**Social Innovation in Industry 4.0**
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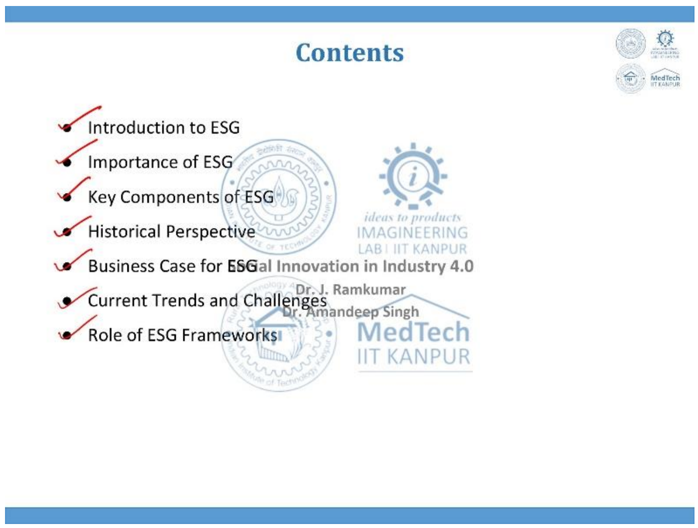
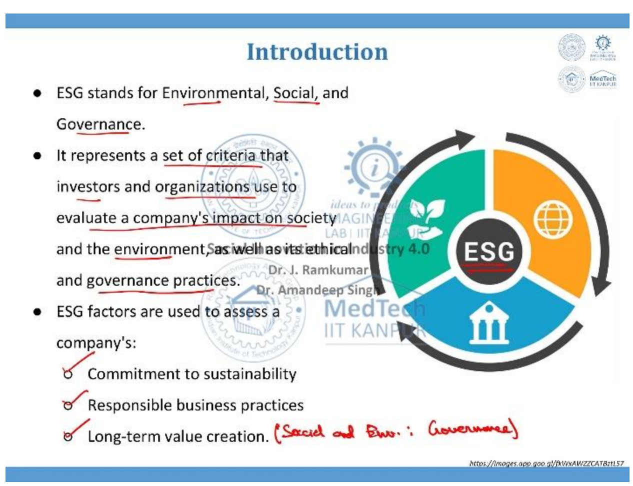
**Lecture 46**
**Introduction To ESG**

Welcome to the course on Social Innovation in Industry 4.0. In this week, I will discuss an Introduction to the ESG concept.




We will go through the slides and we will have an Introduction to ESG, what is ESG, Importance of ESG. Then, we will talk about Key Components of ESG, The Abbreviation ESG. I will just like to let you know, when I come to the next slide on Introduction. Historical Perspective of it, Business Case, Current Trends and Challenges. Then, Role of ESG Frameworks.

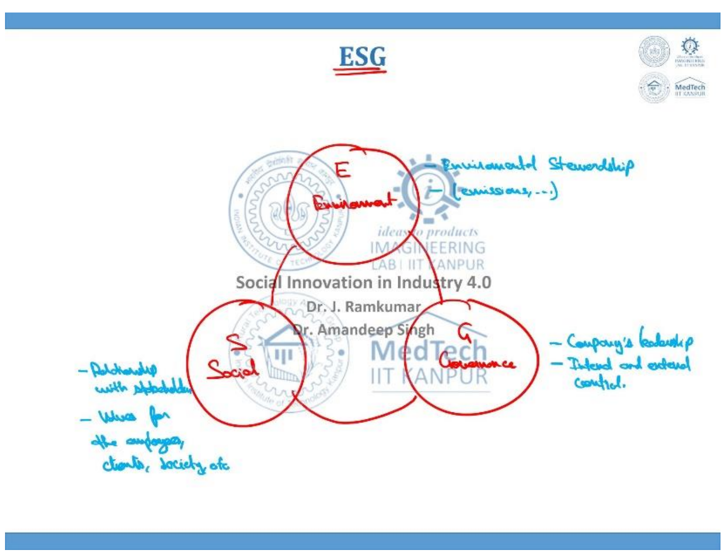


ESG stands for Environmental, Social and Governance Models. So, ESG, in itself, a new sustainability model, that is a very long-term goal to have the system considering the environmental aspects, social aspects, and the way it would be governed. There is a lot of data that is required for ESG, data regarding environment, data regarding social measurements, data regarding how the governance would be taken care of.

If I say data regarding environment, it could be the data the amount of fuel that you have burnt, may be running your vehicles for transportation. It might be the amount of greenness that you have brought into your system, that is, maybe emissions that you have made in overall developing this product. When I talk about Social Measures, it could be the number of employees that you have taken, or maybe the gender diversity in the employees, or maybe the different places, at remote places, how many people are there, who have been put into the employment some chess?

In Governance, it could be the way you are governing the system, the way you are collecting the data, the board of directors, what is the diversity in the board of directors, what is the experience or so. So, all these different data points or information that is collected in the ESG framework.

It represents a set of criteria that investors and organizations use to evaluate a company impact on society and the environment, as well as its ethical governance practices. ESG factors are used to assess a company commitment to sustainability, responsible business practices, and long-term value creation. When I say long-term value creation, we are majorly concerning on the social and environmental, and we are doing this while taking into account or while managing the system properly, that is governance.




What is ESG? ESG is having three elements. E that is Environment. Environment means the impacts of the business operations on the environment stewardship, this is the environment that I wish to mean here.

Then, we have S, that is Social. When I say what Social, how the company manages relationships with and creates the value for the stakeholder. Stakeholders could be any, the employees within the clients, the vendors, the partners or so, that is the social impact or social values it is creating. Then, comes G, Governance. When I say Governance, the company leadership, how it is being controlled, I will put it here company leadership and management philosophy practices policies.

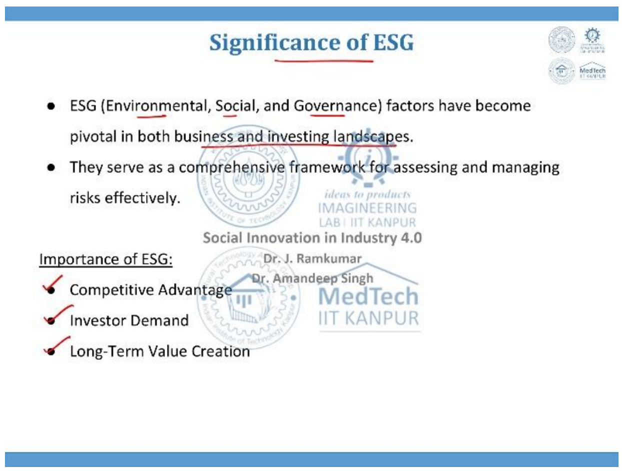
Then, its internal and external controls. In Environment, we have environmental stewardship. For instance, could be emissions, and so on. For Social, it could be the relationship with stakeholders. Values for the employees, clients, and the overall society, so on. These three are connected to make a complete ESG Framework. So, this is ESG.


Next is, Why is ESG Relevant in Today World? In today rapidly changing global landscape, ESG has gained immense significance. And, they are big companies, maybe it is IBM, maybe it is Sustainable Development Goals. Everyone is considering ESG as their major framework. There are several factors which contribute to its relevance. Number 1 is environmental challenges, that is ESC addresses climate change, it addresses resource depletion biodiversity, and so on.

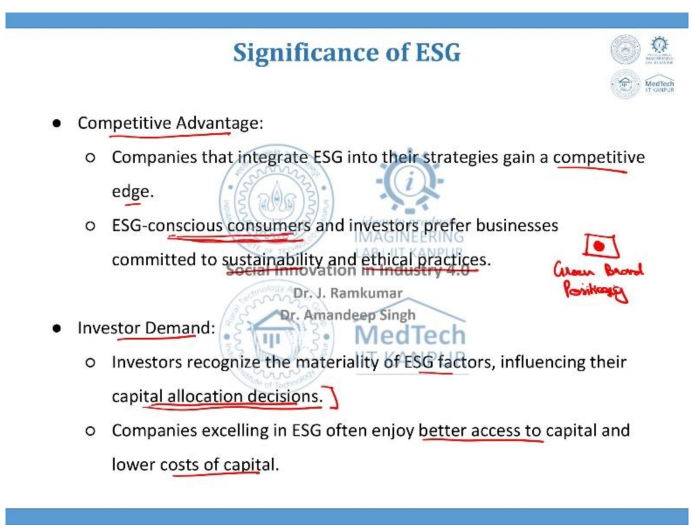
Then, social responsibility which means ESG promotes fair labour, labour diversity, inclusive society and so on. So, I will plot It, fair labour, diversity in labour, that is maybe gender diversity, then, inclusion and, I will put here community and engagement. Then comes investor demand, because ESG aligns with investor expectations for risk management performance, the investment demand is also there. So, I would put here investors expectations.

Expectations in what? In management and performance, because in ESG the Governance is also part of it the way it would be go on the way the people who are managing the system and what is the different roles of different part of the people, who are the mentors of the system, who are the people connected to the system everything is part of it. So, investor demand also comes a big point that brings relevance of the ESG in today world.

Regulatory pressure, because we are talking about the environmental, there are stricter ESG reporting requirements. Because there are a lot of compliances to the businesses nowadays, and when the data is to be recorded or data is to be noted down, it is not a small amount of data, we are really talking about Big Data. It is very big data that we are talking about because at each interval of time, this interval could be maybe as small as 15 minutes of the interval of time of the day, the data might be recorded regarding any of the concerns in ESG, Regarding the environmental aspects, regarding the social aspects, and regarding the governance. That is the way, the system is being managed or tackled by the management.



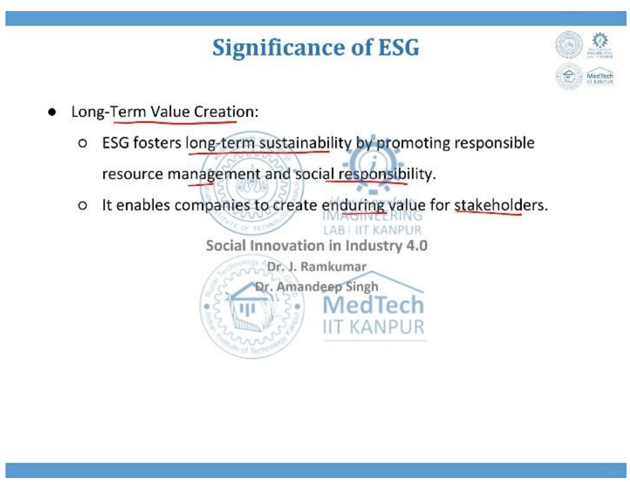

Significance of ESG. ESG, that is, Environmental, Social, and Governance factors have become pivotal in both business and investing Landscapes. They serve a comprehensive framework for assessing and managing risks effectively. Importance, I have discussed already. There are competitive advantages, there are investor demands, and there are long-term value creations.



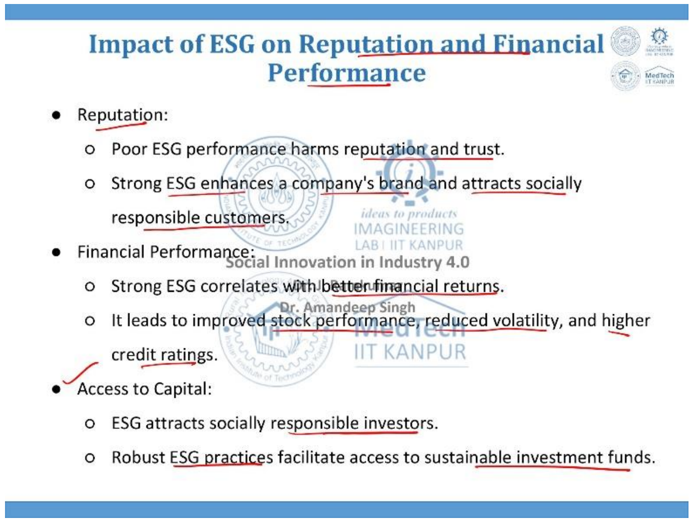
Now, let us try to see what is the competitive advantage here. Competitive advantages here is, that the companies that integrate ESC into the strategies, gain a competitive edge. ESG conscious consumers and investors prefer businesses committed to sustainability and ethical practices. So, that is, we have a green logo somewhere on the food items that we have. We call it green brand positioning. The way we are trying to pose the brand that we have, whether it is green or not, or whether it is also aligning with the environmental practices.

ESG conscious consumers are attracted towards our system. So, this is the significance of ESG and we are talking about the competitive advantage that they get out of it. Then comes the investor demand. When we talk about investor demand, investors recognize the materiality of ESG factors, influencing their Capital allocation decisions, because ESG is a framework in which data is also organized in a well-structured manner. Whatever the data is taken from the different frameworks or from the different software, that is put into a manner that could be read with a relational data ship and whatever is  required it is fetched.

So, investors whatever they require the information regarding the company performance that  could be fetched as early as possible. So, that is, why capital allocation decisions are better for the investors here.  Companies excelling in ESG often enjoy better access to capital and lower costs of the capital. Because the systems are well-designed.

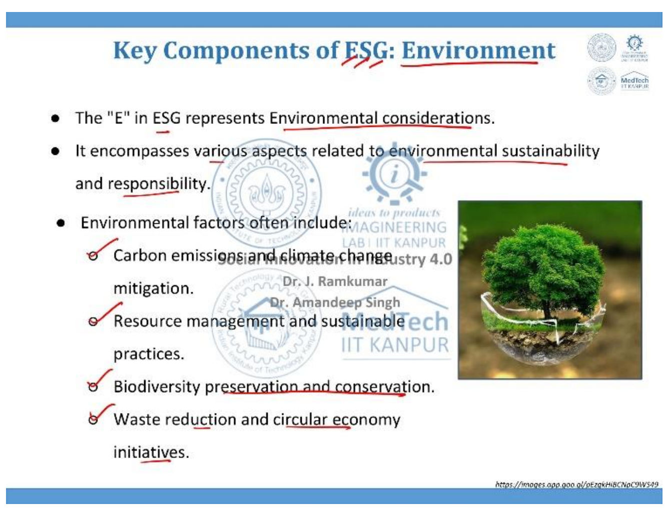



Long-term value creation. ESG goals, as I said are very long-term goals, might be something  that is going to change in the coming 4 decades.  So, ESG fosters long-term sustainability by promoting responsible resource management  and social responsibility. It enables companies to create enduring value for stakeholders.




Next is Impact of ESG on Reputation and Financial Performance. Reputation, poor ESG performance harms reputation and trust. Strong ESG enhances a company brand, as I said brand positioning is better, and attracts socially responsible customers. Financial performance, strong ESG correlates with better financial returns because it leads to improved stock performance, reduced volatility, and higher credit ratings.

Also, access to capital is there in which ESG attracts socially responsible investors. Not only the customers, even the investors, who are responsible socially, are more attracted towards the companies who are having better ESG databases. Then, we have robust ESG practices, which facilitate access to sustainable investment of funds.

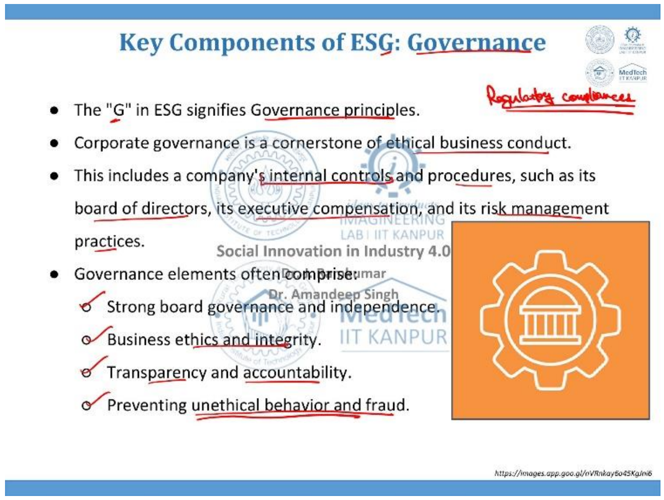



Let us talk about the three letters E, S and G. First is E, that is the Environment. The E in ESG represents environmental considerations. It encompasses various aspects related to environmental sustainability and responsibility. Environmental factors often include carbon emission and climate change mitigation, resource management and sustainable practices, biodiversity preservation and conservation, waste reduction and circular economy initiatives. I have discussed about the sustainability in the Social Innovation in the previous week. So, I will not talk about much on the environmental aspects. Though the SDG goals, that is a Sustainable Development Goals, are also aligned with it that I will talk at the end of this week.


Then comes S that is Social. S in ESG stands for social aspects. Social responsibility and related considerations are fundamental because we are talking about Social Innovation only. So, what are the social aspects? This includes companies impact on society, such as its treatment of employees, its supply chain, its local community and so on. Key areas within social factors include diversity and inclusion in the work space, fair labour practices and human rights, ethical supply chain management, community engagement and philanthropy.

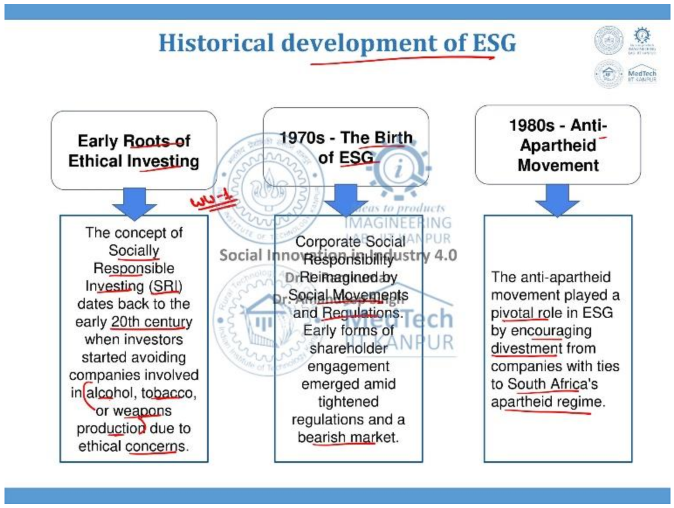
Though philanthropy has also come as a term here, let me take an example of the leather city, that is Kanpur. Kanpur is still known as a leather city of the world because a lot of the blue tannery is part of the city itself. Now, this is moved to a neighbouring city now. What was the reason? Because in the city of Kanpur, though it was covering these aspects, it was covering the inclusion of the work space, it was including the fair labour practices and community engagement was also there. That means, a lot of employees were involved in the tannery business. But another part, the environmental part, was getting affected here.

What was the environmental part here? That is the pollution that was being created by tanneries. Because tanneries, when the rawhides are washed using a lot of water, the maximum of the tanneries were located at the banks of the river Ganges. And, when they dispose of the water off to the river Ganges, chromium 6 is mixed with that which is creating a lot of diseases. So, this was an emission, that is the harmful chemical was emitted or being disposed of to the river Ganges. Now, it is moved to a neighbouring city, where treatment plants, water treatment plants centrally at the hub of the latter there are tanneries and each tanneries having their own separate treatment system as well. So, the way it is designed. So, there are factors which E, S, G are there and they have to be governed properly. So, this was a decision taken by G, that is the government of the state of Uttar Pradesh.




Here comes the letter G, that is governance. Corporate governance is a cornerstone of ethical business conduct. This includes a company internal controls and procedures such as its board of directors, its executive compensation, and its risk management practices. Governance elements often comprise strong board governance and independence.

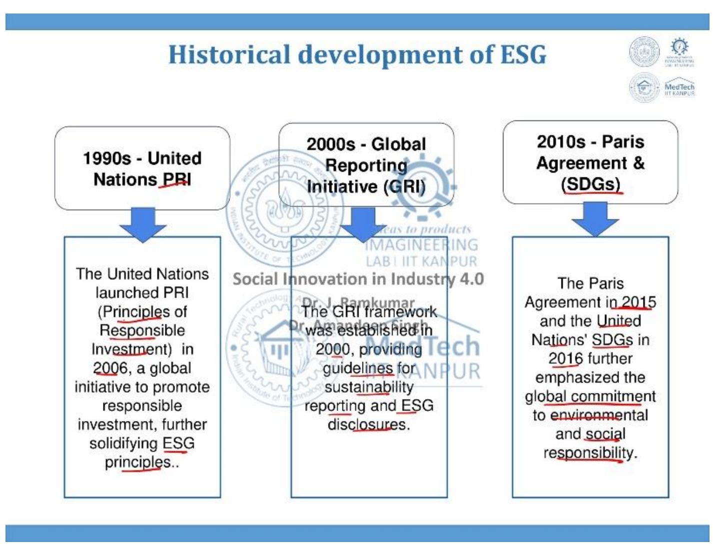
Business ethics and integrity, transparency and accountability, preventing unethical behaviour and fraud. This is the responsibility of the management or the governance of the system itself. We are talking about the internal controls majorly but as I took the example of the leather tanneries in the city of Kanpur, the government system or the regulatory systems also play a big role. Regulatory compliances play a big role because these are to be followed, that is the unethical behaviour is not accepted.




Let us try to have a quick look at the Historical Developments of ESG. Early routes of ethical investing were there when the concept of SRI that is Socially Responsible Investing was there, which dates back to the early 20th century when investors started avoiding companies involved in alcohol, tobacco, weapons, production due to ethical concerns.

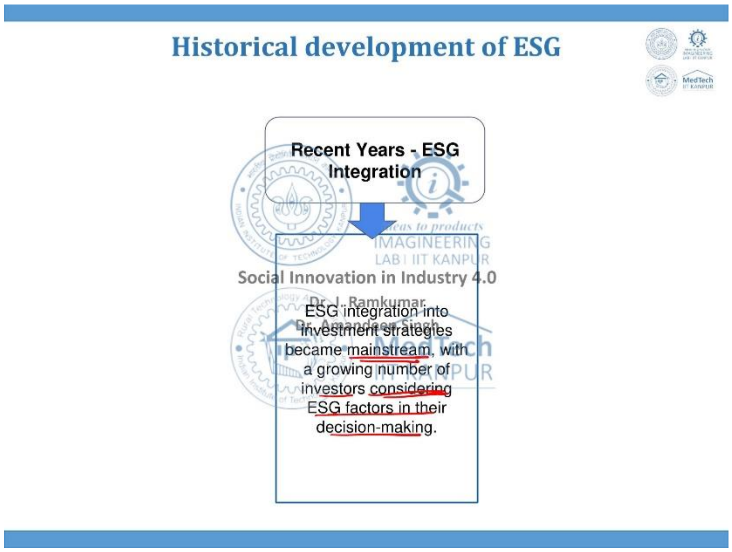
So, this was close to World War I when they saw the tremendous negative impact of World War I. So, these companies avoided alcohol, tobacco and vehicle production. This was the beginning of the thinking of social responsibility by the investors. Next came the birth of ESG, the corporate social responsibility reimagined by social movements and regulations. Early forms of shareholder engagement emerged amid tightened regulations and a bearish market.

In the 1980s, anti-apartheid movement was there, which played a pivotal role in ESG by encouraging divestment from companies with ties to South Africa's apartheid regime.



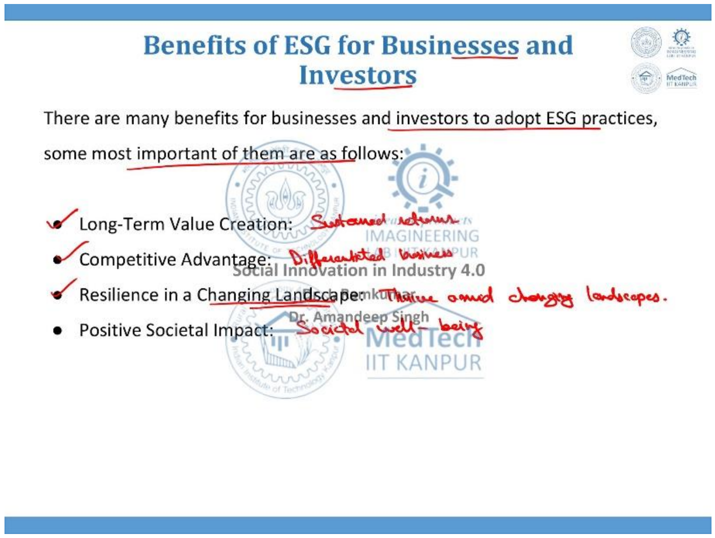
Next comes in the 1990s, when the United Nations PRI, that is the United Nations launched the PRI. PRI is Principles of Responsible Investment in 2006. A global initiative to promote responsible investment further solidifying the ESG principles. In the 2000s, the GRI framework was established in 2000 providing guidelines for sustainability reporting and ESG disclosures.

In the 2010s and further, the Paris agreement for SDGs, that is the Sustainable Development Goals was set. The Paris agreement in 2015 and United Nations SDGs in 2016 further emphasized the global commitment to environment and social responsibilities.




And now, in recent years, the ESG integration into investment strategies has become mainstream. With a growing number of investors considering ESG factors in their decision-making. Because globally what is happening, the governance of the system has to be in such a way that there is a parity between different kinds of the races, different kinds of the genders and so on.

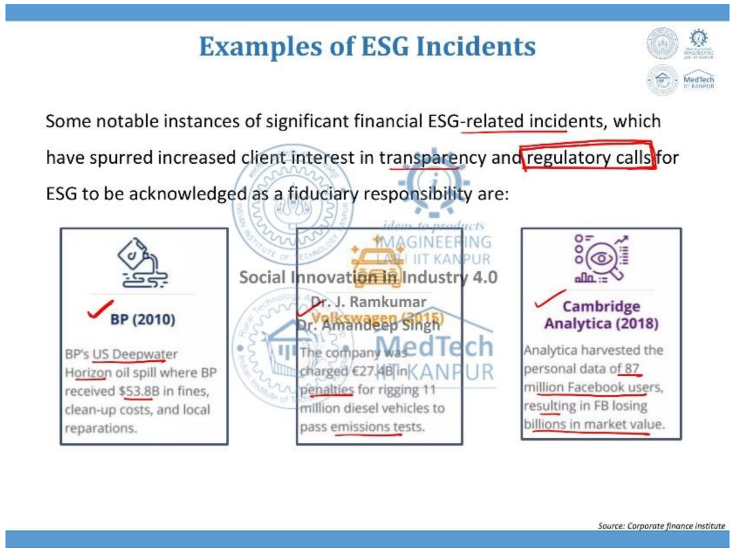
And also, the environmental viewpoint has to be taken into consideration because the resources that we are using nowadays are depleting at a very high rate. So, resources should be also available for the coming generations. So, investors are now becoming very careful in considering the investments and ESG factors have become a major course of their decision-making.




Benefits of ESG for Businesses and Investors. There are many benefits for businesses and investors to adopt ESG practices. Some of the most important of them are as follows here. Long-term value creation. Though ESG goals are long-term, it aligns with our long-term sustainability and it yields sustained returns.

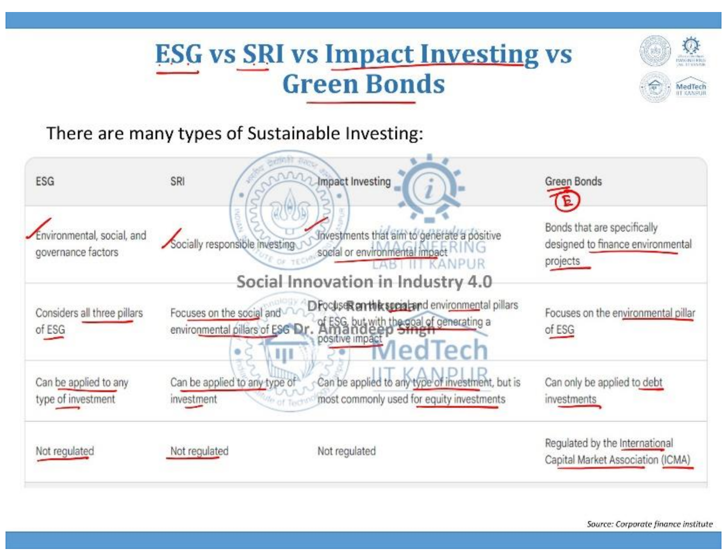
Then, competitive advantage, it is already discussed, we have a differentiated business. Resilience in changing the landscape. When you say resilience, it means how good are you to respond to the sudden changes. Nowadays, there is a term called resilience engineering. Resilience engineering was previously called chaos engineering. Chaos is something when you do not have anything in hand or very few resources in your hand, still you need to make a decision.

For example, you took some decision during the covid breakdown. So, a lot of decisions regarding how to supply food, how to supply vaccines or what to be taken care of by the government, people also participated. Everyone was getting resilient into the system. So, this is resilience in changing the landscape. How do we respond to sudden changes or impactful changes? So, ESG equips companies to thrive amid changing landscapes. Then, we have a positive social impact. ESG contributes to societal well-being and it resonates with value-driven investors.




Next comes the Examples of the Incidence of ESG. Some notable instances of the significant financial ESG-related incidents which have spurred increased client interest in transparency and regulatory calls for ESG to be acknowledged as fiduciary responsibility are BP 2010, Volkswagen 2015 and Cambridge Analytica 2018. So, BP 2010 is BPs US Deepwater Horizon oil spill where BP received 53.8 billion dollars in fines, clean-up costs and local reparations.

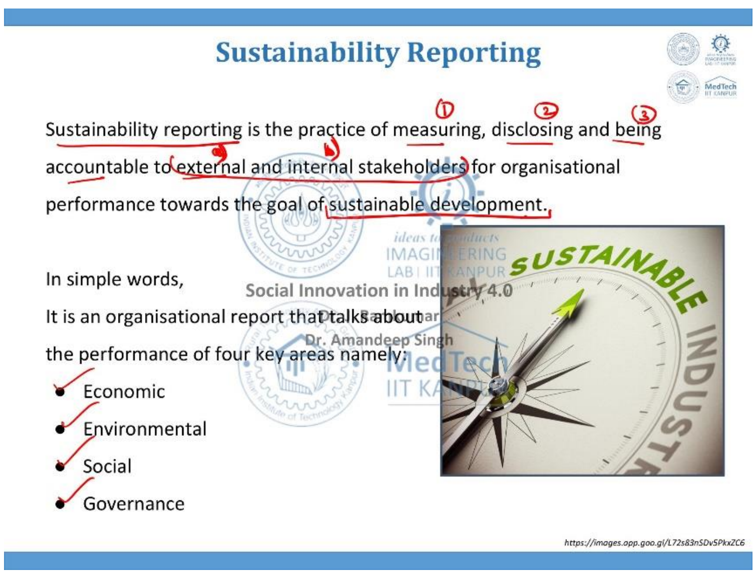
Volkswagen 2015, the company was charged 27.4 billion euros in penalties for digging 11 million diesel vehicles to pass emission tests. Cambridge Analytica in 2018, Analytica harvested the personal data of 87 million Facebook users resulting in Facebook losing billions in market value. So, there are regulatory calls if they are not taken carefully there could be financial impacts or financial drawbacks in this as well. That is, what this slide is trying to tell us.



So, ESG versus SRI versus Impact Investing versus Green Bonds. Let us try to talk about the Environmental, Social, and Governance versus Socially Responsible Investing versus Impact Investing versus Green Bonds.

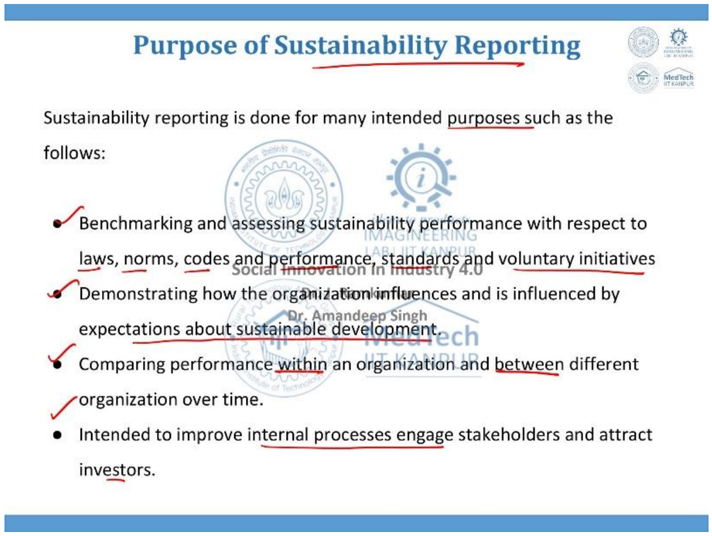
So, what is ESG? It is given here, it is ESG, SRI, Impact Investing is investments that aim to generate positive and social or environmental impact. Green Bonds are bonds that are specifically designed to finance environmental projects only. ESG considers all three pillars of ESG, the change can be applied to any type of the investment, and it is not regulated as of now. SRI, that is socially responsible investing, focuses on social and environmental pillars of ESG only, that is the governance part is not taken care of here. It can be applied to any type of investment, it is still not regulated.

Impact Investment is something that focuses on social and environmental pillars once again, but with the goal of generating a positive impact to the environment. It can be applied to any type of investment but is most commonly used for equity investments. Green bonds are some that focus on the environmental pillars of ESG only. Because, the word green is there, we are talking only about E here majorly. It can only be applied to debt investments, it is regulated by the International Capital Market Association, that is ICMA.



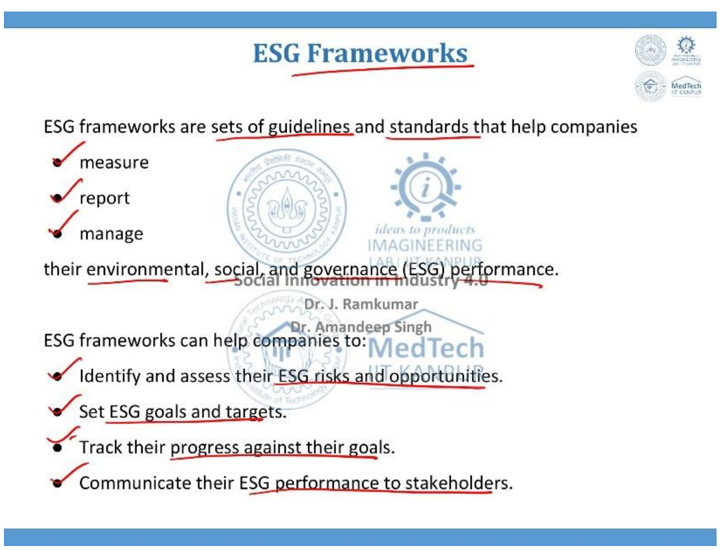

Sustainability reporting, it is the practice of measuring, disclosing and being accountable to external and internal stakeholders for organizational performance towards the goal of sustainable development.

In this definition, you see we are measuring, we are disclosing, we are being accountable to A external and B internal stakeholders. The purpose is, the performance towards the sustainable development has to be positive. In simple words, it is an organizational report that talks about the performance of four key areas namely, economic, environmental, social and governance.



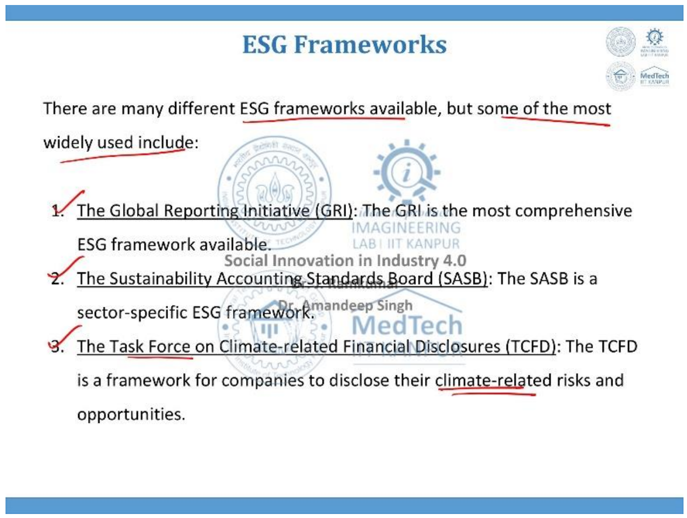

So, in ESG frameworks, the Purpose of Sustainability Reporting is done for many intended purposes, such as benchmarking and assessing sustainability performance with respect to laws, norms, course, performance, standards and voluntary initiatives. Then, demonstrating how the organization influences and is influenced by expectations about sustainable development.

Then, comparing performance within an organization and between different organizations, that is within and between relations are being developed or being studied. Intended to improve internal processes, engage stakeholders and attract investors. So, these four purposes of sustainable reporting are mentioned here.



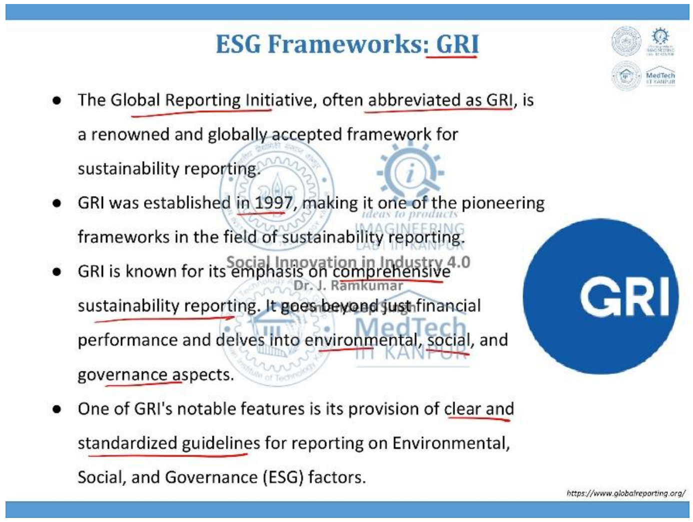

Let us now talk about ESG frameworks. ESG frameworks are sets of the guidelines and standards that help companies to measure, promote and manage their environmental, social and governance performance. ESG frameworks can help companies to identify and assess their ESG risks and opportunities, set ESG goals and targets, track their progress against their goals and also communicate their ESG performance to stakeholders.

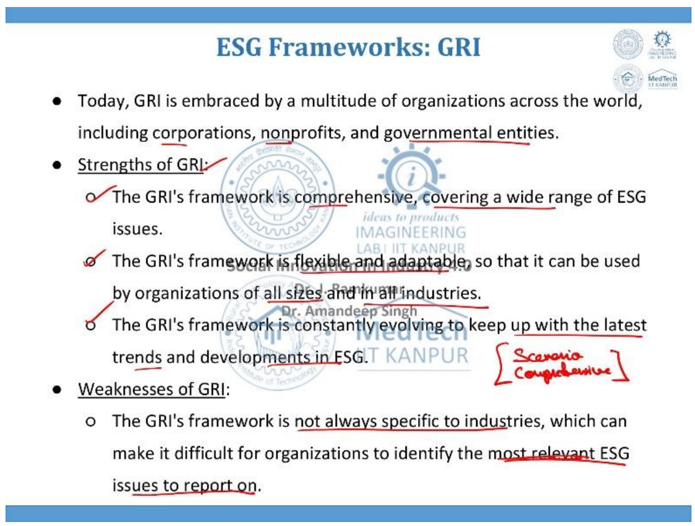
Let us try to see the different ESG frameworks here. There are multiple frameworks of ESG that are available in the market. A few of them, maybe I have listed only three in this lecture. I will try to talk a few more in the coming lecture.




There are many different types of the ESG frameworks available but some of the most widely used include the GRI, that is Global Reporting Initiative. The GRI is the most comprehensive ESG framework that is available. It provides guidance on how to report on a wide range of ESG issues which includes environmental, social, governance, that is all these three. Then comes SASB, that is the Sustainability Accounting Standards Board. The SASB is a sector specific ESG framework, in which it provides guidance on how to report on ESG issues that are material to specific industries.

Then comes TCFD, that is the Task Force on Climate-Related Financial Disclosures. The TCFD is a framework for companies to disclose their climate-related risks and opportunities. Let us talk about these three frameworks in some detail.

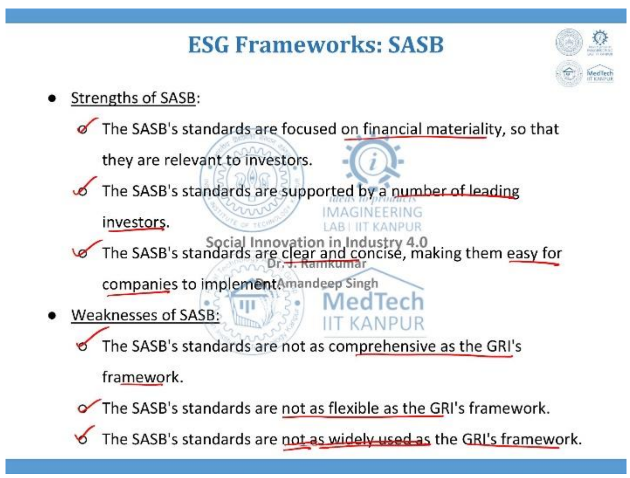



First one is GRI. The Global Reporting Initiative, often abbreviated as GRI is a renowned and globally accepted framework for sustainability reporting.

GRI was established in 1997 making it one of the pioneering frameworks in the field of sustainability reporting. GRI is known for its emphasis on comprehensive sustainability reporting. It goes beyond just financial performance and delves into environmental, social and governance aspects. One of the GRIs notable features is its provision of clear and standardized guidelines for reporting on the ESG factors. Today, GRI is embraced by a multitude of organizations across the world including corporations, non-profits, government entities and so.

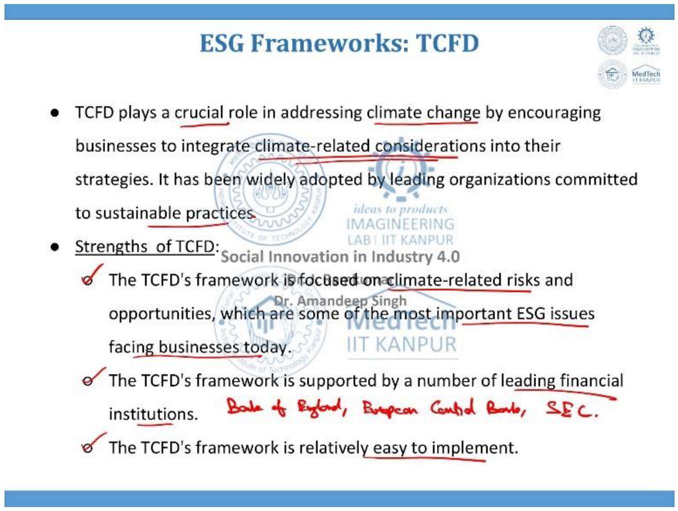
The strengths that GRI offers are, the GRI framework is comprehensive, covering a wide range of ESG issues. The GRI framework is flexible and adaptable so that it can be used by organizations of all sizes and in all industries. The GRI framework is constantly evolving to keep-up with the latest trends and developments in ESG, because it is getting updated frequently, that is, why it is so famous and popular. Certain weaknesses to note down about GRI are, the GRI framework is not always specific to industries which can make it difficult for organizations to identify the most relevant ESG issues to report on. So, it is not specific, it is a kind of a scenario or comprehensive framework. So, it is missing the specific or most relevant ESG issues which are there to be reported specifically on.

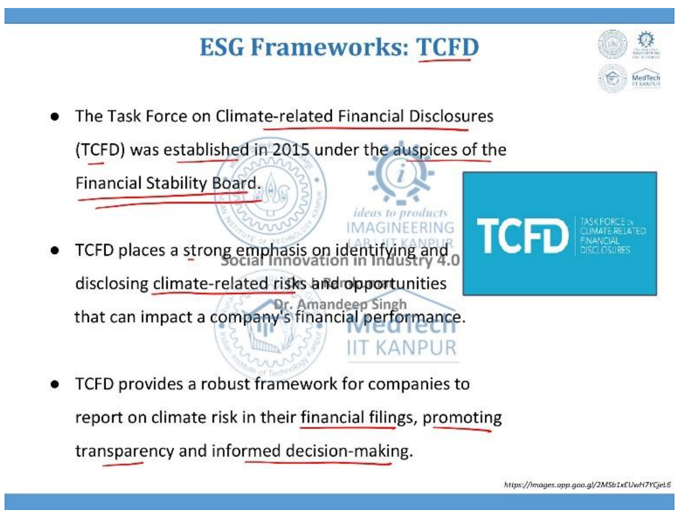



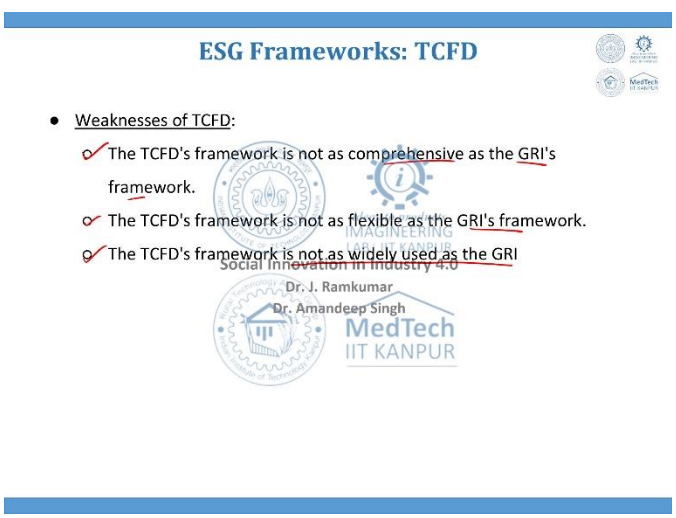

Then comes SASB, that is the Sustainability Accounting Standards Board. This is known for its sector specific sustainability reporting. SASB was established in 2011 as a key player in the realm of sustainability reporting. SASB distinguishes itself by its focus on sector specific sustainability disclosure.

It tailors reporting standards to different industries. The central feature of SASB's approach is, its emphasis on reporting financially material environment, social and governance factors. The strengths that SASB offers are, the SASB standards are focused on financial materiality, so that they are relevant to the investors. The SASB standards are supported by a number of leading investors. SASB standards are clear and concise making them easy for companies to implement. Some of the weaknesses are there, such as these standards are not comprehensive as the GRI framework is.

The SASB standards are not as flexible as the GRI framework is because it is industry specific, it is not a comprehensive framework and SASB standards are not as widely used  as the GRI framework.



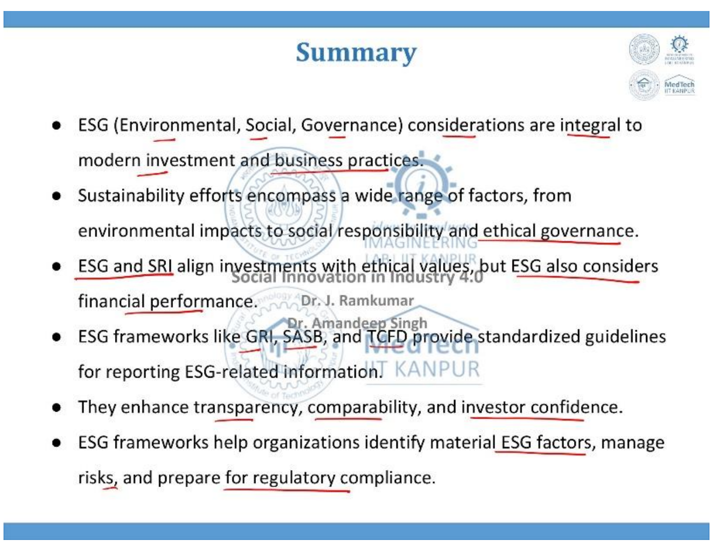



Next comes TCFD. The Task force on Climate-related Financial Disclosure, that is TCFD, was established in 2015 under the auspices of the Financial Stability Board that is FSB. TCFD places a strong emphasis on identifying and disclosing climate-related risks and opportunities that can impact a company's financial performance. TCFD also provides a robust framework for companies to report on climate risk in their financial filings promoting transparency and informed decision-making.

So, it plays a very important role, that is it plays a very crucial role in addressing climate change by encouraging businesses to integrate climate-related considerations into their strategies. So, that is why it is being used. The customers or the investors who are conservationists or who are aware about the greenness or the sustainability would like to see the output of the TCFD framework. So, the climate relation considerations into the strategies are put. It has been widely adopted by leading organizations committed to sustainable practices.

The strengths of TCFD could be, it is focused on climate related risks and opportunities which are some of the most important ESG issues facing businesses today. The TCFD's framework is supported by a number of leading financial institutions and this framework is relatively easy to implement. So, a number of big financial institutions, like the Bank of England and we have the European Central Bank and we have also SEC, that is the Securities and Exchange Commission. They are all supporting the TCFD framework. Some weaknesses to mention, the TCFD framework is not as comprehensive as GRI. The TCFD framework is not as flexible as the GRI framework. The TCFD framework is not as widely used as the GRI framework.




To summarize this lecture, ESG that is Environmental, Social and Governance considerations are integral to modern investment and business practices. Sustainability efforts encompass a wide range of factors from environmental impacts to social responsibility and ethical governance. ESG and SRI align investments with ethical values, but ESG also considers the financial performance. ESG frameworks, such as GRI, SASB, TCFD provide standardized guidelines for reporting ESG related information.

They enhance transparency, comparability and investor confidence. ESG frameworks help organizations identify material ESG factors, manage risks, and prepare for regulatory compliance. In the next lecture I will talk about choosing the right ESG frameworks where other than these three frameworks I will also try to mention some of the other famous frameworks, and we will try to see which framework should be chosen for the ESG for what kind of a company.

Thank you.