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SYMBIZINE

VOLUME 3 | 2022

INCLUSIVITY
SUSTAINABILITY
INDUSTRY 4.0

Message from the Director

Prof. (Dr.) Shrirang Altekar

Professor & Director,
Symbiosis Institute of Business Management,
Nagpur, Maharashtra, India

New beginnings are accompanied with joy and zeal. For me, the publication of "Symbizine," our campus magazine, is eagerly awaited. Many of us are undoubtedly eager to get our hands on a copy!

“Symbizine” is not just a collection of articles but a reflection of our vibrant community, showcasing the extraordinary talents and diverse experiences of our students, faculty, and staff. Since creative writing goes beyond the subject to expose the writer's personality, it must be said that it is always a rewarding read. It succeeds in bringing us closer together by offering a learning experience that emphasises critical thinking, creativity, collaboration, communication, information literacy, media literacy, technology literacy, and flexibility. This provides a one-of-a-kind platform for us to express our true selves. As we embark on the journey of curating content that reflects our college community, I want to emphasize the theme of this issue: Inclusivity, Sustainability, and Industry 4.0.

Inclusivity is the cornerstone of our college's ethos. We believe that every individual, regardless of their background, identity, or abilities, has a unique voice and perspective to contribute. Our college magazine aims to be a platform where these voices are amplified and celebrated. Let us embrace diversity and actively seek out stories, opinions, and experiences that reflect the rich tapestry of our student body. Alongside inclusivity, sustainability plays a crucial role in shaping our future. As an academic community, we recognize the urgent need to address environmental challenges and make sustainable choices. The magazine provides an opportunity to showcase sustainable practices, initiatives, and ideas that inspire positive change along with economic growth. Moreover, the Fourth

Industrial Revolution is upon us, bringing with it a wave of technological advancements that will revolutionize the way we work, live, and interact with the world. Embracing Industry 4.0 means embracing a culture of continuous learning, adaptability, and agility. It requires us to foster a mindset that embraces innovation, challenges the status quo, and inculcates collaboration across all levels of our organization. Coupled with the advances made by and through AI, this is the way forward.

I'd like to congratulate the entire Symbizine editorial team on the successful publication of the third issue of our annual college magazine, which is the result of their hard work and commitment.
Bravo to everyone who has enthusiastically contributed to the magazine's development.

I hope you enjoy reading the third issue of Symbizine as you consider the importance of the SIBM family and the long-lasting effects of our esteemed university!

Message from the Editorial Team

"Diversity is not about how we differ. Diversity is about embracing one another's uniqueness."

- Ola Joseph

Dear Symbians,

We are thrilled to present to you the latest edition of SIBM Nagpur's annual magazine, "SYMBIZINE" focusing on the captivating theme of "Inclusivity, Sustainability, and Industry 4.0." In an era defined by rapid technological advancements and growing awareness for social and environmental responsibility, these topics have emerged as crucial pillars in shaping the future of not only the industries but also societies, across the globe.

Inclusivity lies at the heart of a progressive society, and we are committed in exploring its various dimensions within the context of Industry 4.0. We aim to showcase the rapid advancements that are being made to ensure equal access and opportunities for all, regardless of gender, race, ability, or background. We bring to your notice how businesses are embracing diversity and fostering an inclusive culture that acknowledges the unique strengths and perspectives of every individual taking various sectors as examples.

Sustainability also holds significant importance in the face of pressing global challenges. As we navigate through the difficulties and complexities of a changing climate and depleting valuable resources, we jump onto the Waggon of innovative practices and technologies driving sustainable development within the realm of Industry 4.0. We bring to you how different companies are actively contributing towards the sustainable growth and try to make a difference out there.

Industry 4.0, the fusion of digital technologies and traditional industries, has revolutionized the way how the production and consumption of goods is happening. In this section, we explore the massive potential of emerging technologies such as Artificial Intelligence, Internet of Things (IoT), Machine Learning and Automation. We observe the ways in which these advancements are reshaping sectors like Manufacturing, IT, Healthcare, Transportation, and beyond. Our objective is not only to showcase the latest innovations but also to analyse the ethical implications and challenges that come with the rise of Industry 4.0.

We would like to express our gratitude to all the students, faculty members, management and the administration, who have contributed in bringing this magazine to the forefront. We truly believe that, through thought-provoking articles we hope to provide you with a comprehensive understanding of how inclusivity, sustainability, and Industry 4.0 intersect and influence each other. Together, let's try seeing a future where technological advancements go hand in hand with social equity and societal well-being.

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INDUSTRY 4.0 Renovating DEI: Diversity Equity and Inclusion

- Ankit Kumar & Jyoti Rai (Batch 2021-23)

"Technology is best when it brings people together." - Matt Mullenweg.

Hardware, software and people blending to complete organizational work are the pillars of the fourth industrial revolution. Industry 4.O is the direct translation of cyber-physical systems. Cyber-physical systems have existed for quite some time. What makes forth industrial revolution different is the result of the recent development in data and mobility. Today, everybody is connected to almost everything with the advent of intelligent IoT (Internet of Things). Data is in abundance, and resources are minutely connected worldwide. It is no more about the computers only, but more precisely how these computers communicate among themselves.

Internet of automated lines of production will need more skilled labor to make the machines talk through highly developed software. The advent of massive output and big data is opening new markets. Even though the requisition for

employees in redundant batch processing tasks has reduced, a vast number of opportunities are opening in the skilled labor market.

Automation almost always requires humans first to design and complete the job. Our experience from past industrial revolutions has indicated that humans will develop new, higher-value jobs that allow people to turn their passion into greater value for the economy.

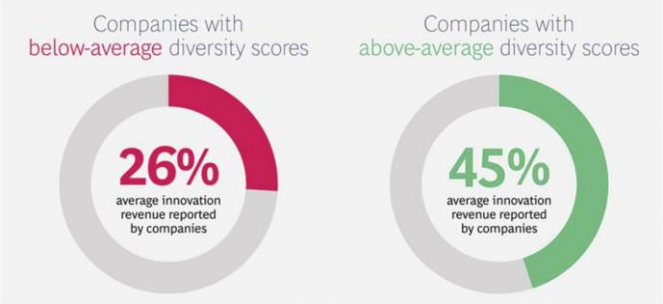
With the rise of Industry 4.0, most companies are set to implement new technologies to manage their workforces worldwide. Now more than ever, amidst the data, technology and connectivity, organizations have an opportunity to embed greater diversity, equity and inclusion.

Let us get to the base of the rise of the fourth industrial revolution, the COVID - 19 pandemic that forced the entire world to shut down and yet continue the work. Organizations were required to stay connected in real-time; updates and developments made at one end of the world had to be reflected at the other end with immediate effect.

Industry 4.0 has connected the world. The achievement of diverse talent combined worldwide under one umbrella organization is enormous, but this comes with significant challenges. With the acquisition of such diverse talent,

organizations are facing the issue of equity and inclusion. The 'new normal' emerging from COVID 19 crisis demands nothing less than equity for all, removing biases of age, gender, race, and all forms of human diversity.

Diversity describes the range of human differences and variations, whether they are inherent (by birth) or acquired (by experience). This diversity is the competitive edge that companies are leveraging. Attaining all the talent across the world suited for the organization is the beauty of Industry 4.0 technologies which is resultantly improving and increasing the diversity at the workplace.



Diversity certainly gives rise to innovation as there are talents and ideas from every corner of the world; the growth of an organization can be measured by the level of diversity that it possesses. But there remain considerable challenges in terms of harnessing the power of diversity. Diversity is not the end of the game but the very beginning of the brainstorming.

It all comes down to placing the right man at the right job strategically. And when that is achieved, the feedback loop of satisfaction is to be enabled. Today, employees are satisfied in an organization that is inclusive of its employees. Most leading organizations these days are investing in creating an inclusive environment for their employees to attain the highest productivity and sense of belongingness.

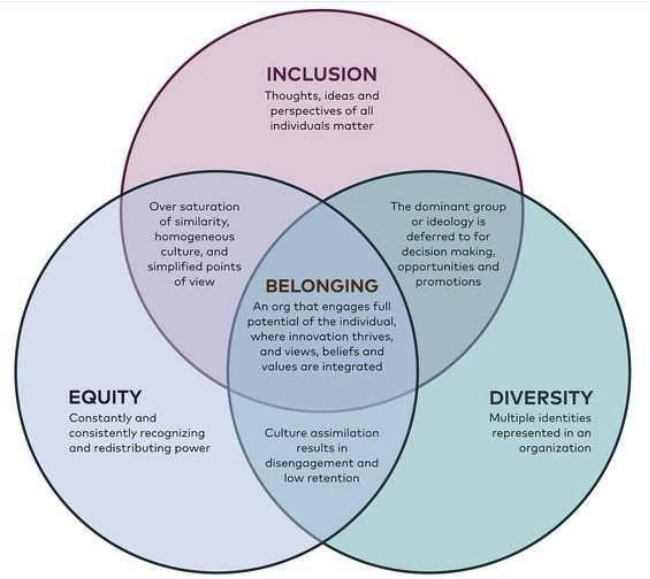
Strong C-suite and organizational capabilities to lead through uncertainty and disruption is fundamental to the success of today's businesses. Innovation comes with inclusion in the workplace. Industry 4.0 is the most potent phase for business leaders in creating diverse, equitable, and inclusive organizations. For example, the Business Beyond Bias initiative by SAP helps customers

eliminate inherent biases around age, ethnicity, and race and differently-abled individuals and LGBTQ+ communities by using SAP Success Factors.

Compensation is an influential factor, and calibration tools can map any biases present in the domain and give an alert to highlight inequalities. Suppose an employee has not been promoted for over three years, even after having consistently high performance. In that case, the tools and technologies can generate alerts for the managers to take strategic action to motivate the employee.

Likewise, not only in compensation but also in mapping behaviors and understanding employees and their actions has been made easy using Artificial Intelligence (AI) that enables organizations to work for the betterment of their employees and allow them to perform better. With inclusion and equity attained, the technology in Industry 4.0 is inculcating a sense of belongingness in the diverse workforce that has again been made possible with the rise of the fourth industrial revolution.

The pandemic bought many horrors to the life of individuals and organizations; however, the rise of Industry 4.0 is a gift of COVID-19 to the organizations. Now the organizations have a workforce with the utmost diverse talent and ideas. Nonetheless, technologies provide real-time Artificially Intelligent solutions to incorporate equitable and inclusive work culture for this diverse workforce.



New Age Industry 4.0

- Tanya Tiwari (Batch 2021-23)

From the time humanity discovered its ability to innovate and discover since the beginning, humans are able to transform the planet the way no other species before them were able to do.
Industry was one of the fields that saw humanity's extreme innovative skills first hand.
From the time steam power was introduced for production which eventually led to the first Industrial Revolution in the 18th century to industry 4.0, it will really be a sight to behold to see what comes in store next.
Before diving into the modern industrial revolution, it is important to understand how it all began with the 1st revolution in the 1700s. Through the use of steam power and the mechanisation of industry, the 1st Industrial Revolution got its start in the 18th century. The mechanised version obtained eight times the volume in the same time as the basic spinning wheels that were previously used to create threads. The power of steam was well understood. The biggest innovation for raising productivity of people was using it for industrial reasons. Steam engines could be utilised to power weaving looms instead of human labour. Because people and products could travel enormous distances in shorter amounts of time, innovations like the steamship and (some 100 years later) the steam-powered locomotive brought about more significant improvements.

The 2nd revolution saw discoveries that could bring way more enhancements in the industrial sector.
The invention of electricity and the introduction of the assembly line marked the start of the 2nd Industrial Revolution in the 19th century. A slaughterhouse in Chicago, where pigs were strung from conveyor belts and each butcher only completed a portion of the slaughtering process, gave Henry Ford (1863-1947) the idea for mass production. Henry Ford applied these ideas to the manufacture of automobiles, fundamentally altering the industry. Previously, an entire automobile was put together at one station; now, vehicles are made in small batches on a conveyor belt, which is much faster and less expensive.

Meanwhile, using computers and memory-programmable controls, the 3rd Industrial Revolution of the 20th century started in the 1970s. Since the development of these technologies, we have gained the ability to completely automate a production process without the use of humans. Robots that carry out pre-programmed sequences without human assistance are well-known examples of this.

The 4th Industrial Revolution is being put into practise right now. This is often referred to as "Industry 4.0" and is characterised by the use of information and communication technology in industry. It expands on the 3rd Industrial Revolution's advancements. A network link allows production systems with computer technology to be expanded and, in a sense, have a digital twin online. These enable the transmission of information about themselves and communication with other facilities. The next stage of factory automation is this. In "cyber-physical production systems," in which production systems, components, and people communicate via a network and production is essentially autonomous, the networking of all systems leads to smart factories. Now, with the fast development and introduction of innovation in the industrial sector raises the question of how ‘sustainable’ and ‘inclusive’ these technologies are for fellow species of the planet.
Is the tendency of humans to always do better and faster than yesterday making them short sighted?

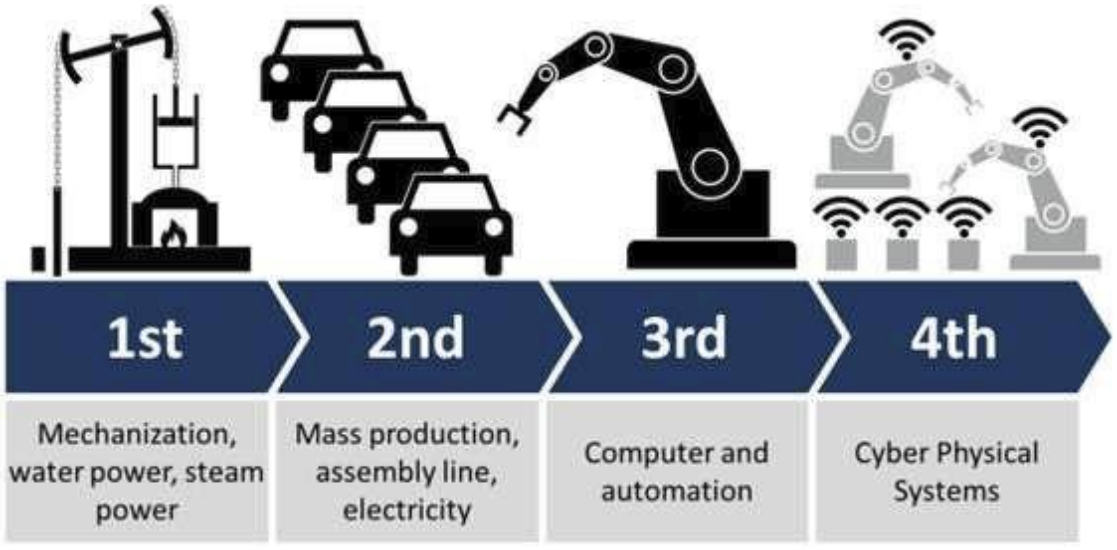
Industry 4.0 has brought a course of technological advancement that no other species has seen before, hence its reliability and sustainability has raised questions all over and rightly so.
The whole argument surrounding the sustainability of the modern industrial revolution has still yet to reach a decisive conclusion but a lot of pointers are made from both parties that are worth a discussion.
Most of the arguments surrounding the topic are generally showing positive responses regarding the advancement with the hint of concerns that need to be paid attention to.

With the advancement of technology comes an increase in efficiency to produce faster outcomes while reducing wastage as much as possible. There is also a possibility to find alternatives for problems faced earlier.
Industry 4.0 also shows benefits that will reach people across boundaries.

With the current boom and upward trend in globalisation, no community or nationality would be left behind which proves how inclusive this modern advancement will be in future. But the issues of environmental risks, societal issues and scarcities of ecological resources are still yet to be solved or more importantly, addressed.

While issues regarding overuse of already scarce resources, creation of more wealth and status divide and unwanted environmental hazards due to technological advancement are still yet to be dealt with, policy makers and industrialists see a lot of potential and are hopeful for better outcomes for these concerns.

Even though the research in this regard is still not in a way one would expect from a socially or environmentally conscious society, if addressed, it can certainly lead to a positive path towards a dream that humans or most importantly this planet is seeking.



HOW TO MAKE THEM BELONG? - An Essay on Inclusivity at Workplace.

- Shrija Roy (Batch 2021-23)

Imagine a scene of corporate interview: after the formal pleasantries have been exchanged and basic introduction made, one of the interviewers kicks off proceedings by tossing the age-old question: "So tell us about yourself?" To this, the interviewee, with a spark in his eyes and zest in his lips, delivers an effortless spiel, which he has no doubt rehearsed over the last week or so for this very moment, touching upon his passions, qualifications, and interests. He carefully portrays a version of himself, a version he thinks would increase his prospect of getting the job, and as he sits before the interview board conveying the details about himself, he also mentally reckons what parts of himself, his identity, he must conceal. Perhaps it is his religion, his caste, some shortcoming in his educational background that he thinks would not sit well with the interviewers before him; or perhaps it is something about his family or a personal crisis that he hopes doesn't come up in the conversation. Now suppose this interviewee makes it through into the company, it is entirely possible that he might have to go through this same stressful process of conveying some and concealing much every day of his job to guard against being seen as an antinomy in what he considers the prevailing ethos of the company. His work experience then becomes somewhat like swimming against rough tides, and he never quite fits in.

As the labor market tightens and companies face the need to sustain a diverse workforce, this tacit sense of not belonging, in groups as well as individuals, is finding more and more representation in executive agendas, media and conference programs, and so on. And to address the problem that has festered for so long below the surface, executives are prioritizing the need for ensuring the kind of job satisfaction that is only possible through the creation of more inclusive workspaces. Therefore, "Diversity" and "Inclusivity" have become hot topics nowadays in HR circles and among Management Gurus and Entrepreneurs, but what do these terms exactly mean? In this article, we explore in detail.

Diversity refers to the full spectrum of human demographic differences. The common variables include age, sex, income level, race, employment, location,

homeownership, and level of education. Hiring and promoting based on diversity isn't a new thing and has been in practice for decades. These days some organizations even make it a point to frame diversity into their policy statements to ensure greater clarity. However, renewed voices about discrimination and exploitation through movements such as the "Me Too" or "Black Lives Matter," add to that the general spread of mental health awareness, have brought subtler issues to light. As a recent article in Gallup's Workplace Magazine states, "...because simply having a wide roster of demographic characteristics won't make a difference to an organization's bottom line unless the people who fall into any one demographic feel welcomed." Putting a medley group of say a dozen people (of varying age, gender, ethnicity, and background) together into a room is one thing, making them work toward a common goal and ensuring each one of them feels included in the process is quite another.

A typical Hollywood heist movie plot explains the predicament well: the mastermind usually has no difficulty finding folks with outlandish skills to execute specific portions of his masterplan, but he has to beaver away to forge even the smallest degree of cohesion between these individuals and get them to work together as a group! In real workplaces though, unreconciled differences can create serious and lasting problems. It takes very little, after all, for a minor jibe to turn into abuse or cold indifference into mistreatment. This is where lies the necessity of building an inclusive work culture and needless to say, this requires a more nuanced effort than simply having a company policy of hiring from different demographic groups. More specifically, it requires empathetic leaders willing to both listen and roll their sleeves up and make a change. It is hardly surprising therefore that recent years have seen a significant surge in demand for “Diversity and Inclusion Lead” roles. In fact, postings for diversity and inclusion positions have increased by nearly 20% in recent years and 60% of Fortune 500 companies have a Chief Diversity Officer or similar. Their primary responsibility is to chart the organization’s current employee makeup, the ethos underpinning each employee’s day-to-day work, and whether that culture can potentially be changed. No worker, irrespective of where they stand in the hierarchy of authority, is to be treated as just another cog in the wheel, for even one floundering screw can find a way to reflect on the bigger machinery and a few more might well bring it to a halting stop. In other words, these exclusive positions have been instated with the sole aim to reach out and effect damage repair or reform at a micro-level. A good many companies have also widened their conception of diversity by recognizing lifestyles, personality traits, perspectives, opinions, family composition, etc. too as meaningful

demographic variables, enabling a more intimate understanding of the workforce.

Mapping these parameters isn't difficult and helps instantly to find common ground between different people, which then helps to form reliable teams for various projects. The challenging part involves using this information to build bridges where there are obvious divides. For instance, in a certain workforce constituting predominantly of young employees in the age group of 25 to 30, it can be a challenge to integrate the more elderly workers; or in a workforce of mostly married men and women, a handful of bachelors and bachelorettes fresh out of college. Sexuality, Religion, and Socio-Economic factors too contribute to creating similar differences. It's hard to reconcile these differences, and it's hard precisely because the goal is reconciliation. Indeed, inclusivity is not about adopting a colorblind mindset, it's about respecting every individual for their singular details. Team building exercises can help in this regard but care has to be taken that these don't become a painful obligation for a section of the workforce. Cultural events are also a wonderful way to bring people together. They not only serve as refreshments but also make opportunities to celebrate cultural differences. But most of all adding in a pinch of humor in the overall dynamic can go a long way. Comedy shows, in this sense, could do a world of good in livening up an office atmosphere, and so could offsite company tours. Inclusivity goes beyond simply ensuring a safe workspace for all, it is more about creating a cultural and environmental feeling of belonging. There aren't any standard or sure-shot way of achieving this as such, one would have to think up creative and humane solutions along the way, and a lot of the time this might start simply with reaching out and listening to those insecure reticent voices that are seldom heard.

Apart from ethical reasons, it's clear why any company would benefit from an inclusive work culture. On one hand, it ensures that more employees stay in the company, and on the other, it also enhances their engagement in the work they are doing. Thus, it's like an invisible lubricant that minimizes the unavoidable frictions in the workplace, keeping each part working well in coordination with the rest, thereby not only saving huge turnover costs but also boosting productivity. Now you're perhaps wondering how might you - perhaps as an average working staff - contribute your bit in creating such a salubrious work environment. Well, all said and done, workplace culture is nothing but the result of the day-to-day interaction between different individuals in the workplace, so

believe it or not: it really starts with YOU. To be sure, you are the fundamental unit of this change. Therefore, before we wind up, here are a few tips (dos and don’ts) that will make you pro inclusivity:

1. DON'T BE THAT INTIMIDATING SENIOR

We can all agree, starting a new job is as overwhelming as it is exciting. It's a new chapter in life, much like entering college. Be gentle to those novice souls. Show them around and help them to settle in smoothly. If you're in the role of supervising them, make sure you appreciate them for their strengths. Don't be too rigid or too specific, this will encourage them to be spontaneous and creative. And last but not the least, allow them the freedom to make mistakes. When one errs, you know one is learning.

2. BE PROACTIVE AND DO PARTICIPATE

If your company offers diversity and inclusion training sessions or workshops, sign up for them. Whether you're an entry-level employee or one who has more seniority, you will probably find ways to promote the inclusive culture your company has already created through such programs. These will give you better insights into the psychology of inclusivity and the requisite hands-on training.

3. ASK, LISTEN, ACT

The recognition of the fact that a frontline worker may experience an entirely different work environment from a C-suite worker and consequently making sure their unique issues and concerns too are duly addressed, is the core of any inclusive culture. Employees at every level should have an accessible and safe way to communicate questions, comments, concerns, and ideas — you can be the one to point up the grievances of those relatively less heard or heeded. Or you can simply listen. Unaffected solidarity itself allays many pains.

Effect of Industry 4.0 on banking sector

- Harshita Modi (Batch 2021-23)

Financial services have been heavily impacted by industry 4.0, just as manufacturing and other areas of the global economy. Online payments, digital loans, plastic money, cryptocurrencies, online FX trading, and many other financial activities in the financial sector are all affected by industry 4.0, or I-4, to a very large extent. The information technology revolution, which was fueled by the internet, software consulting services, and software development, made all of this feasible. The qualified international software team deserves all the credit for this digital transformation.

About Industry 4.0

The term "industry 4.0" is now widely used in the contemporary industrial sector. In a high-tech manufacturing project that the German government launched in 2011, this phrase was first used. By utilizing the power of digital automation in the production processes, this word denotes the Fourth Industrial Revolution, which digitally alters the manufacturing sector. The fourth industrial revolution's Industry 4.0 initiative leverages contemporary information technology to upgrade and enhance production facilities.

How Industry 4.0 Is Impacting the Financial Services Sector?

All industries are now being positively impacted by the fourth industrial revolution, which has spread its wings over them. One business that has made great use of industry 4.0's power is the financial services industry. Due to the global favorable impact of digital innovation and financial process automation, the banking, insurance, mortgage, currency, stock, and many other financial industries are booming.

Mobile devices have reportedly become the new standard for financial activities, according to Nielsen Research. Mobile banking is increasingly being driven by developing nations around the world, particularly in Africa and the Asia-Pacific. Just under 10% of stock judgments are made by person specialists in the US, while more than 70% of stock trading decisions are based on

computer algorithms. As a result, financial advisory services are drastically reduced. Microloans in Bangladesh that were powered by technology heralded a new era of financial empowerment for the poor in rural areas.

The financial industry will soon undergo a significant transformation thanks to the new crypto banking system built on block chain technology.

Let's summarize the impact of industry 4.0 on financial services.

- The world's quickest financial transactions
- The most affordable financial service fees
- Significantly lower operating expenses for financial institutions
- The quickest, most convenient access to banking services
- Reduced demand for human tech talent
- Reduced demand for human tech expertise
- Elimination of intermediaries and centralized regulation
- Effective, efficient, and targeted marketing
- Cost-effective customer care provided by bots
- Expanded operational area.
- Risk factors were decreased thanks to data-driven analyses.
- Increased business acumen
- An improved user experience
- Less money and project leaks.
- Enhanced trust and openness
- There are no human errors in financial transactions
- The creation of new industries for doing business, such as FinTech and payment gateways.
- Financial inclusion for the poor and impoverished
- Increased liquidity
- Efficient use of resources and cash
- Efficient trading of stocks and currencies
- Fewer frauds and break-ins
- Higher customer satisfaction
- Smart contracts powered by block chain technology
- Simpler accountability and fault-finding

Summary: The industry 4.0 idea, which is supported by software engineering and information technology, has a significant impact on financial services. By introducing numerous new industry sectors and significant market value, Industry 4.0 has already had a very positive impact on the world economy.

Industry 4.0 improves efficiency and sustainable growth in digital marketing

- Pooja Deotale (Batch 2021-23)

The factory floor has altered as a result of Industry 4.0. The Industrial Internet of Things (IIOT) has made work more connected and efficient by increasing machine performance and providing real-time inventory updates. Has Industry 4.0, however, gone outside the factory and altered the way manufacturers advertise their products?

Unfortunately, as "Thomasnet.com's" excellent article "How to Adopt Industry 4.0 In Your Shop" demonstrates, many firms are still not ready to adopt Industry 4.0 in its entirety: Many firms see Industry 4.0 adoption as more of a chore than a chance, something that should be delegated to the IT department rather than presented as a strategic, company-wide endeavor.

Adopting a top-down strategy to Industry 4.0 requires a company's digital marketing initiatives to be included. A digital marketing plan should collect data on prospects and automate repetitive processes like scheduling social media posts in the same way that a smart factory gives data on machine performance or automates laborious inventory tasks. When you combine digital marketing and marketing automation, you'll be able to engage with your customers more effectively, gain insights into what they want, and create a more personalized experience.

Connections, Optimized, Transparent, Proactive, Agile is the marketing department future. Just as high-tech sensors in an Industry 4.0 smart factory provide real-time data to assist reduce downtime, efficient digital marketing strategies provide data on what customers are looking for at each point of the funnel, and how to present the right information where they are. Making data-driven decisions based on trackable and observable data to transform your reactive strategy into a proactive plan. HubSpot and other software systems give you real-time information into every encounter your customers make with your digital marketing. Sales staff would be promptly notified with contextually relevant, customized information on the prospect as soon as they engage with you, as speed and customization are critical when nurturing a lead.

In digital marketing, infrastructure adds valuable synchrony to the user experience. Organizations who rely solely on trade show attendance and print media have a lot of potential for growth. Setting up basic digital marketing infrastructure and learning how to utilize it to capture leads, nurture them, and convert them into customers is the first step toward digitizing your marketing.

Here's infrastructure example:

• Website: The website should have a lot of lead collection conversion options as well as regular writing.

• Calls to Action (CTAs): These buttons will entice users to download your stuff in order for you to obtain their contact information.

• Forms: Forms should be simple, with the number of fields aligned with the value of the offer.

• Landing Pages: These are the pages that convert visitors, and they should follow excellent strategy to improve high conversion rates.

• Automated Workflows: These campaigns trickle material to your leads as they progress through the funnel.

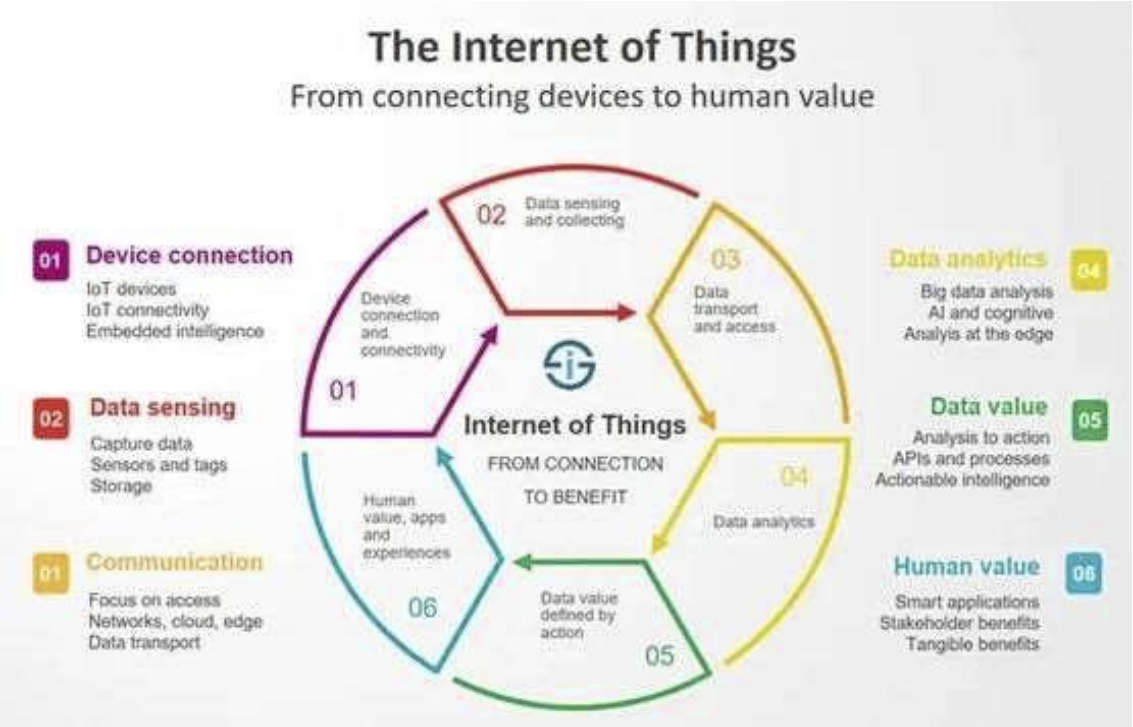
• Social media: It's a great place to promote your content, communicate with customers, and show off your thought leadership.

• Conversion rate optimization: The process of fine-tuning all of your web assets so that visitors become leads, and leads become customers.

• Reporting /Tracking: Examine how each part of your marketing is performing and discover what needs to be updated, adjusted, and added to your strategy to better meet your goals.

Firms should overlay content and analytics on top of their digital marketing infrastructure, test and readjust depending on those analytics, and make data-driven decisions about what's working and what's not. To construct a holistic marketing programmed, the firm will combine owned media tactics (such as its own corporate blog) with paid and earned media tactics (such as a guest blog on an industry site) and outbound activities (such as print media and events). Because digital marketing is measurable, businesses will constantly be aware of their return on investment and will be able to adjust their budget accordingly.

Digital automation will better coordinate your marketing and sales teams, allowing you to generate more leads, give more engaging experiences during lead nurturing, and keep your funnel filled. Embracing Industry 4.0 entails applying the same methodology to all of a company's departments that has revolutionized manufacturing and production. At the end of the day, it's all about equipping your business with the tools it needs to reach its maximum potential. Providing real-time data, A.I. technology, and automation may change your old-fashioned organization into one built for the future, whether it's a packaging machine or an email marketing campaign. Many midwestern firms are currently working with industrial marketers to determine what role does industrial marketing play in Industry 4.0 ecosystem.



VALUE THE DIFFERENCE

- Shrinidhi Pillalamarri (Batch 2021-23)

There is really power in Acceptance. Every person, tall or short, fair or dark, needs a place to express his ideas and design their self-development journey, specially at a workplace. Unknowingly, we sometimes stifle a person's growth based on a predetermined behavioral attitude. A safe working environment frequently promotes vitality, happiness, success, and wealth. When we consider each individual to be valuable and unique in their own right, we actually see growth. Understanding the power of an inclusive and diverse workplace is critical.

Inclusion is what’s needed to give diversity a strong and real impact, and drive towards a world of work where all employees are empowered to thrive and succeed.

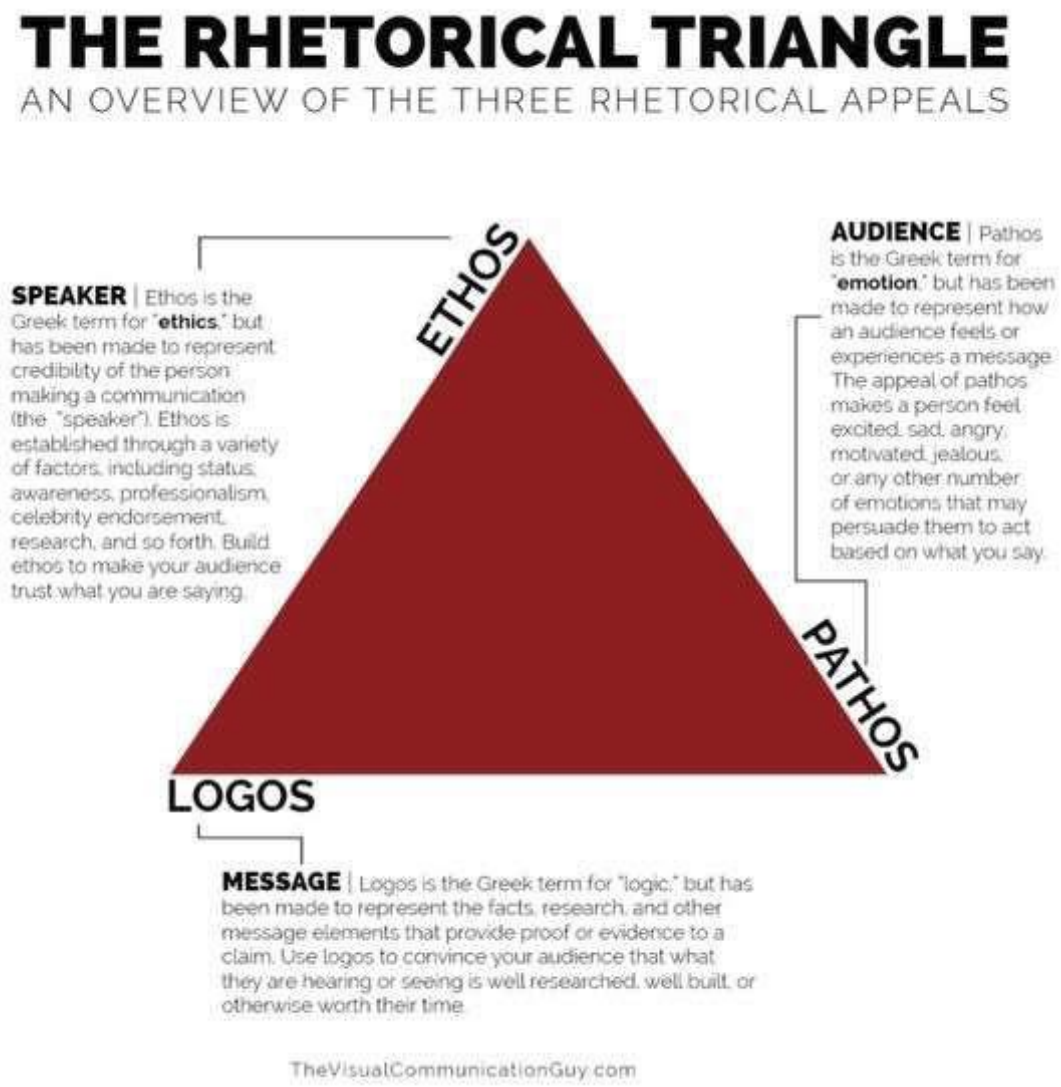
Inclusion is frequently thought to benefit diverse work forces in particular, but the term "diversity" could easily be subsumed for "difference" and does not have to refer to socio-demographic variables. Because each employee is unique, inclusion is pertinent for everyone in a corporate entity or a company. Taking targeted action in organizations is difficult without clarity on what inclusion means.

According to psychological theories, it usually happens that people evaluate their community weather to determine how well they 'match up.' Inclusion in workplace or organization occurs when employees feel welcomed and accepted in their squad as well as within the larger organization without having to refer to anyone. Inclusive organizations enable employees to thrive at work cultural background or social conditions. To do so, they must have implementations and executions in place to change attitudes to inclusion, as well as a value for difference. One needs to embrace their true self with acceptance and love. One needs to believe, that there is absolute power in Acceptance.

One truly needs to understand that ultimately, the real change takes place only by using or considering each employees' thoughts and insight and valuing him and her as an individual, which is the only way that can help businesses make smart choices and truly comprehend their potential consumers, each of which are absolutely critical for businesses to thrive and foster innovation in the coming .

Let's evaluate our own behaviors and experience the power of oneness and Inclusivity.

Companies may promote and invite diversity within their organizations, but it is important to understand that, Diversity is not logical without inclusivity. To become more open and accepting, businesses must first understand their current status quo, then celebrate behaviors and take action where issues arise. Let's appreciate and value the difference.



Intelligence over Manpower?!

- RUTUJA DESHPANDE (Batch 2021-23)

Human Resource Management is the sector known for managing people of the organization in the most effective and efficient manner. It is one of the sectors which is facing new challenges as we are advancing in technology, and sustainability is the new concern.

Being the future HR, I would like to talk about Industrial evolution and throw some light on challenges faced by Human Recourse managers.

And now its INDUSTRY 4.0, which we are experiencing from the past few decades. This Industry 4.0 brought new challenges and innovations in the technology. It gave access to real time data and introduced cyber physical systems with new robotic ideas. INDUSTRY 4.0 develops strong pressure for innovation among the entrepreneurs.

There are some limitations and concerns about the increasing tendency to use robotics and artificial intelligence, which is causing fear in the humans. Employees are worrying about massive job cuts, job loss and securities among the employees.

According to a report, 800 million jobs are at risk as a result of the introduction of new technology as huge change is noticed which is pushing for automating work and eliminating low value-added jobs.

HR department continues to evolve to meet the demands in digital environment. I feel year 2021 proved out to be effective in identifying and retaining talent efficiently. Not stressing on the" pandemic fact" and "mass resignation", HR department is trying its best for adopting new concepts and applying it in real life to face these challenges.

As its well said "Corporate culture matters, how managers choose to treat it's people impacts everything for better or for worst".

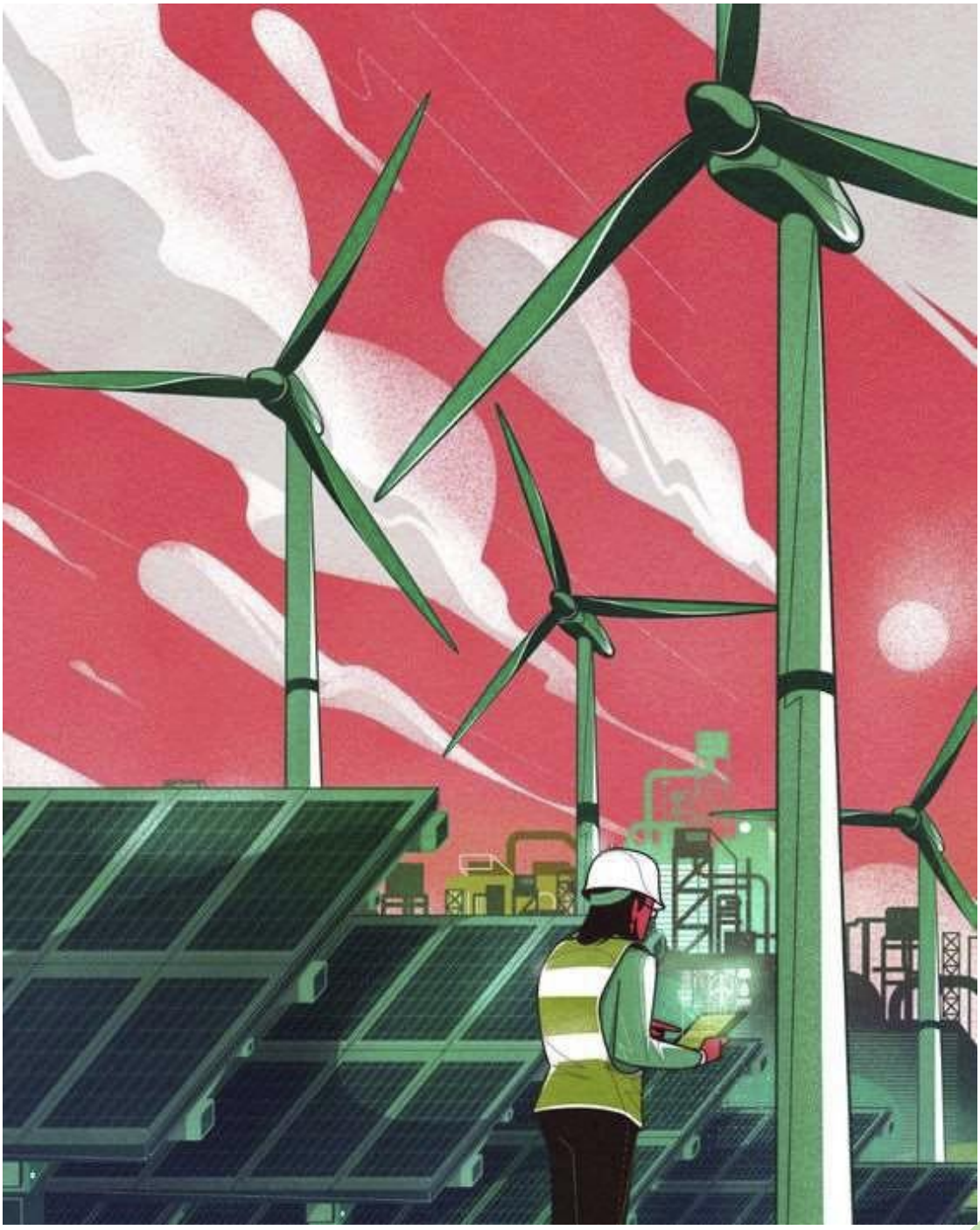
So, HRs first challenge is engaging workforce. Engaging employees is a must, while taking care of their fears and new technology upgradation.

Secondly, HR must involve in recognizing new skills which Industry 4.0 demands and engage in attracting Talent to the organization. So now its not just retaining the current Talent but it's about searching the most innovative and updated talent. So, the HRs face new challenge in talent search, as market demands unique ideas and new skills so as to compete the competitors.

Its about retraining and not just training. The third challenge is about training and development strategies. Now a days its more about retraining the current employees and updating their skills and knowledge. Earlier, organizations thought training and development is a sunk cost rather than investment into stability, innovation and competitive advantages. Talking about today's era, Training and development programs are a must to stay ahead of this competition.

So, for sustaining this evolution, it's a must to keep oneself updated always. Also seeing the speed of innovations in the technology, it tells how fast the industry takes turns, before we could realize the change.

Hoping that this year 2022 promises more advancement in the techniques of Human Resource Management and proves out to be helpful in dealing with the future evolutions and creating good revolution.



THE IMPACT OF INDUSTRY 4.0 ON BANKING & FINANCIAL SERVICE SECTORS

-BY SIMRAN KAUR SALUJA (Batch 2021-23)

As we all know that the industrial revolution was a period of major industrialization and innovation during the late 1700's and was first began in Great Britain and then spread throughout the world. The first industrial revolution was started in the year 1760 to mark the introduction of machines and techniques which can be used in different factories for mass production. This phase was recognized as the phase of steam power, mechanization and weaving loom. With the great success of 1st industrial revolution, at the end of 19th century there was a introduction of 2nd industrial revolution happened which gave rise to the new forms of energy with increase in demand of steel and various methods of communication. In the second half of the 20th century, the 3rd industrial revolution was also introduced with a new feature of digital revolution which lead to introduction of automation, computers and electronics.

Currently, we are dealing with the 4th industrial revolution which is known by the name as industry 4.0 deals majorly with software development, software consulting services, internet of things, network and many more. In the US, only around 10% of stock selections are made by individual experts; otherwise, more than 70% of stock trading decisions are based on computer algorithms. This gives them a huge opportunity to save a large amount of financial consulting services.

Industry 4.0 is already having a huge effect on the current global economy. In the upcoming years, we can see a great influence of industry 4.0 as all the business sectors and industries are currently working hard to take advantage of their potential. Large investments are being made in R&D center activities by all major nations and corporations. There are many other sectors that are powered by the industry 4.0 concept and are contributing hugely to the global economy. Industry

4.0 has not only introduced new industry sectors but also made a strong market value which had a positive influence on the world economy.

With the introduction of industry 4.0 many transformations were held in each and every sector. The major transformation held in financial sectors were seen like the upgradation of technology and equipment used during the financial period to offer protection against technological obsolescence, saving the access money from technology so that it can be used for funding of monthly payments, peer-to-peer lending, artificial intelligence, personal financing, retail investments, etc.

The fourth industrial revolution promises to transform the way the banking and finance industry works, from digital loans and online payments to cryptocurrencies and FX trading. But with that it brought many challenges like the increase use of technology in banking and finance industry due to which the threat of cyber-attack in various companies has also been increased. Another major challenge was trust. As we all know that the world is moving towards digitalization, so building trust is very difficult.

It is true to say that industry 4.0 brought some challenges but it is also true that with challenges many opportunities also came. First opportunity was enhancing customer experience. Big data gives businesses greater access than ever before to in-depth knowledge about the behavior, preferences, and desires of their consumers. Second opportunity was increase of security and efficiency. One of the largest developments to emerge from the fourth industrial revolution is digital money, sometimes known as cryptocurrencies, and Block chain. The financial industry will soon undergo a significant transformation thanks to the new cryptocurrency banking system built on block chain technology. Third was providing flexibility to the customers 24*7 so that as and when required customer’s query is been resolved or addressed and changed their direction quickly.

The Industrial Revolution

- Sweety Sirse (Batch 2022-24)

We all want a life of privilege, we all want to live in abundance, we all want a life of luxury but do we want all this at the cost of gifting a future generation and children a world where there is a lack of gender equality where there is a lack of quality education.

Today, we are living in two worlds that are operating simultaneously. The first world is a profit world that focuses on profits and progress, this world is centered heavily on the interests of returning shareholders, compromising many factors. There is another world which is called the world of charity or the world of non-profit, which focuses on purpose and inclusion. Magic can occur when these two worlds intersect. This is the called Fourth Industrial Revolution, and we all live in the Fourth Industrial Revolution, which is influenced by technology, artificial intelligence, the Internet of Things, and robotics. Every time a new energy source is created, there is a transition from one industrial revolution to the next. In today's world, there is this revolution, which is not good but has caused a lot of damage, and there is a need to create a new form of energy, the “human” energy.

This allows us to work at the intersection of these two worlds, significantly distort profits, and move forward to return the focus of technology to inclusiveness and sustainability. In the current scenario, 1.3 billion people worldwide do not have access to electricity, of which 300 million live in India, one-fifth of the population. Let's talk about gender equality. There are only 990 girls for every 1000 boys. One-third of women experience sexual violence in their lifetime. When talking about climate change, India is the third largest source of carbon dioxide, accounting for 7% of the total world carbon emissions. For all these issues, all innovations and technologies of the 21st century need to be modified and used to focus on inclusion and sustainability.

All industrial revolutions have brought about amazing technological advances. It really made our lives easier. Industry 4.0 incorporates sustainability through the adoption of business practices that truly maximize reuse and minimize waste throughout the product lifecycle. At the same time, sustainability protects the health and safety of the workforce, and at the highest level, Industry 4.0 helps businesses reduce carbon dioxide emissions and bring them as close to net zero as possible. Comprehensive and sustainable industrial development addresses all

three aspects of Sustainable development: social justice, economic growth, and environmental protection.

First and foremost, it is the business and corporate world that must act as a force for good and shift its progress and profits towards sustainability. Companies need to create traffic on the bridge between the Key performance indicators that brands are aiming to achieve and the Sustainable Development Goals along them. Solutions need to be created by bringing together business philanthropists, social entrepreneurs and non-profits to develop solutions that maximize corporate profits and progress without compromising climate change or humanitarian value.

The increasing prominence of the united nation sustainable development goals is another thing which going to help create the positive impact of the fourth industrial revolution. The United Nations have developed 17 global goals which are going to help in the transition. These goals include gender equality climate change, hunger, access to quality education, and partnership as goals which are going to obviously help create an environment from transiting bad effects to positive impact and creating a new form of capital this is the Human capital. Today, inclusive and sustainable industrial development is a challenge for every country. It is important to know how much impact the industry has on societal aspects while taking note of environmental factors.

India is now at the forefront of the technological revolution, accelerating its transition to a sustainable and comprehensive growth trajectory with breakthrough innovation, support policies and the availability of funding. These developments will lead to the emergence of a "new generation" business model characterized by DICE (design, innovation, creativity-driven entrepreneurship), with positive social, environmental and economic implications.

Banking Changes in Metaverse!

- Suraj Bansal (Batch 2022-24)

The fourth industrial revolution, or Industry 4.0, has spread its wings across all industries, positively impacting them and leaving a highly desirable impact on the global economy by contributing many new industry sectors and great market value. The financial services sector is also something that has extensively leveraged the power of Industry 4.0 by significantly increasing its growth and market size. Banking, insurance, debt, forex, equities, and many other financial sectors are thriving in all countries due to the positive thrust of digital innovation and financial process automation. The industry 4.0 concept, powered by software engineering and information technology, has a significant impact on financial services.

According to research, smart phones have become the new norm for banking activities, with developing regions such as Asia Pacific becoming the world's leading driver of mobile banking. It is undeniable that digital tools and technology are playing an important role in facilitating convenient and accessible banking services in the industry 4.0 era. Internet banking is a relatively new player that has emerged as a widely accepted channel for transactions when compared to traditional banking transactions. And now, once again, the new banking system based on block chain technology is gradually but significantly transforming the banking system.

Let’s explore some of the emerging trends of banks in the Meta-world under this industry 4.0 era.

The metaverse is a digital reality in which users participate and co-exist in a virtual society, and the market size of the metaverse is expected to reach $800 billion by 2024, implying that more and more people will flock to the metaverse. A bank in a metaverse will allow its customers to move around their own virtual financial town, complete with a virtual branch and financial playground, as well as an employee "telecommuting" center. Customers visiting the virtual branch will be able to interact with the services on offer as well as communicate with a real-life agent.

- JP Morgan, the US investment giant, recently opened a lounge in the block chain-based Decentraland. The bank will allow customers to create virtual avatars in its Metaverse branch, establish virtual rooms, and travel in the ‘Onyx Lounge,’ which is named after its suite of Ethereum-based services.

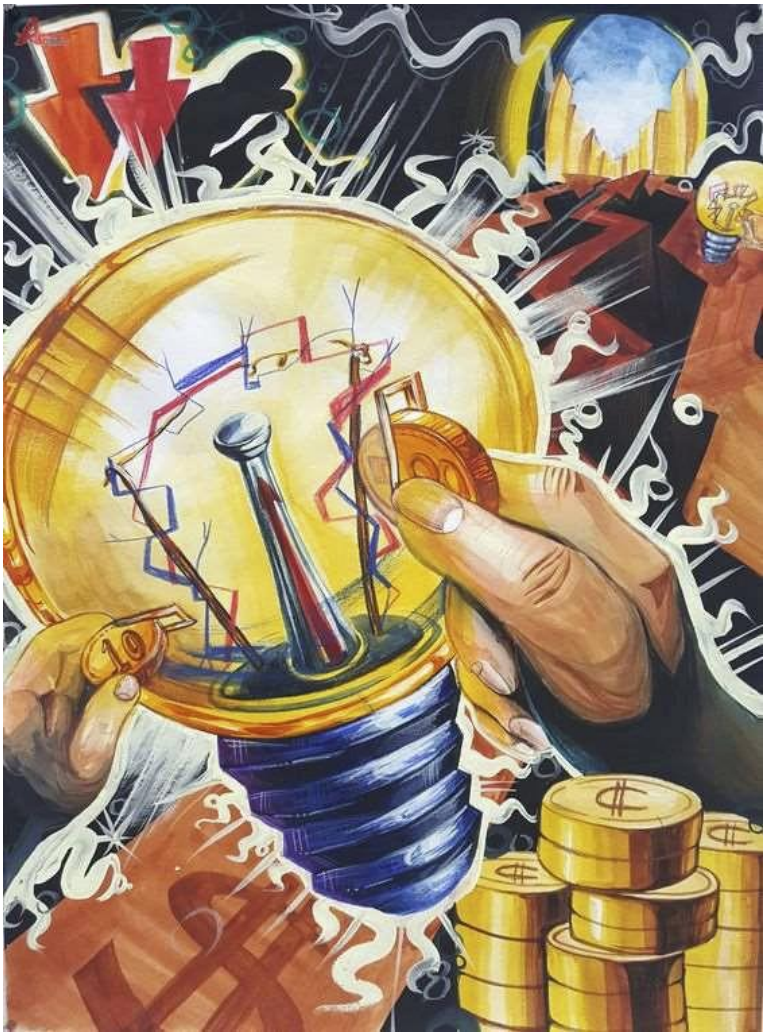
- Kookmin Bank, South Korea's one of the largest financial institutions, has also enabled its customer services options in the metaverse by providing one-on-one consultation between customers.
- HSBC followed the suit by opening a branch in the well-established Sandbox metaverse, and also Soxin, a UK-based payment-fintech company, announced its impending entry into the augmented reality platform.
- Also joining the party, Standard Chartered Bank Hong Kong (SCBHK) has recently become the latest major bank to embrace metaverse technology.
- Similarly, global banking institutions such as BNP Paribas and Citi Bank have also made forays into the virtual realm. The former has released a virtual reality app that allows customers to carry out transactions virtually, while the latter is testing holographic workstations for financial trading.

So, what attracts Banks to the metaverse?

- Early-stage opportunism: As we learn more about the metaverse, we learn more about its potential. If most businesses had known how successful the internet would be in the late 1990s, they would have jumped on board sooner.
- Branding opportunities: By entering the metaverse, these institutions, such as HSBC in Sandbox and JP Morgan in Decentral and, can stay relevant and leave their mark on worlds with high growth potential, and they will be placed at the heart of high-traffic areas.
- A new dimension to customer servicing: Because online banking services are so good, traditional banks are becoming obsolete. Many institutions, however, still want to be able to provide what they consider face-to-face human services, and the metaverse enables them to do so digitally.
- The potential of new products: Related products and technologies, such as cryptos, NFTs, and virtual goods, will grow in popularity alongside the metaverse. Banking as a metaverse platform may prove to be an important factor in the proper implementation of these new products alongside their traditional counterparts.
- Recruiting new customers: The younger generation will be more likely to adopt new products because they are more likely to try new things and experiences, and the emotionally detached experience provided by traditional banks will eventually lead them to try banking in the metaverse.

The metaverse's valuation rises slightly every time a company or brand declares its intention to be a part of this new digital world. We've seen brands and businesses flock to the metaverse due to FOMO (fear of missing out), as it's a lucrative opportunity for banks to pass up in the future. For the time being, however, their role in the metaverse is one of exploration and learning in order to comprehend all of the new and as-yet unanticipated opportunities that may be offered in the future.

It is undeniable that digital tools and technology play critical roles in facilitating convenient and accessible payments in the industry 4.0 era. And, in order to achieve digital transformation, Industry 4.0 has created many new innovative business models, which are prompting banks and other industry players to develop projects in this area.



Towards a Just Society: Embracing Inclusivity, Sustainability, and Industry 4.0 for Equal Opportunities

- Vaishnavi Kharbade (Batch 2022-24)

In any Society, the basic necessity is to ensure that every member in the society or every other individual should get equal benefits and opportunities. No one shall be left behind or excluded due to any kind of differences. whatsoever it may be. If so then actions should be taken and all should be accorded with the equal number of benefits, opportunities and should be treated in the same way. These things can be done in certain ways like promote ideas of social justice, equal rights and fairness in society and across all its members. all steps that need to be taken should be encouraged and appreciated. No discrimination shall take place in any form.

All the above can be promoted through one way and that is through inclusivity. Inclusivity is nothing but the idea that all types of people for whatever differences, must be included in all aspects in work and must be encouraged. It means that all types of benefits should be given to everyone. Also, sustainability should also be kept in Mind.

One of the major things to keep in mind in 21st century is increasing things like population, technology and the demand for biofuel. Population is ultimately putting pressure on nature as well as resources. Agriculture is the worst hit. Also, there is a huge dependency on fossil fuel and alternative fuel sources.

And due to which sustainability plays a vital role. Sustainability is a process that implies that resources are to be used in such a way that it should not exceed the capacity of ecosystems to replace them. Our current system of agriculture is not sustainable because of the negative effects on environment. Sustainability is word which consists of sustainable as well as ability. Sustainable is to meet the needs of the present without compromising the ability of future generations to meet their own needs. So sustainability should be maintained by everyone.

In today's era we are currently living in the industry 4.0. It is a new phase in the Industrial Revolution that focuses on interconnectivity, automation, Machine Learning and real time Data. Industry 4.0 collabs physical Production and

operations with smart digital technology, Machine Learning and big data to create a better ecosystem for the MNC's and other companies with a focus on manufacturing and supply chain management. Every Company in today's world face the same problem of connectedness and access to real time insights across partners, products and people. This is where the journey of Industry 4.0 begins.

Industry 4.0 is the investment in latest technology and tools to improve the efficiency in manufacturing. Industry has evolved from Industrial Revolution 1.0 to 4.0. The first Industrial Revolution was happened in late 1700s and early 1800s. During this period of time, manufacturing evolved from focusing on manual labor and aided by work to change the form of labor.

In the early 20th century, world entered Industry 2.0. This Industrial Revolution introduced steel and use of electricity in factories. The Factory machinery got optimized due to entry of steel and other tools. Assembly line was introduced as a way to boost the productivity.

In the Late 1950s, the 3rd Industrial Revolution slowly emerged as the manufacturers in the industry started investing in the industry more in electronics and the computer technology into their factories.

This ultimately put less pressure on the man labor and more on electronic gadgets and mechanical technology.

In the past few decades, the 4th Industrial revolution came into picture. It mainly focuses on Digital Technology from past few years to a whole new level with interconnectivity via IOT, access to real time data, and cyber systems. It offers more comprehensive, interlinked approach in manufacturing. It is a way to connect digital and physical and allows to obtain access across departments, partners, vendors, etc.

Industry 4.0 includes various solutions for business. Like ERP, IOT, IIOT, Big data, Artificial Intelligence, M2M, Digitization smart Factory, Machine Learning, etc.

Industry 4.0 and its impact

- Kinjal Mitra (Batch 2022-24)

Industry 4.0 is an idea connected with the fourth Industrial Revolution which is related with the headways of digital actual frameworks. Fundamentally, it is the utilization of mechanized frameworks and information trade innovation inside the assembling business.

The various advancements connected with Industry 4.0 are: - Internet of Things (IOT), Smart Manufacturing, Connected Manufacturing, Cloud Computing, Cognitive Computing, Artificial Intelligence, Cyber-Physical frameworks.

This kind of robotization makes an assembling framework where every one of the gadgets utilized underway are remotely associated with the assistance of sensors and screens to picture the whole cycle. It likewise gives a powerful outline of the organization's assembling cycle. These advancements are continuously progressing. What's more, with the rollout of 5G, organizations can expect quicker reaction times and ongoing correspondence between frameworks. Industry 4.0 advances permit organizations to have more noteworthy knowledge, control, and information perceivability over their inventory network. Industry 4.0 arrangements and an associated manufacturing plant floor can be utilized to foresee expected free time in hardware before it happens. Industry 4.0 related innovation makes it more straightforward for organizations to follow stock, quality, and streamlining valuable open doors connected with strategies. In spite of the amazing open doors starting from digitalization at each phase of the creation and administration frameworks, the administration side of Industry 4.0 has not yet been concentrated on top to bottom and its definition stays equivocal. As of late the meaning of Industry 4.0 in the administration area been laid out that incorporates all important components showing up in the writing and features the job of technique for this progress to new creation strategies that emphatically change firm plan of action.

From this definition, it arises those advancements coming about because of Industry 4.0 have worked on the procedures and activities of firms, which right now is quite often concerning specialized perspectives. For sure, the regions most impacted by the acquaintance of advancements relating with Industry 4.0 are development and work, however, simultaneously, there are positive outcomes in regards to efficiency, ventures, and proficiency as far as business processes.

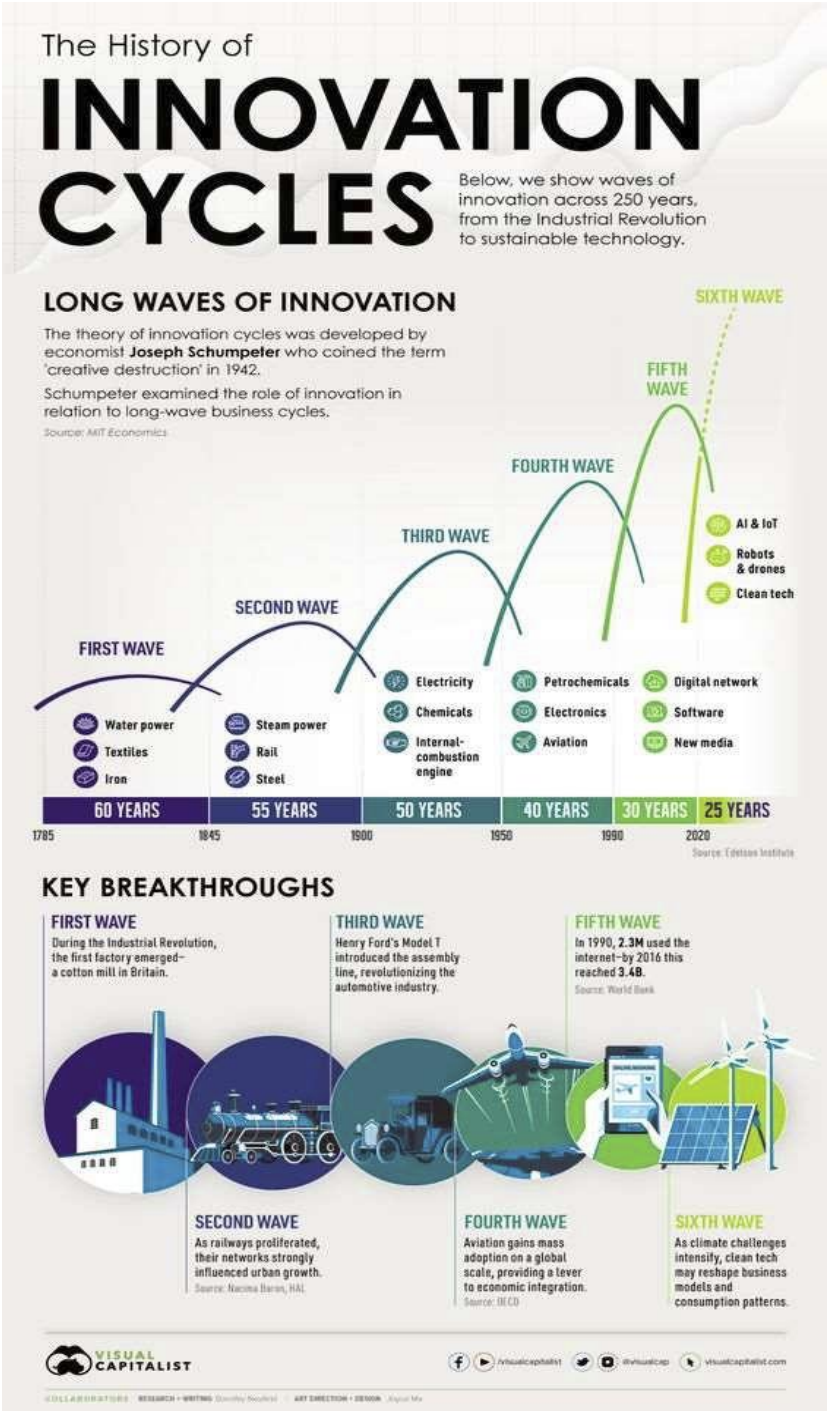
These days, manageability and Industry 4.0 (I4.0) are moving ideas utilized in the modern cycles. Industry 4.0 as a connector of Sustainable Development Goals fabricates network between the business and supportability by tracking down a critical connection between their parts. By sticking to the United Nations of Sustainable Development Goals, innovative advancement is presently moving from customary innovation to maintainable innovation. The mix of AI and mechanical technology utilized across numerous areas of economy like production network, fabricating, conveyance gives an effect on climate as it lessens contamination, ozone harming substance outflow, decline in energy utilization and expansion in benefits, at the same time. The rise of Industry 4.0 presented the idea of Zero effect lower cost-social value which implies availability of innovation keeping up with the maintainability. The capability of Industry 4.0 is as yet existing with its obscure effect on different regions like socio-ecological supportability or creating open doors for acknowledging Industry 4.0 through shrewd frameworks.

Presently let us figure out the significance of Inclusion. An incorporation structure assists the public authority with guaranteeing that the public administrations are open, reasonable, usable, accessible and applicable to residents from certifiable execution and use administration execution taking care of once more into the arranging cycle for nonstop improvement. According to the ongoing examination it shows Inclusive Design is underexplored in Industry 4.0, and recognizes four key ideas, which are talked about in the paper: intricacy, human-centeredness, Industry 4.0 as assistive innovation, and estimating laborers.

The Indian government is putting resources into components of digitalization, for example, broadband, IoT and 5G to offer types of assistance that are more dependable, open and accessible to their residents in general.

How about we comprehend with the assistance of a model. We as a whole realize about SIEMENS organization. This organization has presented the idea of Digital Enterprise. A computerized endeavor is an association that involves innovation as an upper hand in its inward and outer tasks. Thus, the limitless measure of information allows us to utilize our limited assets effectively and with that it will make our industry more practical. The Digital undertaking will unite the cycles. It separates the conventional storehouses and assists with overcoming any issues among programming and equipment, shop floor and highest level, IT (Information Technology) and OT (Operational Technology). This offers incredible advancement potential which incorporates computerized reasoning for prescient upkeep, exact checking control and worked on quality.

Siemens' answers for the Digital Enterprise assists the clients with putting resources into future-verification answers for the progressive execution for Industry 4.0. The eventual fate of Industry has previously started today.



Challenges to Sustainability & Industry 4.0

- Arthav Meshram (Batch 2022-24)

Rapid advancements in digital technology have sparked a new industrial revolution phenomenon known as Industry 4.0. Modern technologies are introduced as a result of this transformation, supporting the connection of all industry components. The benefits will go beyond connection, too, since the issues promote industrial sustainability. In the global Sustainable Development Goals, the United Nations Industrial Development Organization has outlined the relevance of Industry 4.0 and sustainability, stating that digital industrial development will assist the expansion of industrial sustainable energy. In recent years, industrial business processes have changed as a result of technology disruption brought on by the rapid development of digitalization. The rise of cutting-edge technologies like augmented reality, blockchain, big data analytics, the internet of things, and fast prototyping is what is known as the fourth industrial revolution, or Industry 4.0. All of these technologies seek to provide equitable and sustainable industrial growth by enhancing the connection between industry components.

There have been four different industrial revolutions around the globe up to this point. The three previous industrial revolutions' effects have led to significant changes in manufacturing worldwide, from traditional steam machines to contemporary digital ones with automated processes. Industry 4.0, which allows communication even via complicated systems, is the outcome of ongoing progress. Germany, the forerunner and key point of comparison, published its first iteration of the roadmap in 2015 under the title "German Standardization Roadmap on Industry 4.0." The most important proposals are listed in Germany's roadmap as "Reference Architecture Model: RAMI 4.0," a three-dimensional layer model that shows the intricate relationships between various standardization processes and use cases in many industries. Technology development is the focus of this roadmap and may yield to the development of communication transparency and human-machine interaction.

Numerous studies have attempted to quantify or predict the effect of Industrial 4.0 technology on industry sustainable energy. The first issue is with renewable energy, which in 2016 contributed 19.2 percent of the world's final energy consumption. Although there are a number of elements that influence the growth of renewable energy consumption, Brand has highlighted one strategy for ensuring its success as the integration of renewable energy into electrical power

networks, where digital technology may have a significant impact. The second component, energy efficiency is linked to the digital transformation that may change the processes in the industry, which is highly influenced by technological innovations.

Challenges

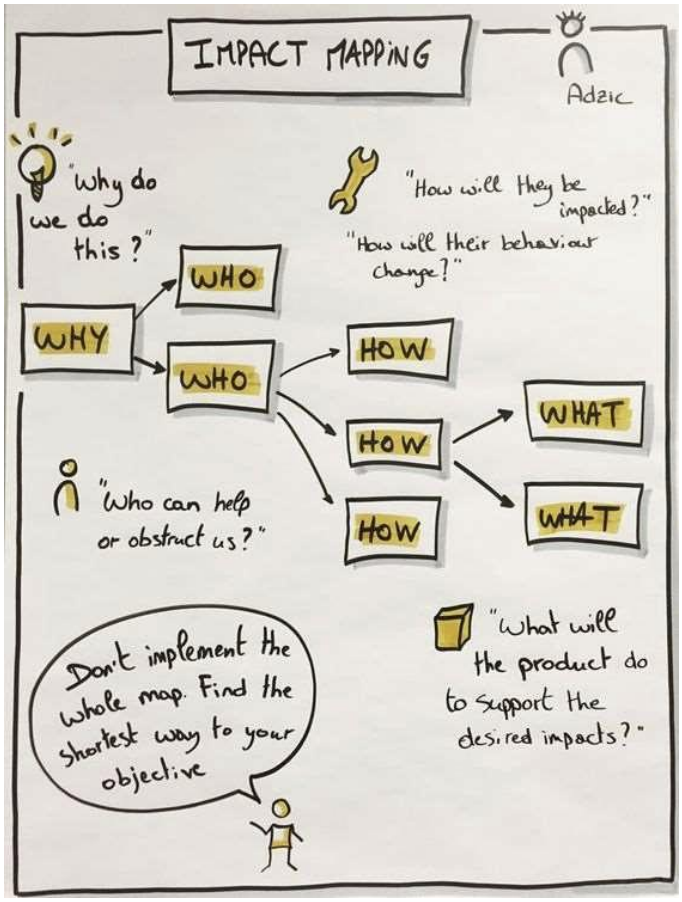
Failure to put such advocacy for sustainable development into practice over the past ten years, over the world, has sparked a debate over whether the three-way intersection of environmental sustainability, inclusivity, and digitalization is more likely to be characterized by complementarities than by trade-offs that add additional challenges to those that typically feature sustainability transitions. Indeed, even the simple pairwise links between inclusion and technological change as well as growth and sustainability provide challenges. For instance, a relatively new piece of literature that continues a long history in political economy examines the economic costs and advantages of automation and digitalization, notably in terms of job losses and skills mismatches.

The connection is based on the International Monetary Fund (IMF) hypothesis that GDP is determined by the monetary worth of the commodities and services a nation produces during a specific time period. This theory makes the sense to the relationship, whereby if the GDP is rising, the demand for industrial goods will also rise. Next, as the demand for industrial items rises, so does industry output. The delay symbol, which denotes that it takes time from the original investment until the outcome can be seen, is placed after this connection. Here, "clean energy" is referred to as energy that is more effective and/or environmentally beneficial due to the utilization of renewable energy sources. Different fuel kinds are used throughout the process in the industry. As a result, as industry energy use rises, so does the amount of fuel require. The rise in fuel consumption will lead to an increase in emissions from industrial processes with various emission characteristics. Actually, this will result in rising emissions, which might harm the environment surrounding the sector and eventually raise awareness of the usage of green energy (supporting sustainable energy). Finally, the enhancement in the awareness of sustainable energy, and social and economic factors will push the industry 4.0 technology investment. Technologies used in Industry 4.0 might lead to significant reductions in production and administrative expenses. This may be considered a factor in environmental sustainability: less, for more. Specifically, various combinations of such technologies may enable an automated control and targeted treatment of closed-loop material reduction processes remanufacturing recycling, and energy losses. Various wastes inside

the economics in lines Processes can generate money because of improved extraction, such technologies enable flexible, real-time networked solutions, whether within lone businesses or along regional value networks. Additionally, sales might rise as a result of the potential to adjust to changing consumer demands for greener products, the reusing of end-of-life items, and digital business models that integrate co-creative producer-Customer service and products provided (in part) as a service.

Conclusion

The necessity for nested strategies where the local decline of national and worldwide goals respect the particularities of the social, economic, and ecological contexts result from the multi-secularity of governance and policy. To achieve this, it is necessary to move away from pure top-down or pure bottom-up methods and to execute a subsidiarity concept that allows for integrating digital and sustainable technologies with the core specialties and their transformations.



The Future is sustainability

- Shruti Gupta (Batch 2022-24)

Sustainability means meeting our own needs without compromising the ability of future generations to meet their own needs. In addition to natural resources, we also need social and economic resources. Sustainability is not just environmentalism. Embedded in most definitions of sustainability we also find concerns for social equity and economic development. While the concept of sustainability is a relatively new idea, the movement as a whole has roots in social justice, conservationism, internationalism and other past movements with rich histories.

The Brundt land Commission:

In 1983, the United Nations established a new World Commission on Environment and Development, headed by former Norwegian Prime Minister Gro Harlem Brundt land. Industrialization in many countries has not been sufficient to raise living standards, as many are still in extreme poverty. Economic development at the expense of ecological health and social justice does not appear to bring lasting prosperity. It is clear that the world must find a way to balance ecology and prosperity. The Commission has successfully reconciled environmental protection with social and economic issues on the global development agenda. Sustainability is an integrated approach that takes into account environmental, social and economic aspects and recognizes that all factors must be considered in order to achieve lasting prosperity.

Three pillars of sustainability, what would a sustainable world look like?

Environmental Sustainability:

All of the earth's environmental systems are kept in balance and ecological integrity is upheld while natural resources are consumed by humans at a rate that allows them to replenish themselves.

Economic Sustainability:

All across the world, human communities are able to remain autonomous and have access to the material and human resources they need to meet their requirements.

Social Sustainability:

Economic systems are functioning normally, and everyone has access to activities like stable sources of income. Everyone has access to the universal human rights and necessities necessary to maintain the safety and well-being of their families and communities. Just leaders guarantee that personal, labor, and cultural rights are honored and that everyone is safeguarded from discrimination in healthy communities.

Why sustainability?

The reasons people care about sustainability are frequently intricate, unique, and varied. Making a list of the justifications for why so many people, organizations, and communities are pursuing this objective would be impractical. However, the majority of people believe that sustainability ultimately boils down to the future we are leaving for future generations. Many people and organizations share the concept of sustainability, and they show this value via their policies, routine actions, and behaviors. People have significantly contributed to the development of our contemporary social and environmental conditions. Future generations must develop solutions and adapt, as must today's population.

Example:
H&M is one of the largest fast-fashion companies with over 4856 stores around the world and a mass online presence. Recently, H&M has decided to switch to a more sustainable and greener outlook. The Swedish multinational company is a popular choice among teens and young adults because of its trendy clothing lines and affordable prices.

The push towards the green and sustainable movement might seem like an attempt to keep up with the current trends, but in honesty, H&M started its journey towards sustainability long back in the 2010s and is rapidly speeding towards its goal to go 100% sustainable by the year 2040.

As a part of the circular and climate positive initiative, H&M has planned to practice the three Rs. H&M’s garment collecting initiative collects tons of clothes, which are then sorted into three groups:

Re-wear: H&M sorts out clothes that are not damaged and can be worn again, and puts them in the thrift section for them to be sold as second-hand clothes.

Reuse: Clothes that are slightly damaged are reused by H&M to make other products.

Recycling: The clothes which do not go in the first two piles are turned into textile fibers.

H&M plans to become completely climate positive by the year 2040 with the help of these four pillars:

Renewable Energy: H&M is planning to increase the use of renewable energy in their supply chain.

Energy Efficiency: H&M is actively trying to reduce the energy consumed in their value chain.

Circularity: H&M is successfully implementing the steps to become a fully circular business.

Nature-Based Solution: H&M is constantly working and collaborating with organizations like WWF to find ways to reduce carbon emissions in the environment.

H&M is making major leaps toward the sustainable slow fashion movement. The CEO - Helena Helmers son, believes that with the power of collaboration and partnership, H&M will be able to make some big changes. Last year, H&M used 64.5% of sustainable and recycled products. There was a 14% decrease in the packaging and 100% of the cotton was organic and sourced in a sustainable way. In these ways, H&M is one of the biggest brands that is making climate-conscious efforts.

Technology advancements can be rapid, but people still remain the Key.

- Rahul Gopalakrishnan (Batch 2022-24)

What is meant by the term Industry 4.0? Well, Industry 4.0 deals with digitally transforming the field by making real time decisions, Enhancing the productivity and the flexibility of the industry. Industry 4.0 is reforming the way companies thought process on manufacturing, distribution and they are always keeping check on how and what measures to be taken for the continuous improvement process.

Now, we all know how competitive the world out there today is. If a company has to sustain in today's market it has to change according to the capricious needs and wants of the customers. What a customer likes today, the same customer might have a different viewpoint on the same product tomorrow. Manufacturers are incorporating new technologies like IoT (Internet of Things), Cloud Computing, Analytics, Artificial Intelligence and Machine Learning throughout their operations. Industry 4.0 is probably the most mature and modern manufacturing revolution. The Smart Factories coming into play here are having an array of advanced sensors, and software that collect and analyse data for better and efficient decision making.

End of the day, the most important point to be considered is, Higher Value is created when productions data is combined with operational data. These Operational data which are coming into play here could be ERP (Enterprise Resource Planning), Supply chain and Customer services system. Nowadays people just can't seem to take their eyes off IoT. Using IoT in smart factories which are being set up will result in higher productivity and improved quality. Replacing manual business models with AI-powered bots reduces errors in manufacturing and saves money and more importantly time. Also, Usage of Data Analytics and Machine Learning Concepts have drastically Increased in the last decade, by applying machine learning algorithms, manufacturers can detect errors immediately, rather than at the last stages where there will be so much work to do to resolve the mistake happened earlier. During our undergrad we had worked on a project where we had worked on a construction of a software robot "CAISY" for answering queries with the concept of Word Embedding, Sequence 2 Sequence model using Long Short Term Memory Neural Networks where we understood the huge role the data plays in almost every aspect.

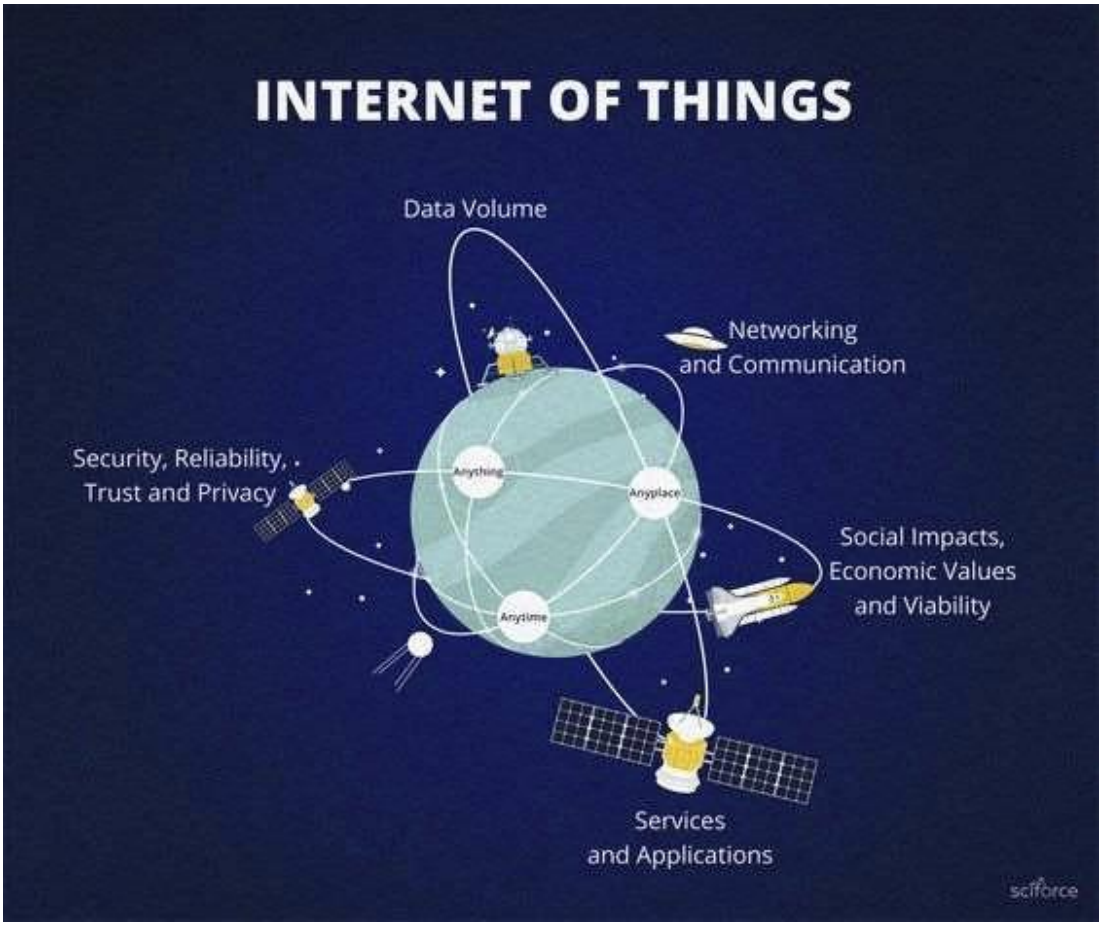
To Sum up, Industry 4.0 concepts and technologies can be applied across all types of industrial companies like manufacturing, mining and other industrial segments.

Now let us understand what Sustainability is and how does it come into play in Industry 4.0.

What is Sustainability? To make a lay man understand, Sustainability is a societal goal where humans can also safely coexist on Earth. Sustainable development means "meeting the needs of the present without compromising the ability of future generations to meet their needs. It is often broken into three core concepts or "pillars": economic, environmental, and social. The three pillars here aim to guarantee the planet's integrity and to improve the quality of life.

Economic Sustainability aims to secure liquidity and ensure profits. Social sustainability pitches in where development of societal and human capital is required and Environmental sustainability, as the name suggests, deals with the environmental factors like consumption of resources from living and non-living things.

Sustainable development in the industry 4.0 context contributes to circular economic objectives by achieving social, economic, and environmental benefits.



Sustainability plays a massive role where technologies can be integrated with value chains by collecting and actively sharing data to provide real-time information. These Information can be about machines, productions and also operations. This helps managers track, monitor and make sustainable decisions on the products involved.

Coming to the last part of the article, Inclusivity. What do you mean by when you refer to being Inclusive? Society has to ensure that everybody must get an equal number of opportunities irrespective of their caste, gender and race. Nobody should have the feeling of being left out in a group, they should have a sense of belonging to put their best foot forward in all aspects of life.

I always believe that if you help others when they are in need of help, when you are in dire need of help, somebody will definitely turn up to help you.

Industry 4.0 framework and contributing digital technologies

UNDERSTANDING INCLUSIVITY

- PN Monisha (Batch 2022-24 FABM)

What is inclusivity?

- It is method of practicing people who are not common ground (having different perspective, culture, languages, age, sexual orientation and so on) accept the differences are welcomed, respected for who they are.
- Most commonly adopted in working places and institutions where the diversity is most valued. Diversity among many bring and give best productivity of the work and task but diversity without inclusivity could be problematic.
- Inclusivity should not be a part of organizations instead should be compulsory agenda to practice.

Difference between diversity and inclusivity

Diversity: different mixtures of diversified people in a team or organization (Ex: different Ingredients of cooking food: salt, chili powder, turmeric powder etc)

Inclusivity: embracing diversity and accepting the different opinions with respect or a fair value system for all. (Cooking with proper quantity of ingredients for obtaining the best taste).

Importance of inclusive culture at work place(companies):

1.Creative Ideas: Inclusive culture will create a comfort zone and will increase more interaction between and among the people which will make the person confident and bold to express the ideas and feeling irrespective of how they will react. This will show maximum capabilities and involvement.

2. New employee attraction: Practicing inclusive culture will bring positive review to the company due to good will of the company the new and high recruitment process will take place as they would like to be a part of this environment.

3. Tenured Employee: Approving the inclusive culture and satisfied working environment makes the employee stay long-lasting and constant with the company and with active participation in activities, meetings, team work, target completion which will naturally increase the rate of success of company.

Situation for implementation of inclusivity:

When a team in company has 9 boys and 1 girl who was newly appointed and in few days a meeting conducted for solving the marketing of product to increase the sales. All of them presented their ideas but when the girls turn came the team members neglected and didn't give importance to the idea which was an actual solution for increasing the sales. Due to gender bias and diversity in understanding the company has losses. This is where the inclusivity should be implemented.

SOME WAYS TO IMPROVE INCLUSIVITY IN COMPANY

- Mandatory at top level:

Importance of inclusivity education to company and team leaders can result the leader to introduce inclusivity at c-suite level. This creates space for interaction between leader and employee or employee and employee. (Situation where awkward and embarrassing questions are avoided).

- Better inclusive language:

Using preferred pronouns for the employee in the company. Ex: use of "Spouse" (or) "Partner" instead of wife (or) husband.

Avoiding non-ethical words (or) language for the employee and if you, then do apologize and explain the situation and assure that this will not be repeated again.

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- Company Culture feedbacks regularly:

Providing opportunity for feedback is to build trust and to know where the problem is then rectification can be done. Trust is the basic key for the employee to open up freely and express their needs honestly.

- Personal spaces creation:

Already many companies have started and shown development in this area by constructing neutral restrooms (avoiding gender bias) and spaces at work such as lactation rooms, prayer or meditation room, gyms, coffee space, smoking space, terrace working area and so on.

- Special holidays:

A little effort will create a very big difference and change of opinion about the company. Add holidays which represent beliefs except secular holidays like new year and national holidays. Can add holidays such as Diwali, Navratri, Eid-al-Fitr, Ramadan, Rosh Hashanah, Yom Kippur and so on.

- Wheelchair - accessibility:

Make sure company has wheelchair for the disabled and employee who are not well or for emergency purpose (accidents or pregnancy) which make them feel company as their home (Especially kitchen and restroom areas).

- Create situation for conversation:

Can have small meetings, setting up combine lunches with colleagues, happy hours with family members and colleagues (events for refreshing), volunteering and so on.

- Use of pronouns in emails:

It is a signal of awareness and respect for the preferred pronoun which shows someone who does not follow gender norms.

- Performance recognition and rewards:

Motivate the employee to perform better and boost the employee to complete the task with minimum errors. Appraisal by higher official and in front of colleagues which create confidence among and between the colleagues.

Navigating Circular Business Models: A Product Life Cycle Perspective

- Abhishek Chandak (Batch 2019-2021)

As the world increasingly faces environmental crisis, the business world is going through a visible shift. This leads to businesses questioning the traditional linear mind-set in which raw materials are extracted, processed, consumed and then directly discarded as waste, making space for circular economy that allows for preserving materials in a uniquely closed flow. In the words of European Commission 2015, “the value of products, materials, and resources is maintained in the economy for as long as possible, and the generation of waste is minimised”. There is a paradigm shift that necessitates taking an all-inclusive approach towards product life cycles starting from conception up to their disposal. The article examines Circular Business Models (CBMs) across an entire product’s life cycle, leading to the introduction of Product Life-Cycle Archetype. By exploring theoretical framework and practical applications we bring to light new strategies being employed by businesses at different stages of circular economy.

The symbiotic relationship existing between eco-innovation, circular economy principles and business strategies is evident in both theory and practice. The Product Life-Cycle Archetype emerges as categorisation of innovations that supports CBMs and offers a new and fresh perspective on integrating circularity into various stages of product development as well as consumption.

The archetype provides a structured and nuanced framework for all the businesses interested in implementing these circular practices throughout a product's life cycle. It categorizes CBMs into three main groups based on life-cycle stages: circular input, circular use, and circular output.

Circular Input emphasises the fact that the journey toward circularity begins with production. Businesses are comprehending

the importance and necessity in choosing environmentally friendly resources and optimising the usage of resources.

Another essential component of circular input is Cleaner Production concept. It involves selecting materials with lower environmental impact, promoting efficient resource utilization, and repurposing waste. This is visible in company like 24Bottles that is a pioneer in design water bottles. It excluded pasteurization and opted for stainless steel, reducing not only single-use plastic but also extending the life span of its products.

Extended-Life Span Production and Second-Life Production further amplify the circular input model. Businesses designing durable, high-quality products challenge the throwaway culture. One of the notable examples include company like Schiassi, producing cardboard boxes with recycled materials, which are also thinner and easier to transport reducing number of transport trips needed. These endeavours help align with circular principles while also fostering innovation and resource efficiency.

Circular Use models are being favoured as the way consumers interact with products is evolving. Businesses are exploring concepts where consumers pay for access and/or functionalities rather than plain ownership. Collaborative Consumption and Product/Service-based Business Models exemplify this approach. Companies like Elenos Group, in the FM transmitter sector, are adapting to the changing landscape by designing versatile devices that cater to diverse needs

Circular Output models focus on giving products a second life, through repair, remanufacturing, or recycling. Instances like Second-Life for Products and Second-Life for Materials demonstrate how companies can still contribute towards resource efficiency even after a product has fulfilled its primary purpose. Vetroresina S.p.A, a player in the fiberglass sector, has successfully displayed its commitment to recycling and take-back management. It acquired Gis Recycling to reintroduce industrial waste into the production process, ensuring a closed-loop system.

In conclusion, the journey towards circular business models requires a harmonious integration between innovative practices, shift in consumer behaviour, and commitment to sustainable

practices. Through a collective effort of businesses, policymakers, and consumers, a circular economy can become much more than just a theoretical concept and move towards evolving into a tangible reality that shapes the future of commerce and sustainability.

Sustainability Through EVs in India

- Shrunkhal Wankar (Batch 2019-2021)

Human awareness is being significantly impacted by changing climate circumstances. Reducing greenhouse emissions has been a priority for countries due to catastrophic weather events, such as melting glacier mass and rising temperatures. Furthermore, the Indian electric industry is crucial to the country's success since it has been proactive in adopting the best sustainable practices, as has every other nation. India's EV market has grown to be a prosperous substitute for conventional ICE cars, which pollute the environment with their hazardous emissions.

Sustainable mobility, or electric mobility, helps to enhance people's lives in both urban and rural areas and plays a major part in the economic development of a country. The nation needs access to inexpensive, safe, inclusive, and accessible mobility options to improve quality of life and get closer to meeting climate change targets.

Cars account for 49% of India's manufactured GDP and 7.1% of the country's GDP overall. The plan to elevate the automotive sector to a global leadership position is delineated in the government's second Automotive Mission Plan or AMP. As part of the 2015 Paris Agreement, India committed to reducing the number of greenhouse gases it emits per unit of GDP (or emission intensity) by 33–35 percent by 2030 below 2005 levels. To satisfy its global responsibilities and lessen the detrimental consequences of automobiles, the government is keen to alter popular opinions regarding electric vehicles. India's EV industry is anticipated to reach 10 million yearly sales by 2030, growing at a Compound yearly Growth Rate (CAGR) of 49% between 2022 and 2030. By 2030, 50 million direct and indirect jobs will be generated by the EV sector. The market for EV financing has been estimated to be

worth US$ 50 billion by 2030; this is around 80% of the US$ 60

billion that India's retail vehicle finance sector is currently valued at.

India is predicted to require over 5 million public charging stations by 2030, at a cost of roughly US$6 billion. In addition to home charging, India will need to construct one to three million chargers by 2030. A BIS Research Report projects that between 2019 and 2030, the markets for electric vehicles, batteries, and chargers will grow at compound annual growth rates (CAGRs) of 53.64%, 58.86%, and 59.58%, respectively. Since private garages are uncommon in Indian cities, EV adoption will initially be limited to metropolitan regions. However, this would require a widespread network of public chargers.

The highway between Delhi and Chandigarh is the first in the nation to be made e-vehicle friendly owing to Bharat Heavy Electricals Limited's (BHEL's) successful commissioning of 20 solar-based EV Chargers.

But a few things need to be worked out before this vision can truly be realized. These include the requirement for more infrastructural development, guaranteeing that EVs are available and reasonably priced for all socioeconomic groups, and resolving concerns about customer range. In addition, battery recycling and disposal create environmental problems that require original thinking.

Despite beginning at a low point, sales of electric vehicles have climbed dramatically in recent times. Major automakers' portfolio expansions for their electric car lineups and their investments in domestic production facilities are expected to sustain this development trajectory. Electric scooters are growing more popular in cities, and this shift has been driven by the two-wheeler sector.

THROUGH THE LENS

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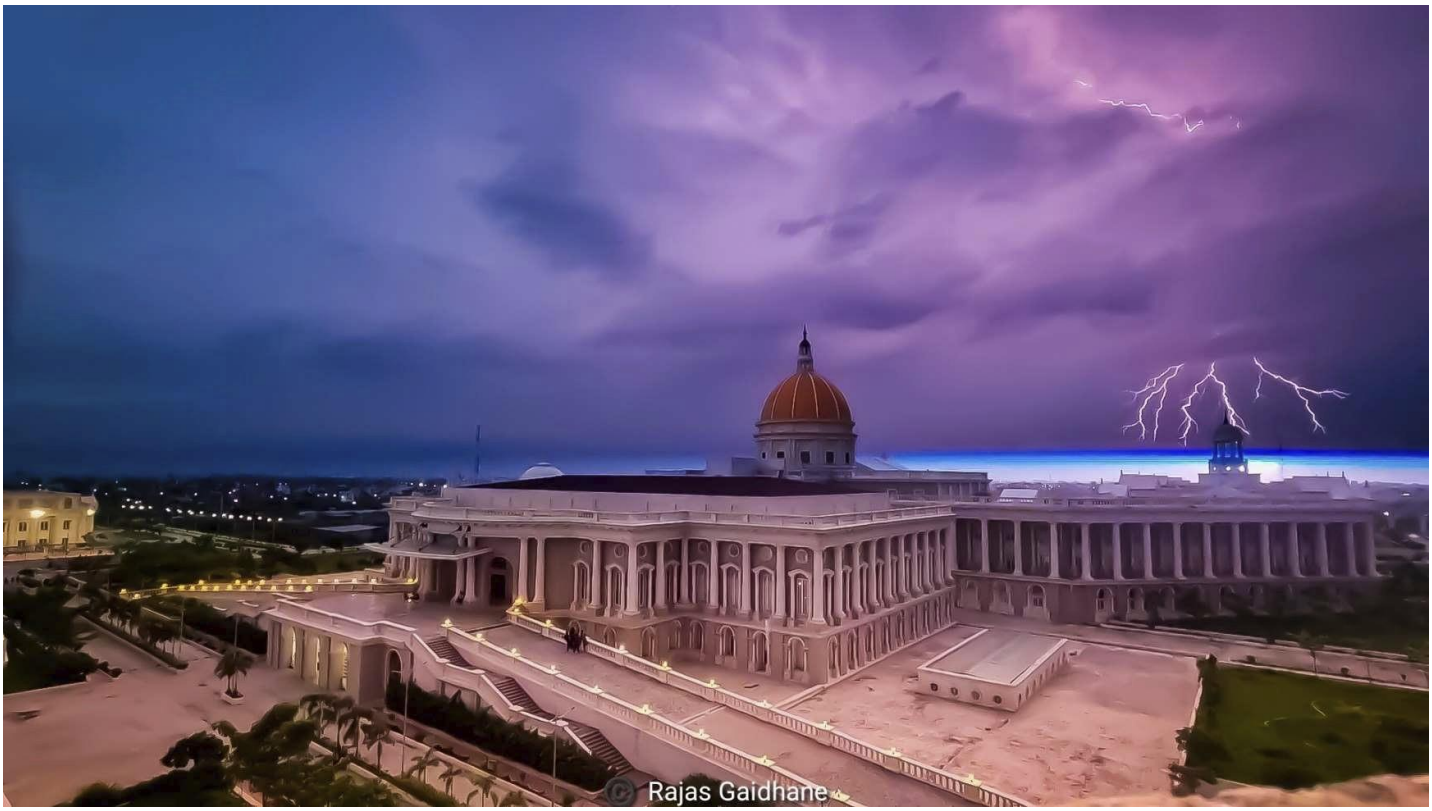

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