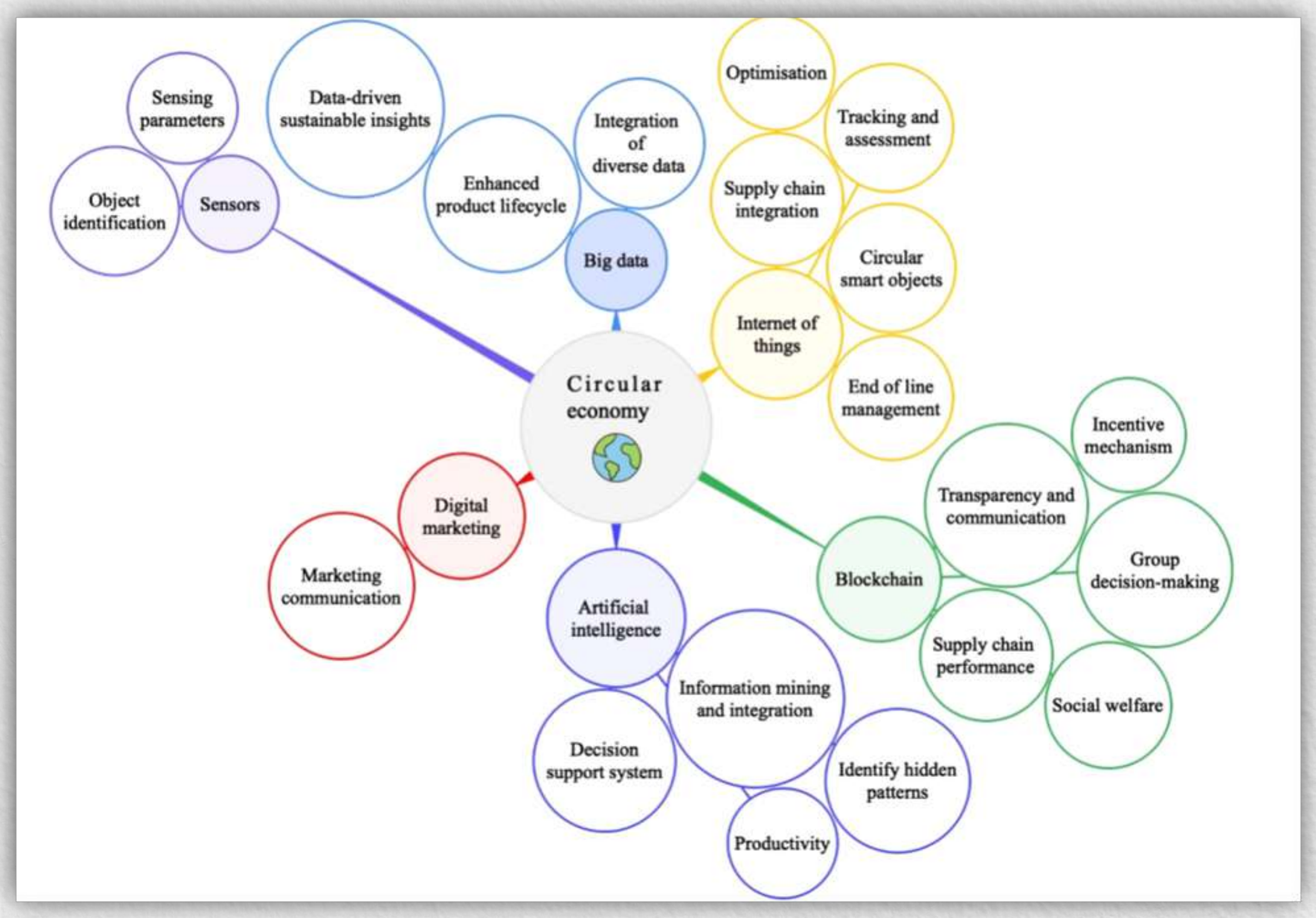
Enlarging the trade of secondary and alternative materials in specific geographic regions enables responsible sourcing and multi-supplier strategies. As a result, brands need to find new sources of steady and guaranteed supply in order to replace virgin plastic with recycled or alternatives, and suppliers need visibility into demand. By aggregating local marketplaces, technology can formalize informal sector waste pickers and ensure that they are not exploited. Moreover, by streamlining the processes, buyers and sellers have complete visibility into the materials lifecycle.

- **Responsible Production:**

In today's world, recycling and reusing are major issues. For example, the EU has set a target of 50% recycling consumer waste by 2022. Furthermore, hundreds of CGP companies have publicly stated their goals of using 100% recyclable or reusable materials by 2025. By using technology, companies in the chemical, packaging, and consumer products sectors can collaborate closely, while blockchain technology enables traceability from upstream suppliers to the finished product. It's possible to track products in real-time and see where they land and how they will be reused or recycled. In addition to tracking, calculating, and optimising for material bans - like plastic bags and straws - and tax liabilities associated with extended producer responsibility schemes in different countries.

- **Sustainable Consumption:**

Efforts to close the material loop in the economy must include business-to-business customers and consumers. As consumers, they can buy 'more sustainable' products and are responsible for understanding how disposable materials and packaging can be avoided - through reusing products, for instance - or recycled into productive use. With the aid of traceability apps and deep insights into citizen sentiment or 'product experience,' technology can enable brands to improve engagement with customers and provide insights to drive product design based on customer needs and values.



- Resource Recovery and Reuse:

The majority of companies and their stakeholders want to know not only whether their products are designed to be recyclable, but also whether they are actually recycled across regions and waste schemes. To support their investment decisions regarding new collection and processing capacity, recyclers would like granular, high-quality data on the sources of these recyclable materials.

The circular economy requires some of these system enablers in order to generate new value, but a true ecosystem approach also requires the harmonization and balancing of financial factors, environmental factors, and societal factors if the impact is to be positive.

Digitalisation technologies and CE ("Which?")

Big data and CE

By collecting a wide range of data, big data helps facilitate the acquisition of desired information and facilitates effective decision-making. The manufacturing industry takes an active role in developing new databases through the integration of data from various sources. Third-party providers are accessing previously overlooked data sets such as weather conditions and changing economic conditions for the purpose of creating business-specific decision-making models.

Artificial intelligence, machine learning and CE

SECTOR-SPECIFIC

ENABLING TECHNOLOGY IN CICULAR ECONOMY

In some sectors, digitalization and the transition to the CE have been highly successful. As a result, these sectors are at the centre of linear-circular transformation studies. Furthermore, collaboration with universities and the educational sector can facilitate this transition. The following section presents studies that focus on some of these sectors.

1 Healthcare

Digitally connected healthcare facilities, centres for waste disposal and a feedback app for stakeholders to drive the CE in the healthcare sector through digitalisation. Here, corporate social responsibility plays an important social role in healthcare institutions and can facilitate the adoption of digitalisation technologies. The adoption of these technologies, in turn, adds value to ecological practices in the healthcare sector.

2 Education

The education sector, including colleges, universities and technical institutes, can act as a laboratory for investigating the use of breakthrough technologies in prompting a global shift towards the CE.

3 Agri-food

Food supply chain actors have advocated for digitally-enabled food-sharing platforms to promote a CE-orientated future. Decision-making tools that utilise analytics and optimisation algorithms can guide authorities and decision-makers to reduce the carbon footprint of circular agriculture propose an amalgamation of IoT technologies with alternative methodologies for managing disposable food containers. Data mining technology can be used to construct a path analysis system for sustainable development in agriculture and to depict interactions between renewable resources and agricultural output. Big data-based smart agricultural waste-discharge systems can improve system performance and agricultural sustainability.

4 Fashion

Digitalisation technologies can enhance sorting and recycling in the fashion sector by creating transparency, traceability and automation. Indeed, the new business models and digital innovations in the pull demand-driven model are vital to the CE transition in the fashion industry.

5 The urban sector

Planning in cities

The utilisation of innovative digitalisation technologies in the domain of urban planning offers a fresh outlook on the optimisation of existing facilities. For example, propose an IoT-based architecture that decreases resource requirements and increases the overall performance of cities. New facilities can be developed by applying IoT, big data, ICT and smart applications to drive the processes of reducing, recycling and reusing waste. The big-data approach can provide potential industrial symbioses within the boundaries of a city.

Smart buildings and architecture

Smart buildings represent an asset for sustainability. During construction, intelligent components can be used to facilitate the required data flows over all stages of a smart building's life cycle. Two key approaches to the CE in urban housing are the development of smart houses and the use of smart demolition technology. suggest that a machine learning model can be trained and applied to predict the optimal features of a smart building. Furthermore, an urban layout analysis can be conducted, and the carbon footprint of a building design can be managed with the help of neural networks.

- Design circular products, components, and materials:

Through iterative machine-learning-assisted design processes, artificial intelligence can enhance and accelerate the development of new products, components, and materials suitable for a circular economy.

- Operate circular business models:

By leveraging AI, circular economy business models can be more competitive, such as product-as-a-service and leasing. AI can help increase asset utilization and product circulation by combining real-time data from users and products with historical data. This is done through pricing and demand forecasting predictive maintenance, and smart inventory management.

- Optimize circular infrastructure:

AI can contribute to the development and improvement of reverse logistics infrastructure used to "close the loop" on products and materials, by fostering better processing of sorting and disassembling, products, remanufacturing components, and recycling materials.

Impact of digital technologies on elements of circular business model(CBM)

Digitalisation aspect	CBM–Value creation	CBM–Value capture
IoT adoption	-Durable products -Meeting the demand of 'green-segment' customers	Easy tracking and monitoring -Reduction in costs
Distributed manufacturing	-Robust products and services	Reduced transportation -Reuse and recycle
Knowledge generation from technology	-Slowing, narrowing and closing resource flows	Attracting additional customers
Information and communication technology	Sustainable and efficient products	-Robust decision-making at the design stage
Digital technologies combined together	-Improved product design -Preventive and predictive maintenance	-Increased efficiency -Attracting target customers
Digitalisation enabled eco-design tools	Improved quality functionality	Enhanced competitiveness
Blockchain adoption	-Robust CE products	-Increased control on products and systems until the end of life - Decision support
Fintech innovations	Financial inclusion and economic growth -Societal welfare	Evade barriers to adoption of CBM -Cost savings and cashflows

Blockchain and CE

Blockchain technology facilitates the design of incentives for consumers to adopt green behaviours. Additionally, blockchains' transparency would boost internal and external communication, as well as support the development of CE plans. Blockchain would further eliminate waste and promote environmental benefits by allowing longer-lasting products that customers do not need to worry about returning at the end of their lives.

Other technologies and CE

Sensing capabilities can have the potential to unlock CE implementation opportunities in addition to the adoption of sensor-based smart tags and barcodes. Sensors are capable of identifying objects, tracking a product's life cycle and detecting parameters in the environment.

A particular benefit of information and communication technology (ICT) is that it can contribute to the management and optimization of EOL operations and enable circularity.

Limitations

Barriers to digitalisation-led CE:

A significant limitation is the lack of structured data management processes, the inconvenience of developing IoT-enabled products, as well as the lack of environmental education and environmental conservation culture .Furthermore, the negative impacts of disruptive technologies, such as low predictability and vulnerability to information, impede the adoption of digitalization technologies that make circular economies possible. Poor quality of data and higher

variability in data formats impair the performance of predictive models of waste management for the circular economy.

The lack of data about material flows and data related to other phases of the operations, such as collection and treatment, hinders policymakers from devising the policies that are required to initiate feasible solutions to environmental problems

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Conclusion

Circular economies offer new approaches to doing business that are resource-saving, profitable, and dramatically reduce the impact of business on the environment.

Circular economy business models will be more attractive with a shared interoperable digital backbone.

This will increase business benefits, accelerate the positive impact on the environment, and make circular economy business models more accessible. This technology-driven circular economy cannot be put off any longer; we don't need more conferences, reports, and calculations. The planet and many people suffering from climate change demand that we take action now. In order for the circular economy to thrive, governments, global organisations, industry associations, and companies must become proactive in ensuring targeted, accelerated, and responsible digitalization. This is the only way we can save the planet and reach our ambitious climate goals.

Sustainable Supply Chain Management in the Route for a Circular Economy

National Runner Up

Tanya Mahajan & Vaibhav Murudkar
PGDM Operations 2020-2022
WeSchool Mumbai

"Sustainability is no longer about doing less harm. Its about doing more good." - Jochen Zeitz

In recent years, the circular economy has gained increased traction as a means to resolve the problems of the current production and consumption patterns based on continuous growth and increased resource throughput. The circular economy is crucial to stimulate growth for supply chain organizations due to its consciousness of the environment, energy conservation and the global competitive atmospheric aspects. Sustainable Supply Chain Management (SSCM) recognizes operational efficiency and can create strategic growth opportunities in the future of the organization. The primary focus of the circular economy is utilizing available resources, conserving non-renewable energy, and managing the physical movement of goods at every stage in the supply chain system effectively.

Source - The Circular Supply Chain CUNNANE

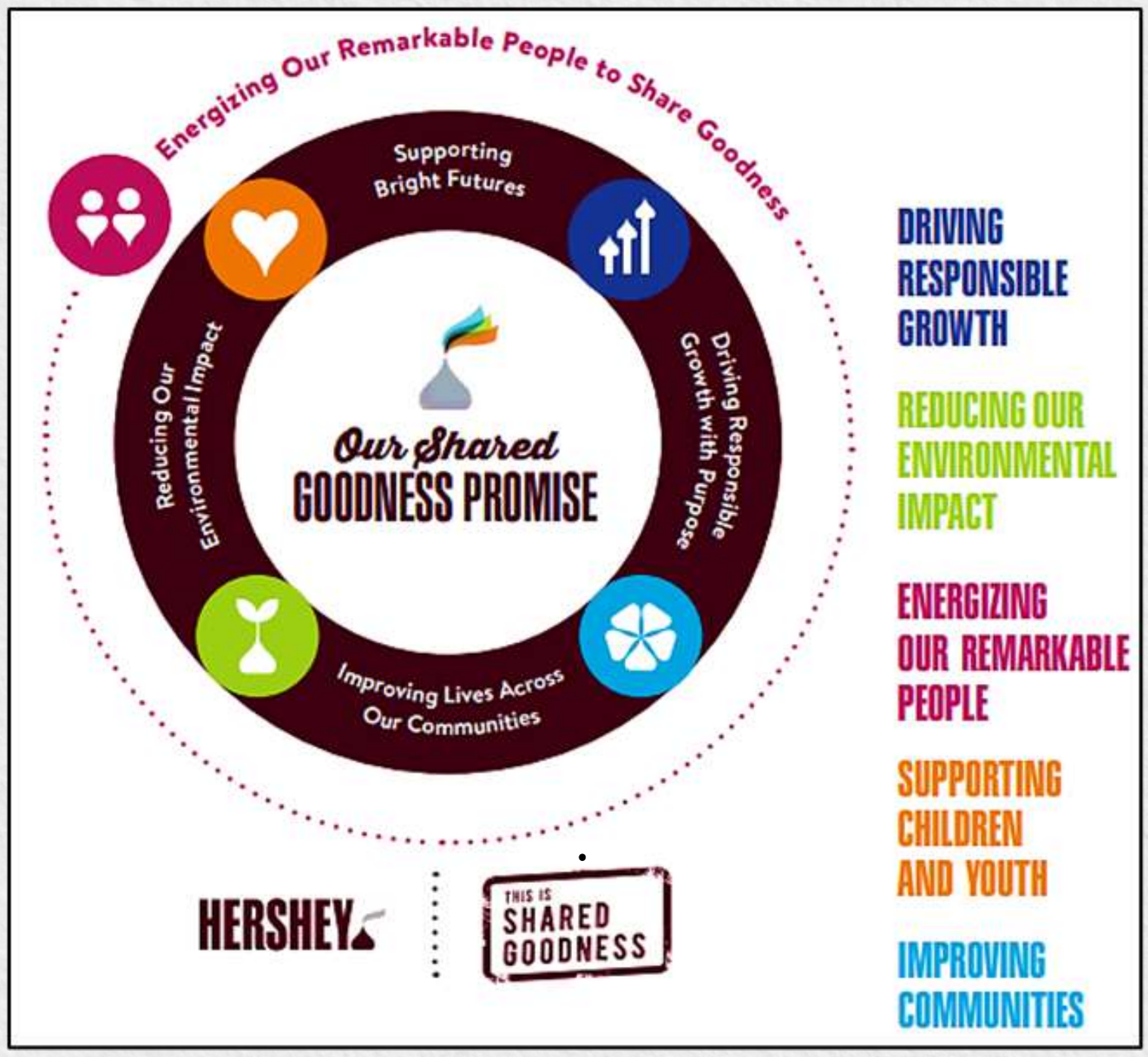
The Sustainable Supply Chain

The United Nations (UN) has defined and penned down 17 Sustainable Development Goals (SDGs) for

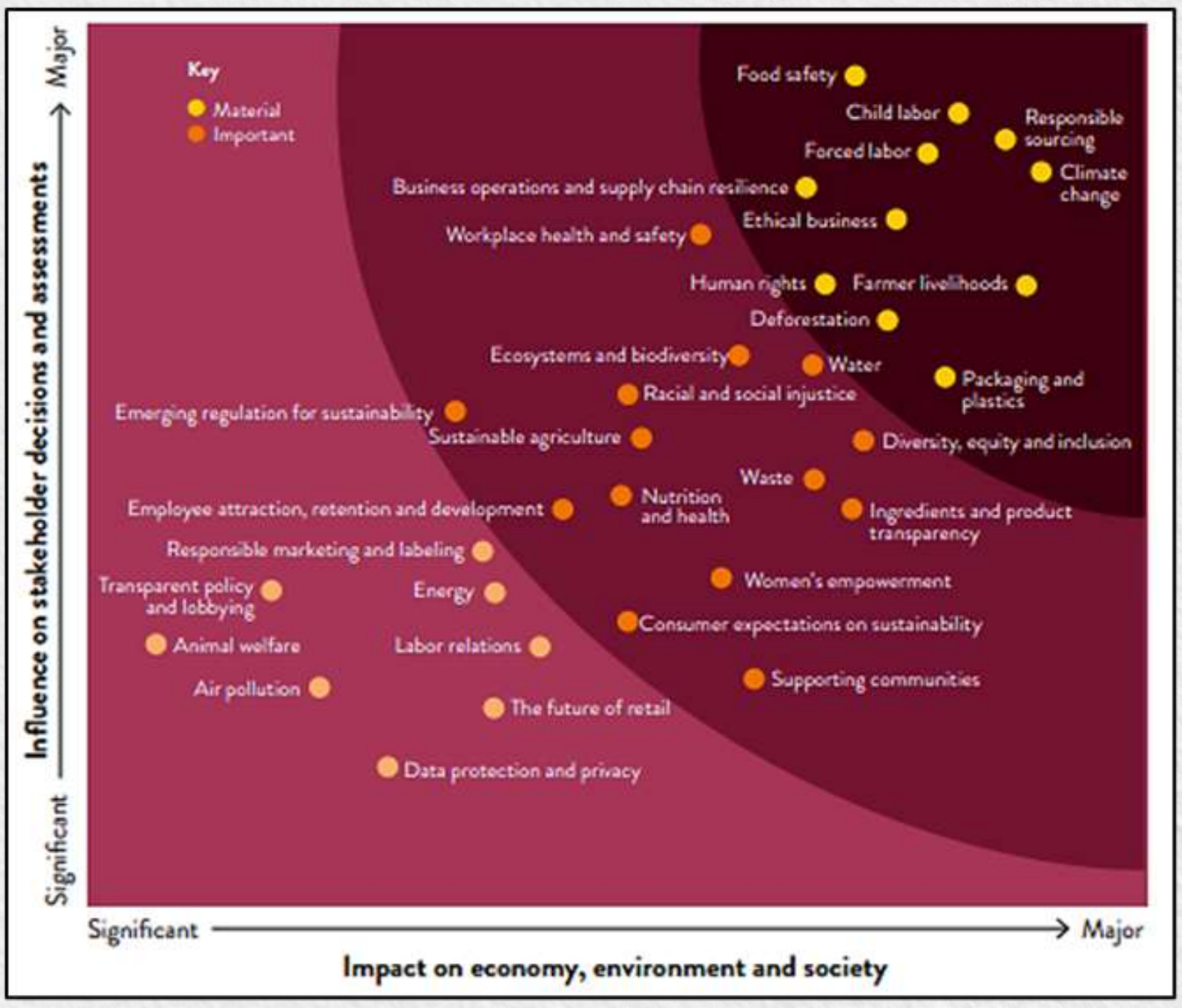
Source - supplychainminded.com

global supply chains. These SDGs are designed to become a blueprint to achieve a better and sustainable future for all. The SDGs were introduced in 2015 by the United Nations General Assembly and are targeted to be achieved by the year 2030, included in a UN Resolution called the 2030 Agenda.

Companies are experimenting on how their business can implement these SDGs to improve sustainability practices. Hershey, whose purpose is to "Make More Moments of Goodness" for consumers today and for many generations to come, is focusing on combating climate change, improving farmer



Source - The Hershey Company Sustainability Report



Source - The Hershey Company Sustainability Report

livelihoods, and partnerships as part of its sustainability plans. These SDGs, combined with the company's objectives, will help to eliminate single-use plastics in its packaging, thereby a move towards a circular supply chain.

The Circular Economy

The circular economy is basically a way of production and consumption, which involves sharing, reusing, repairing, refurbishing and recycling existing materials and products for as long as possible. It focuses on reducing waste to a minimum. When a product reaches the end of its life, its materials are kept within the economy wherever possible so that they can be used again in value added activities. These can be productively used again and again, thereby creating further value in the supply chain.

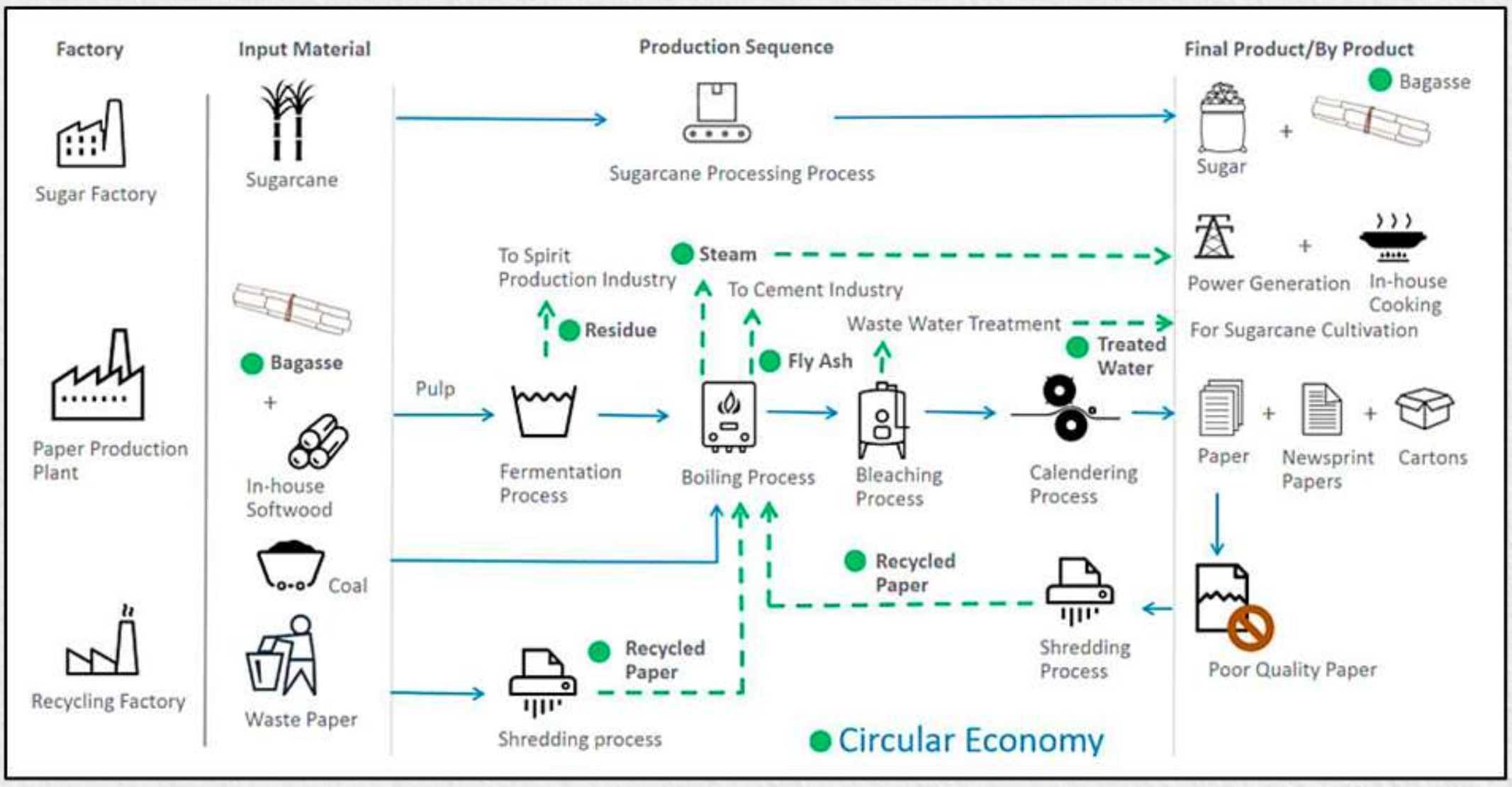
This is a modification in the traditional linear economic model, which is based on a take-make-consume-throw away pattern. The circular economy model relies on large quantities of cheap, easily accessible materials and energy conservation. The primary key behind building this economy is to keep products, equipment, and infrastructure in use for longer periods of time, which makes these critical resources more valuable.

Let's consider the below case as an example to help you understand how SSCM can be implemented to build a circular economy in a paper manufacturing industry. The supply chain of paper manufacturing is mostly linear. One of the primary raw materials used for manufacturing paper is bagasse, which is actually a byproduct of a sugar factory. Based on the raw materials used, the outcome can be writing paper, newsprint, or cartons. The finished goods are transported to the distribution center then to retailers and finally reaches to the consumers through a 3PL ecosystem. A typical linear supply chain economy is illustrated in the figure below.

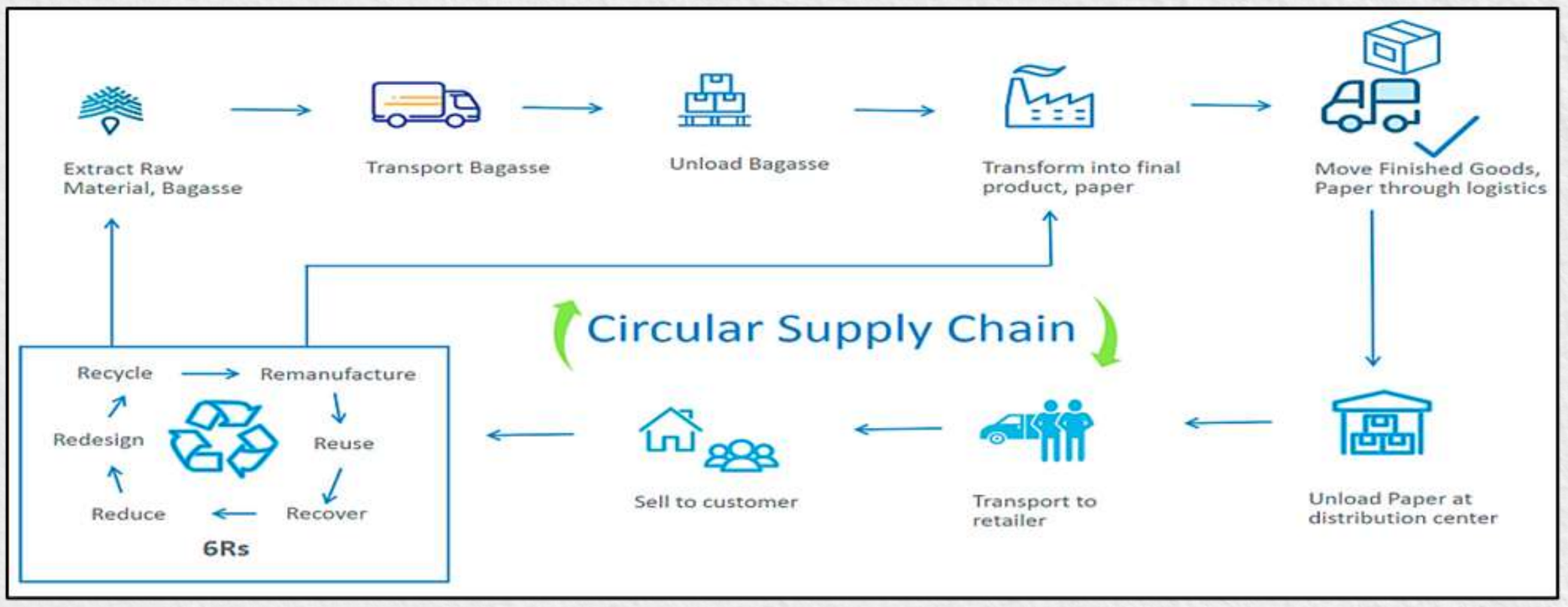
Where sustainable options can be included:

1.When the pulp is fermented, a residue is formed. There is an opportunity to reuse this residue in spirit manufacturing.

Implementation of circular economy in sustainable supply chain

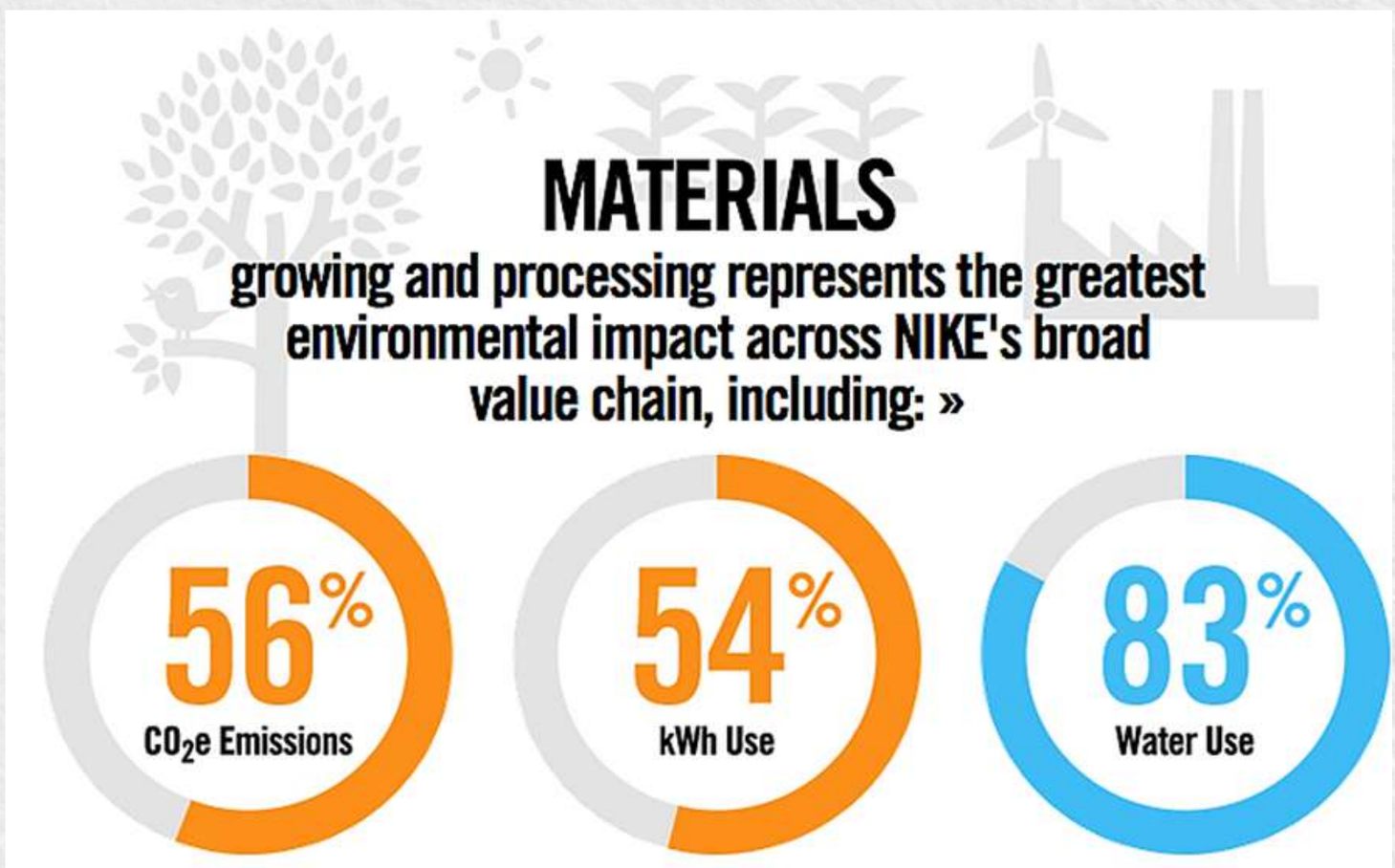


In this manner we can change a simple linear supply chain to a circular supply chain.



Example of sustainable supply chain practices -

Nike is considered to be one of the most innovative companies in the world. Nike's greatest innovation will be its approach to sustainability across its entire supply chain.

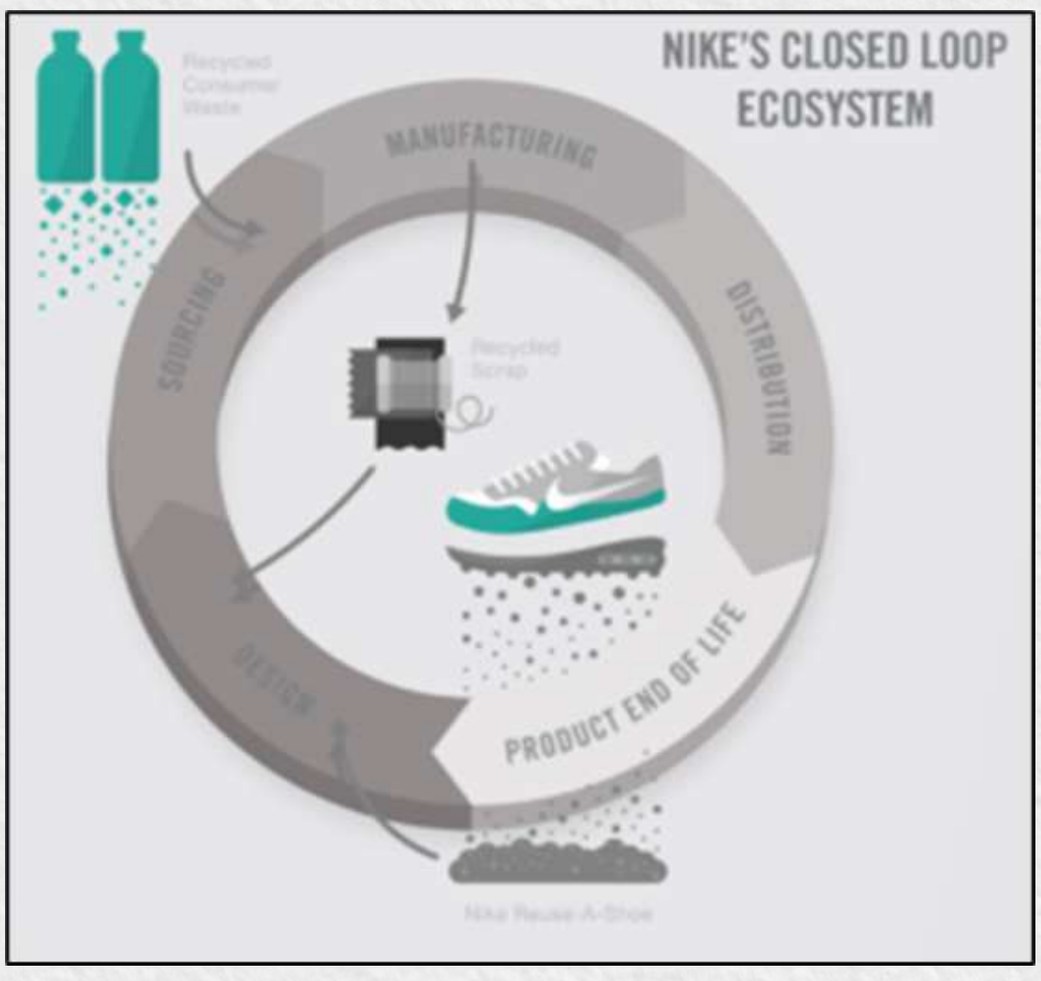


2.Coal is used for boiling the pulp. Excessive steam is generated during this process. This steam can be used to produce electricity, which can be reused within the manufacturing unit for power consumption and to cook food for employees.

3.The fly ash generated due to heating coal can be supplied to the cement industry.

4.Bleaching is carried out to decide the colour of the paper. This process requires a huge amount of water. This used water consists of sludge and waste materials. The wastewater can be treated and used for irrigation purposes for nearby farms.

In response to the ongoing harmful impacts of its traditional linear operating model, Nike has taken a number of impressive steps to reduce its environmental footprint over the past decade.



- Raw Materials: 71% of Nike's footwear and apparel products use recycled materials.
- Manufacturing: Nike's contract manufacturers have cut down the usage of the energy per unit in half since 2008, which means that it takes about half the energy and emissions to make a pair of shoes today. In 2015 alone, around 54 million pounds of factory scrap was transformed into premium materials used in Nike footwear and apparel products.
- Distribution: By 2025, Nike plans to utilize 100% renewable energy in its operated facilities and has already started implementing on-site renewable energy generation at some of its largest facilities across the globe.

End Consumer: Nike's "Reuse a Shoe" Program has recycled approximately 30 million pairs of shoes.

Nike has taken sustainability beyond its supply chain and has successfully embedded it as a tool in all its recent innovations. For instance, Nike's Flyknit shoes are made from a specialized yarn that knits the shoe's body into one piece rather than stitching together multiple pieces of a traditional running shoe.

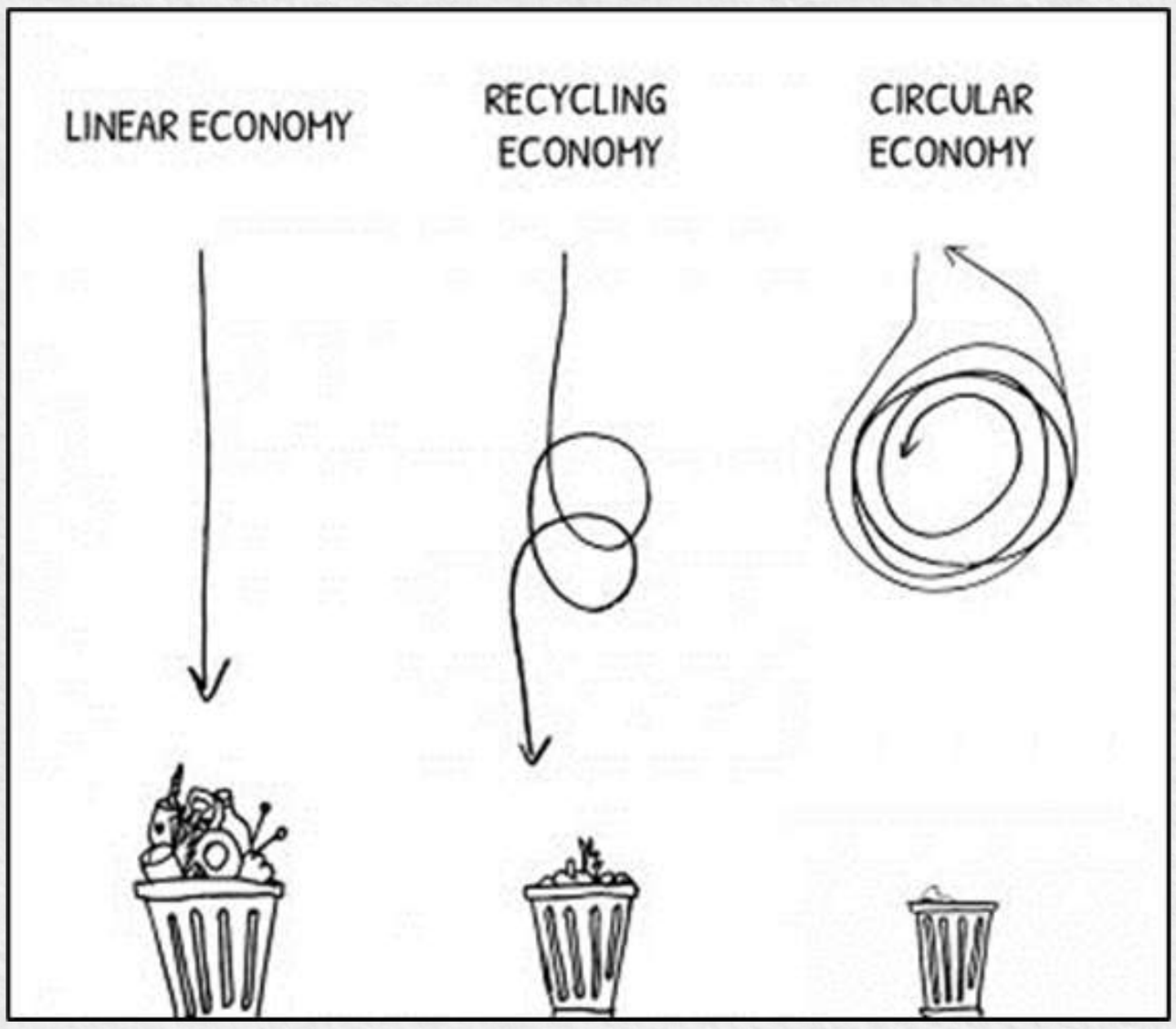
Source – HBS | Nike Innovating with Sustainability

Conclusion

The high level of consumption that the world's population has maintained over the past decades has left everyone worried about the depletion of natural resources. Pandemics like that of COVID-19 exaggerate the drastic consequences that they can bring to all humanity. So, the need to rethink the way products are produced, marketed, distributed, consumed, and recovered accelerates.

Sustainable supply chain management (SSCM) can implement ecological innovations that would help to preserve the environment.

In the recent years, the focus of sustainable supply chains is to address sustainability issues by reducing the processes in production, that are using toxic and non-renewable materials and causing environmental harm and focusing on the recycling of used products. In addition to this, circular economy drives best environmental practices by producing sustainable products and re-using the materials, which helps in the economic growth of the country. More broadly, the circular economy emerges as a major component of sustainable development.



"To transition to a Circular Economy requires using renewable energies. And the most renewable are the human energies of empathy, honesty, and integrity." – Rob Peters

Role of Banking Industry in pioneering Circular Economy

National finalist

Ayushi Sarda
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Banks are among the major sources of revenue for corporate operations. Their contribution to the development of modern economic systems leads - and they distribute funds among individual economic organizations. To a large extent, they are responsible for providing credit services and determining funding conditions. That is why the policies taken by banks in this area are very important when it comes to economic transition from one line to another.

Over the past hundred years, an interesting pattern has been observed. On the one hand, global use of resources has increased, but on the other hand, the way these resources are used proves their inefficiency. Insufficiency can be expressed in two stages, leading to two major line model errors.First, there is the unequal use of resources - most of which are used in the most developed countries at the expense of developing countries, and second, there is the collection of waste that can be disposed of after disposal. The current economic model is straightforward and follows a pattern: the extraction of natural resources, the processing of finished products and the consumption of products, which ends with its disposal. According to many studies, the current successive economy cannot guarantee the achievement of economic development by all countries in the world, as the available natural resources are insufficient for this purpose.

The circular model seeks to solve these two errors of the main line model. The concept of this model draws inspiration from the way the environment works, and especially to individual biosystems. Just as each of them has its own cycle - birth, growth, decline, death and rebirth, as well as individual economic plans.Therefore, the life

of a product should not end with the disposal of disposable waste, but on the contrary - each product should be considered as a permanent set, individually, after conditional conditions. the end of the life of a particular product, should be included in the construction of a new product. Therefore, in the future, the community must reach a point where waste can be disposed of, and all products must be recycled or recycled.

To achieve this point gradually, it is not enough to find ways to recycle individual types of goods, but to reduce the total amount of waste disposed of.

To support efforts in this direction, ways should be sought to prolong product life, promote its long-term use, and share the use of certain categories of goods, which could lead to a small number of distributed goods. It is difficult to specify when and where the term “circular economy” occurs. Today, “nearly every international business is undergoing a transformation due to the pursuit of conservation,” and reform efforts from the queue to the circle reflect this trend.

The term “circular economy” first came to prominence in the 1970's, and it gained popularity mainly because of a number of names.Environmental risk management in the operations of the real bank is the key to the bank's contribution to the development of the global economy. As long as the lending of companies that keep the line model and the lack of strategy and vision for change continues, it will be very difficult to achieve the transition to a rounded economy. On the other hand, banks are focused on profit-making and this is natural — the pursuit of financial success is part of the common sense of the economy. Therefore, if there are no incentives for banks to turn down funding for highly profitable but environmentally friendly companies, they will not do so. And they will not support many new, naturally good ideas that support a circular, but questionable, in the short term, for profit. Banks should not be blamed for this act and no change can be expected on their side without good reason.

Environmental risk management is not just an idle activity, which involves the use of a process in which various customer records are considered, or in scoring calculations on the basis of exposure limits and other indicators.

It also has an active component, which includes not only evaluating the customer to see if it meets the current conditions and complies with the list of existing products in the bank, but in developing such products and services will meet its

new needs and reflect its profile.
In fact, the round economy has been operating naturally since the beginning of human activities. Advances in technology have made it possible to produce, produce, and reproduce in large quantities. However, the value of the goods has grown significantly, and it later emerged that some of them.

The current state of law in many countries around the world encourages the neglect of natural hazards. This is due to a lack of adequate understanding of the problem on a large scale. Evidence of this can be seen in the examples of China, Brazil, and Peru. These countries have specific banking requirements regarding environmental risk management and the results of this policy, as demonstrated in practice in Peru, are encouraging. On the other hand, Chinese authorities have come to the realization that the economy of this large developing country would not have a sustainable future if natural resources were not taken into account. This has pushed them from now on to set strict requirements for banks and companies from all sectors of the economy to comply with environmental laws. Severe penalties, given in cases of violation, are a good enough incentive for market participants to follow the rules. In this way, as in Peru and Brazil, China is working to build a comprehensive culture in a society focused on environmental protection.

Circular HRM- mapping circular economy with circular HRM

National finalist

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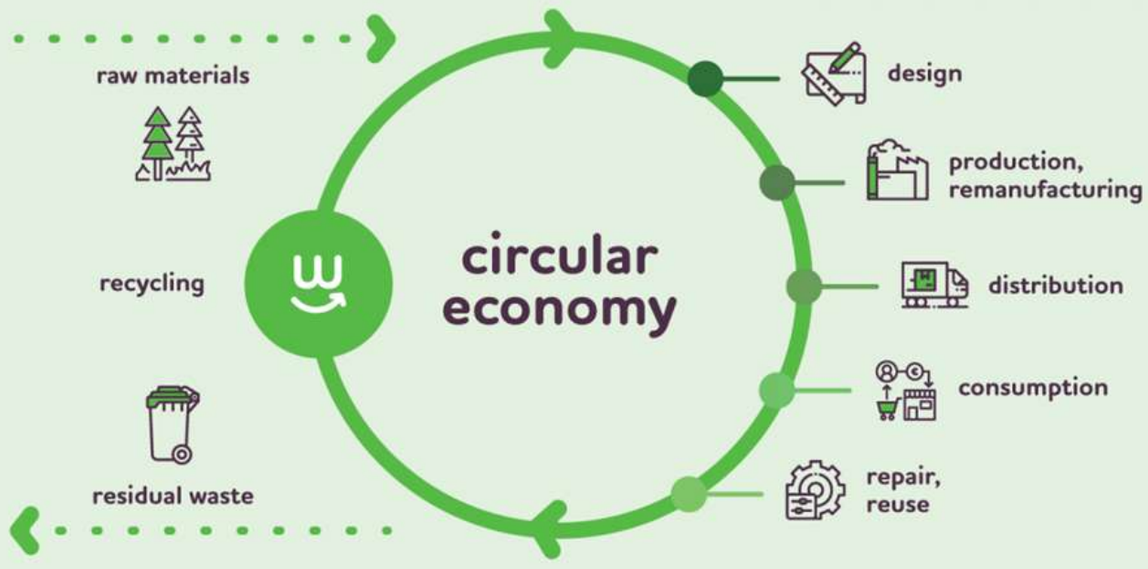
PG Business Administration
International Management Institute, Kolkata

The commencement of a global pandemonium for the reallocation and reuse of non-consistent availability of resources stigmatized the upthrust of an economic refinement. The heatwave of global inconsistencies resulting from havoc and crisis paved the way for circular transition, therefore, the rising need for a system that would deal with the economic outbursts, social wellbeing, and climate extremity. The resultant change would weave the open ends together, mapping the fallacies and exterminating the cause for restraint. The concept of Circular Economy was introduced by Pearce and Turner, in the year 1989.

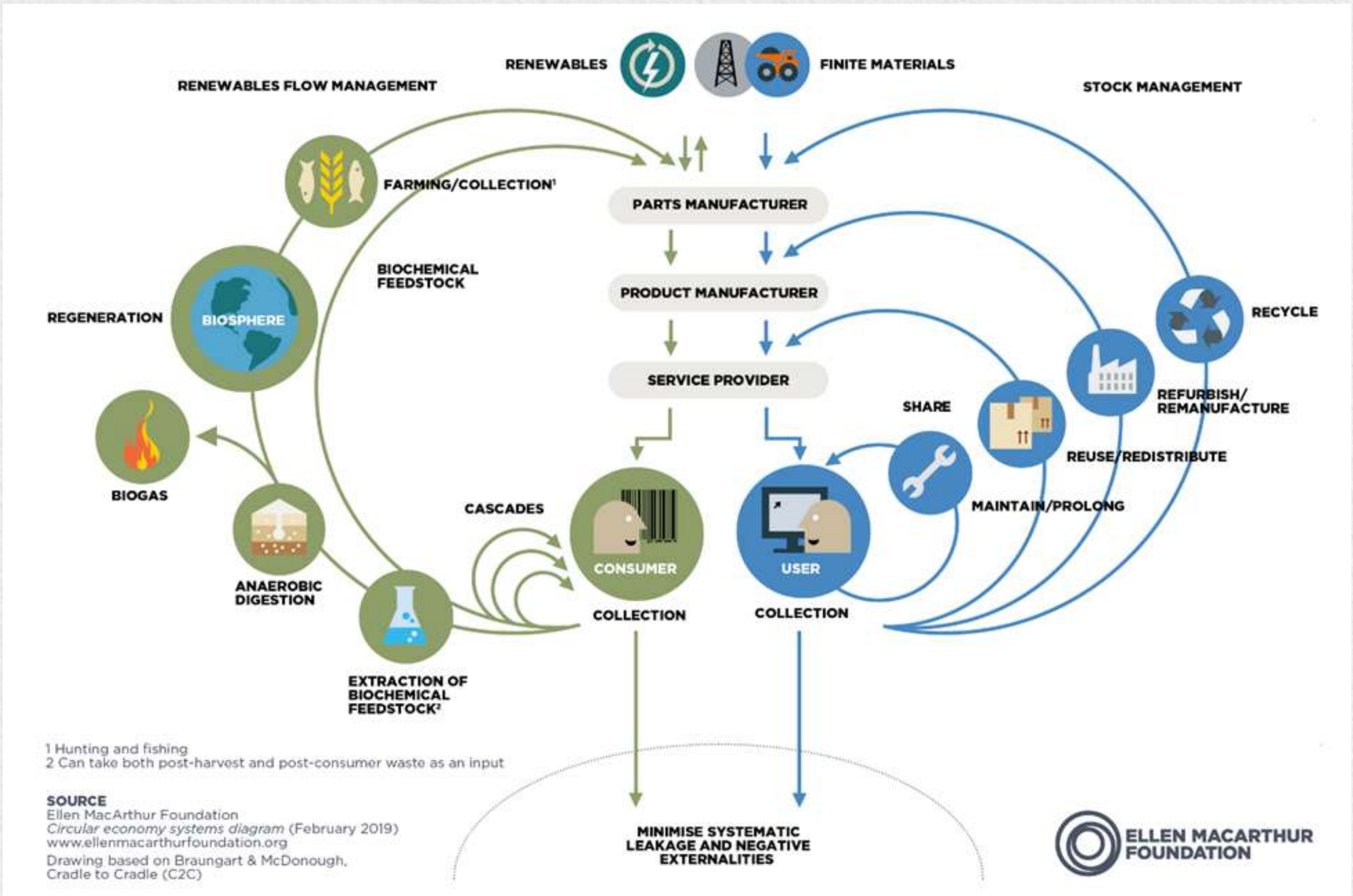
It is a production and consumption model, that brakes the loop of continued manufacturing and consumption, and induces repair, refurbishment, and recovery of tangibility in use. This demarks continued depletion of materials and extends the life cycle of products. Thus, relied upon tracing the endnote of global challenges such as biodiversity distraught, pollution, global warming, and climatic emergency. The idealogy behind upscaling Circular Economy strives for sustainable production and consumption patterns, that would further eliminate recurring sources of waste generation. Contributing to an increased usage

of alternative material and improved overall productivity, the concept will disburse a responsible task force that would upend sustainability on home grounds and contribute to the white checkboxes for sustainable development and green revolution.

As per the World Economic Forum, The circular economy offers a $4.5 trillion economic opportunity by reducing waste, stimulating business growth, and creating jobs. Making better use of raw materials is not just good for the planet, it's a financial imperative. The International Resource Panel found that more sustainable use of materials and energy would add an extra $2 trillion to the global economy by 2050. The sub-coupe of the atomic changes and micro-refinements rattles the human

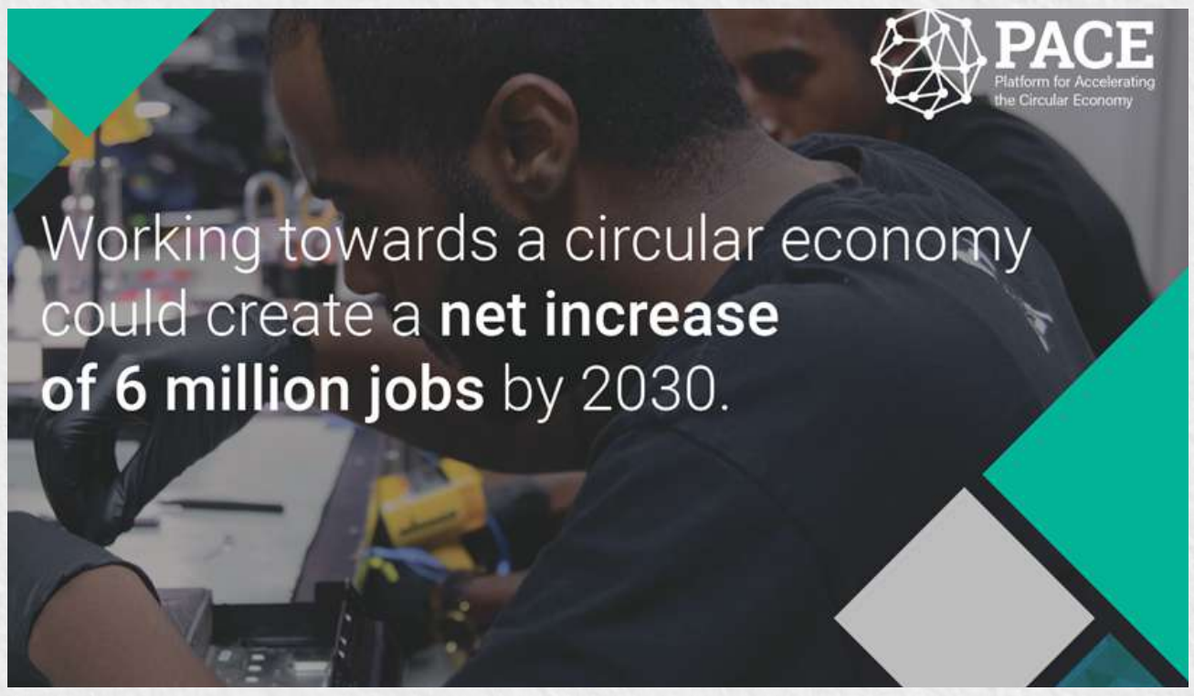


figment of things. This recalls active alterations in the sub-levels of human resource management, thus realization of the finer scheme of things. Circular Human Resource Management promotes sustainable and circular business organizations that rely on strengthening of key competencies that regulate the functioning of the model. It assists in dealing with the rational outcomes of the theme and identifying strong connectivity between the workforce and sustainability goals. This imparts continued professional training



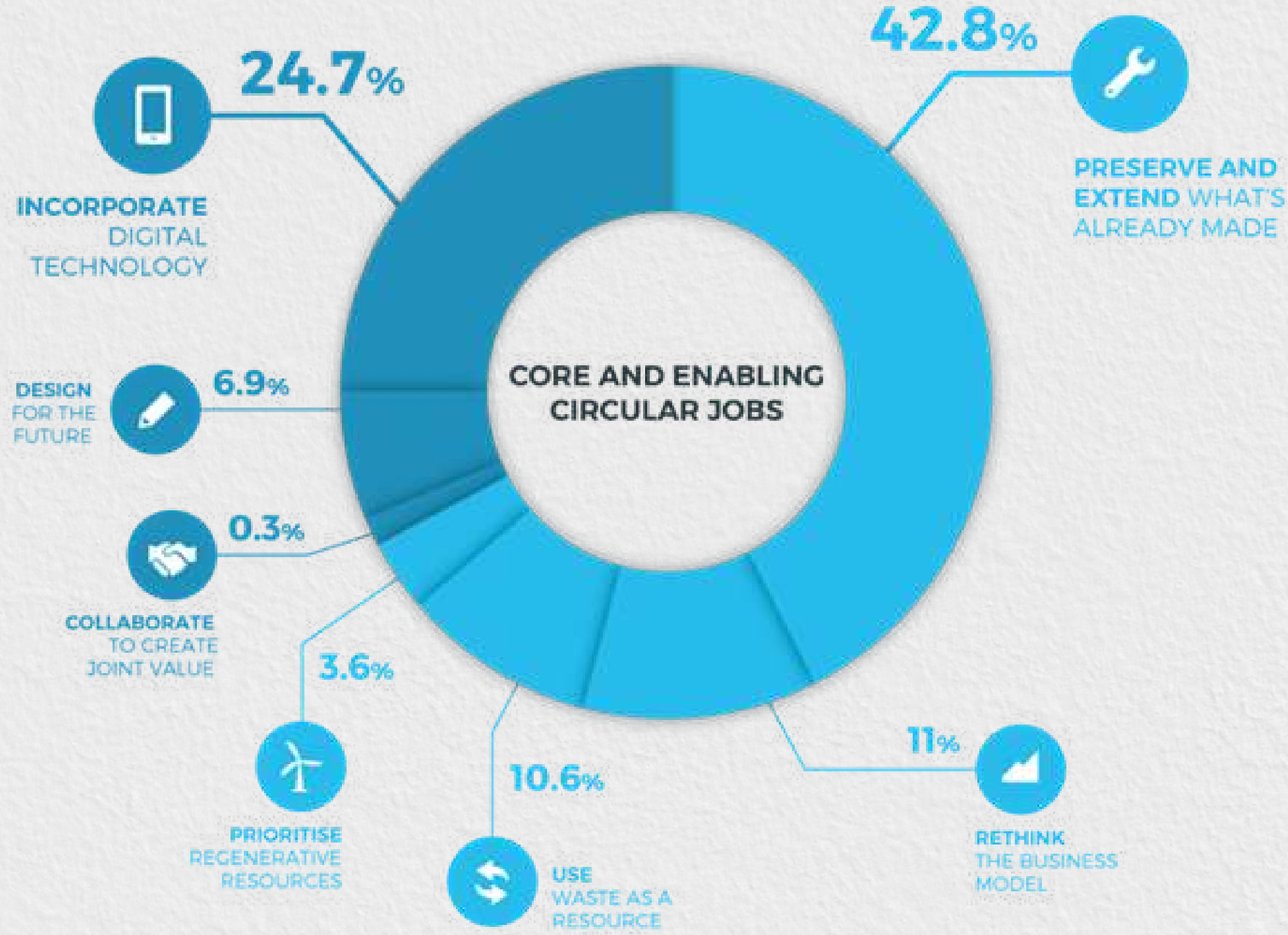
that leads to the development of a conscious recourse towards organizational long-term objectives and awareness towards the global climatic face.

Focussing on the wider perspective of things, an exile resulting from technological disruption of labor-intensive markets has led to the interference of strategic intelligence, thereby announcing a lack of inclusivity. The schematic disturbances led to overall disbalance in diversity, thus grey sketching the long-term sustainability goals of the organization. Circular HRM comes shorthand and helps deliver innovative schemes to restore the sustainable development objective and cater to the natural management of human capital. This reminds the manufacturing ecosystem that the human dimension cannot be neglected. The recourse allows companies to focus on answer approach to Human Resource Management and pave solutions to challenges posed by linear economies such as skill mismatch, unemployment, stress, and anxiety in the workplace, reduced social presence, non-moderated depression, and much more. Circular HRM allows the workforce to take up an interdisciplinary approach to thinking, design modulation strategies, and robust indulgence. Resolutions that come from creative consciousness would help



persist proactive state of problem-solving. The monologue comes with a precondition towards planning a durable and sustainable model for upskilling of the task force in contrast to the linear developmental scheme of day-to-day HRM. It focuses on funneling skills and competencies at the workplace to evolution by induced efforts that voice targeted deliberations.

Now, modifications that come in handy are improved consciousness of human resource managers that engage with employees on a regular basis. Also, reduced gaps within skills mismatch, alongside the creation of job opportunities that eliminate redundancies pertaining to profiles already prevalent in the company, Circular HRM can focus on redemption of circularity within the organization, development of e-training and e-learning platforms, piloting on-the-job training opportunities, identifying a circular roadmap for the firm, and improved knowledge sharing. The idealogy can be strongly thrust by senior HRM employees that voice the guiding spirit in the firm and procure lasting



imprint towards Circular realization. The incrementation can result from strategic planning and interdependencies, i.e, identifying critical positions within the firm and developing onboarding plans for the same. This would help the firm keep strategic intelligence within the pipeline and commit to more convergent schemes.

The overall disbursement of human configuration in the world of work is fast changing with the arrival of newer HRM models, that channel strength within the organization in terms of change management. Circular HRM disposes of linear movement and caters to leveraging design change that fosters the needs of employees in terms of greater awareness and improved consciousness. The smooth transition can be achieved by means of identifying hot spots that require immediate implementation

implementation of circular HRM policies, developing relevant training modules as per workgroup requirements, support from the public and private enterprises towards the collaborative effort in maintaining smooth transition and homogenized global standards that align circular motives with HRM sustainability goals.

Implement 3R's across brands and their impact

National finalist

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We presently live in a society that is characterized by excessive consumerism, which has been built after the industrial revolution and is also, accompanied by a growth in waste, which is a major issue. Every year, we need to recycle more; unfortunately, we generate more waste in the process. Implementation of 3R's may help to cut down on the amount of waste that everyone creates and throw away. These 3R's- refurbishing, recovery, and recycling implementation create a variety of impacts in this journey of circular economy which is also being supported by big brands by announcing various initiatives to cuddle the circular economy. But, when we talk about the implementation of 3R's across all brands, several factors make this process a roller-coaster ride.

In this whole process, social-cultural factors act as a first entry barrier for implementation which includes poor knowledge on waste recycling/ reuse of material, conservative culture of organizations, outdated practices, low level of motivation for waste recycling/ reusing, and low level of collaboration between management and workers.

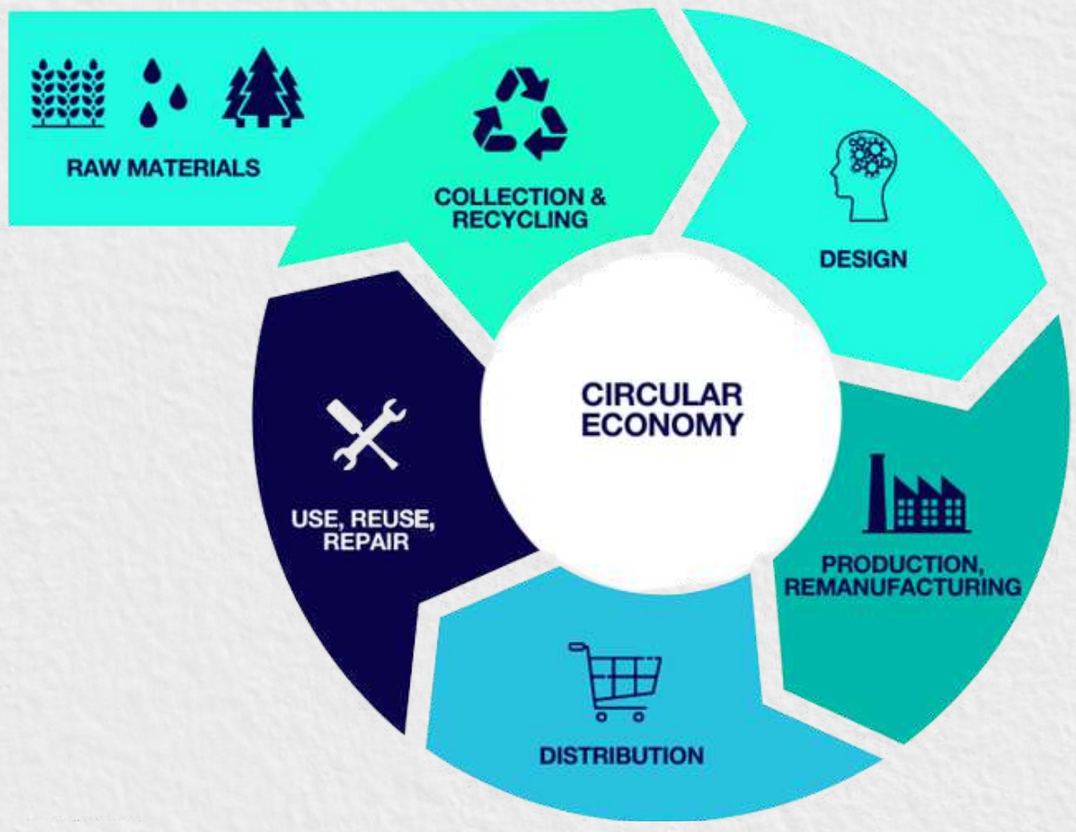
Second, economic factors include the cost of disposal in landfills lower than recycling even landfilling tipping fees are low, lack of stable and responsive market for recycling of waste back from consumers, and negative perception regarding recycled materials.

Third, tech factor, there is lack of specialized and affordable equipment for on-site sorting/ grading and reuse of material and lack of recycling plants in the country which restricts new and

small brands to implement 3R's across the organization.

Last but not least, legal-environmental factors, poor implementation of policies and regulations provides a free hand to those who want to run away from 3R's implementation. Thus, all these things negatively impact the implementation of 3R's across brands.

Where on the other side, various brands across domains show the useful implementation of 3R's. In the jewellery business, the TOUS brand has mastered the expertise of giving old items new life by repairing, reusing, and recycling them. A workshop with 90 multi-disciplined craftsmen specializing in electroforming and micro-casting produces 40% of the brand's collections. The plant has implemented a comprehensive waste management program that has resulted in inappropriate waste management, as well as metal and raw material recycling and reclamation. It has a treatment facility that cleans polluted wastewater and ensures that it has no negative influence on the environment. Because of this, TOUS not only addresses the issue of the environment but also, generates a good business. The textile industry also comes among top polluters, but how can the textile industry clean this tag of top polluter is shown by Pentland Brands who create a fleece collection which, is



constructed from Polartec fabric, which is created from recycled bottles. To create these fleeces, more than two million plastic bottles were rescued from landfills. This is brandable to quickly integrate new brands, keep operating expenses low through process automation, and give their business-to-business customers a single point of contact for all of their brands. Pentland has also considerably shortened the time it takes to deliver its customized items. This shows how Pentland makes a win-win for business, the environment, and consumers.

3R's implementation and its impact, where IKEA is a good example of a company that pledged to become a completely circular corporation by 2030 while still growing rapidly. The business announced a collaboration with the Ellen MacArthur Foundation on closed-loop home furnishing ideas and technologies. IKEA has set lofty objectives for itself, including creating 100 percent of their items using circular design principles by 2030, using only renewable or recycled material in their products, and developing

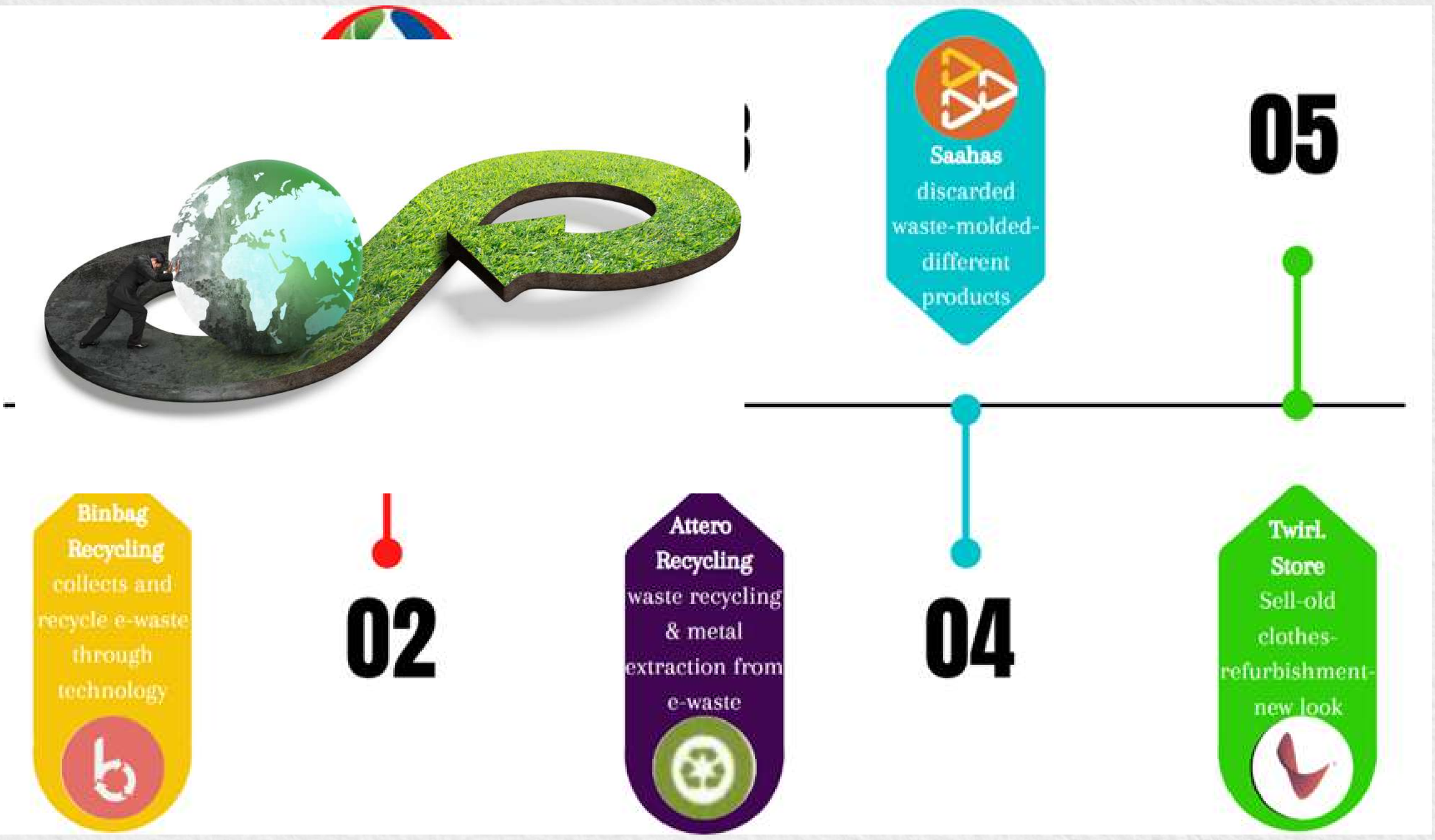
innovative ways for consumers to purchase, care for, and pass on their products.

Even, Schneider Electric, a manufacturer of electrical equipment, has recognized the need for a circular economy and has strived to prolong the life of its products by using recycled raw materials. Product leasing, pay-per-use alternatives, repair, and take-back programs, and other go-to-market strategies were discussed by the French company to ensure that abandoned equipment would not wind up in landfills. In 2018, the company's efforts resulted in a decrease of 40,000 tonnes of primary resources used and 30 million tonnes of carbon emissions from consumers. Also, many brands are operating on 3R's model few of them mention below infographics.

Customer Pull

Transitioning to a more circular business model may help you not just to minimize your environmental effect, but it can also enable your consumers to take the active part that they increasingly desire, therefore enhancing their appeal to your brand. As These approaches allow consumers to re-use, re-fill, share, give, or repurpose and recycle old resources into new ones, which reduces waste. Also, there is a twofold environmental advantage to keeping customers, brands, goods, and materials in a continuous cycle of purchase and reuse: it reduces not just the quantity of waste generated by consumers, but also the amount of raw material required for manufacturing.

Need for Brand Protection



Business owners must safeguard their brands. As we all know, the digital world is global, instantaneous, and demands that businesses follow today's sustainability standards. Furthermore, as younger generations pressure older generations to adapt due to an climate crisis, firms that do not engage in the circular economy in one or more elements of their enterprises will face increased scrutiny.

Push for Innovation

The expense of adopting sustainable solutions is one of the arguments against doing so. That argument, however, overlooks the fact that many customers recognize there is a severe problem in attempting to rescue our world. According to a packaging company's poll, 74% of respondents are prepared to pay more for environmentally friendly packaging. In addition, 25% indicated they would pay 10% or more of the costs to ensure recyclable and sustainable packaging. And 73% are willing to adjust their shopping habits to help the environment.

Conclusion

Implementation of 3R's across and it impact it will have at the different levels on brands is fairly diverse. The skills required in terms of knowledge and technology, as well as the need for organizational change, are highlighted as areas. It is also evident that there is a lack of appetite from brands, in terms of business leaders and owners thinking about the economic benefits, which will require a paradigm shift in business thinking to implement 3R's successfully.

EY Techthon

National Finalist

Formula 4

Chandramohan Chauhan
Swati Sahai

Sai Ranjani
Rahul Mayekar

1. Give us a short description of your competition.

To bring transparency to carbon credits using blockchain technology.

2. There are n no. competitions on D2C. What is your strategy of deciding which ones to apply to?

We tend to look for competitions that enable us to explore the latest technology like blockchain.

3. How does your Team manage differences of opinion?

We make an effort to evaluate all points of view before making a decision. Even if there are discrepancies, we strive to analyse them from several perspectives and understand them before concluding.

4. Briefly describe challenges, if any, that your Team faced during this competition and how did your team handle them?

There were a lot of them. However, there was one instance where we became stuck in the backend. Because blockchain was new to us, we were able to tackle the problem by working together.

5. Any Key learnings you would like to share.

1) The way one presents their idea ultimately holds the final cup
2) Nothing is impossible in the world. It is just our fear which doesn't allow us to take the 1st step.
3) Teamwork and coordination are very crucial, I can never imagine us being able to reach even the finals

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The theme for the edition: 'Sports'

The articles can be from Finance, Marketing, Human Resources, Operations, or General Management domains.

Submission guidelines:

- Word limit: 800 - 1200 words.
- The cover page should include your name, institute's name, course details & contact no.
- The references for the images used in the article should be mentioned clearly and explicitly below the images.
- Send in your article in .doc or .docx format, Font size: 12, Font: Constantia, Line spacing: 1.05' to samvad.we@gmail.com.
- Please name your file as: __<section name e.g. Marketing/Finance> Subject line: <Your Name>_<Course>_<Year>_<Institute Name>
- Ensure that there should be no plagiarism of more than 5%, and all references should be mentioned clearly.
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