AI in Marketing
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Lec 60-AI and Sustainability

Welcome to this NPTEL online certification course on Artificial Intelligence and Marketing and now we will talk about module 60. So, as you can see from this module, this is, this is the last module of this course and we are talking about AI and sustainability. These are the things that we will talk about in this module. So, we will delve into the integrate relationships that define the contemporary business landscape. We will begin by navigating the multifaceted realms of corporate social responsibility where companies embark on a commitment to uphold the highest standard across their operations. But what lies beneath this commitment? We uncover the connection between CSR, corporate law and the pursuit of sustainability.

 Now, let us navigate the landscape of CSR and corporate law. Within the realms of corporate business, corporate social responsibility stands as a multifaceted concept that encapsulate sustainability development, corporate governance, stakeholder protection and socially responsible investment. So, these are the 4 things that this covers. It represents a commitment to uphold exemplary standards across a company's dealings.

 Central to this is the process of identifying and neutralizing any detrimental effect that corporate actions and operations might inflict upon society. This pursuit has showcased the interplay between ethical conduct towards non-mandated stakeholders and the adherence to stakeholders' primary mandates ingrained within the corporate law bolstered by judicial guidance. In essence, CSR oblige directors to act in ways that benefit the company and serve the interest of broader society. Core CSR elements encompasses social, environmental and human rights, all of which intervene with the fabric of sustainable corporate operations. Corporate law and governance mechanism have assumed the mantle of endorsing and propagating CSR, often realized through the disclosure of information and the alignment of directors' duties with social and environmental   issues.

 The very definition of CSR remains a dynamic and contested subject. Variances arise from the ever-evolving expectations of diverse stakeholders, adapting to the rapid mutations in the business landscape. This has led to the proliferation of CSR's reach from its early focus on mitigating negative societal impacts and philanthropy to its contemporary   embodiment emphasizing strategic collaborations, scalability and

responsiveness. So, these are the new concerns. Crafting sustainable future through CSR and corporate decisions.

Sustainability is the key part of CSR. Touching on economic, environmental and social aspects, it means meeting today's needs without harming future generations. The United Nations agenda 2030 and its 17 sustainable development goals aim to balance economic growth with environmental and social health. In CSR, decisions must balance what's good for society and benefits stakeholders. Laws like section 172 of the UK Companies Act 2006 highlights that directors should think about stakeholders beyond shareholders.

Moving from shareholders to stakeholders. This way business decisions connect business goals and responsibilities while also considering impacts outside the company. Even though CSR can boast a company's reputation and success, meeting a solid CSR plan requires understanding and analyzing sustainability. With the rise in technology like AI, making a start choice choices becomes easier. AI including machine learning and robots can use lots of data to spot patterns and trends, helping to come up with creative CSR plans and smart business decisions.

Now let us look at how AI is reshaping corporate governance and CSR practice. The advent of AI presents an opportunity to revolutionize corporate governance by suggesting informed actions, solving complex challenges and aligning with sustainable objectives. Machine learning is embedded within AI broad scope, which derives insights from data to guide directors towards effective strategies. For corporations, AI development serves to augment CSR programs, propelling economic value, long-term interest and solutions to multifaceted challenges. But using AI comes with challenge like dealing with rules, guidelines and ethical concerns.

In the midst of this digital change, good data is crucial for AI to work well. Combining AI with CSR has great, has big possibilities but companies must follow rules and ethics carefully. How to use AI in the boardroom? The potential application of artificial intelligence in the boardroom are vast and promising, offering opportunities to enhance decision making processes. With access to high quality big data, AI can uncover hidden insights and valuable knowledge, leading to improved efficacy and quality of decision making. However, the integration of AI into the boardroom presents challenges such as managing biases in data-driven decision, ensuring transparency in the decision making process and addressing the monopolization of data and expertise.

This module explores the various roles AI can assume in corporate management, analyzing the potential benefits and challenges and emphasizes the importance of a regulated and sustainable AI environment. AI's integration into corporate management

can be classified into three roles. First is assisted AI, the second is advisory or augmented AI and the third is autonomous AI. Each role reflects a different level of AI independence and collaboration with human decision makers. So, the first is assisted AI.

At the simplest level, AI acts as an assistant performing administrative tasks with minimal autonomy. Decision rights remain with human board members, allowing them to focus on strategic decisions while AI handles tasks like data analysis and monitoring. The second is advisory or augmented AI. In the advisory role, AI supports decision making in complex scenarios by asking relevant questions, identifying opportunities, detecting irregularities and mitigating risks. While AI provide recommendations, the final   decision   remain   in   the   hand   of   the   human   board   members.

The third is autonomous AI. AI is empowered to make decisions autonomously based on data analysis and pattern recognition. However, human oversight and validation are crucial as algorithms can learn independently but still require human direction. Challenges of integrating AI in the boardroom. Despite the potential benefits, the adoption of AI in the boardroom comes with challenges that need to be addressed.

The first is data bias. Data-driven decisions may inadvertently perpetuate societal biases present in the data. Both inherent data biases and those introduced by designers can lead to discriminatory or unethical outcomes. Offers are required to standardize data collection, detect and eliminate biases and establish shared databases accessible to all. The   second   is   lack   of   transparency.

The opacity of AI decision making processes can lead to difficulties in explaining decisions and justifying outcomes. A transparent AI approach involves ensuring the transparency of both the outcomes and the process. Developing auditable measures and following best practices for transparency can help mitigate this challenge. The third is monopolization of data and expertise.   AI implementation demands substantial investment in data infrastructure and talent acquisition, facing large companies and creating   imbalances   in   market   power.

SMEs may be left behind due to limited access to resources. Addressing this challenge involves promoting sustainable and regulated AI deployment to ensure fair access for all businesses. The fourth is regulatory uncertainty. The lack of clear regulations for AI can hinder adoption due to fears of legal and ethical issues. A harmonized, risk-based regulatory framework is needed to ensure AI systems' ethical and lawful use.

This framework should accommodate various technologies and promote a sustainable and consensual AI environment. What is AI's contribution towards more sustainable

decisions? The contribution of AI towards fostering more sustainable decisions is perceived with optimism, driven by its innovative potential to benefit both businesses and society. However, alongside the challenge of ensuring transparency and accountability in AI decision-making, designers and users must also consider the long-term and transformative impacts on individual and society. Recognizing the urgency of aligning corporate actions with sustainable development, it becomes imperative to embed the three core pillars of sustainability. They are environment, society and economy into the ethics of AI.

A consensus emerges that effectively harness AI and other advanced technologies, necessitates collaboration among various stakeholders, particularly corporate directors and the public sector. The European Commission's suggestion that AI engineers should be answerable for the societal, environmental and human health consequences of AI decisions, underscores the significance of ethical and sustainable AI development. In this context, the following section dwells into how AI-driven decisions can be ethically and sustainably oriented to serve the interest of companies and broader societal well-being while mitigating potential associated cost. Even though we are just starting to look at how AI and sustainability connect, we should make sure AI helps us reach important goals for society. AI can help with all kind of important goals.

When we talk about sustainable AI, we mean thinking about AI at every step from how it is made to how it is used. When integrating specific AI systems, the board of directors should consider their environmental impact. The training and development of algorithms can contribute significantly to greenhouse gas emission. Hence, the environmental footprints of such processes needs to be justified by the benefits they offer. Companies must allocate resources and budget allowances to ensure the sustainability of the infrastructure used for training or fine-tuning AI algorithms.

Once a sustainable AI infrastructure is established, the focus shift to leveraging AI for broader environmental and socio-economic goals. Basic algorithms can be programmed to steer AI towards ethical and sustainable corporate action. Through data science for social good, AI can address societal challenges and unsolved issues in a measurable manner. By fostering transparency, AI can measure disclosure against required standards and guidelines, thereby enhancing sustainability. Furthermore, AI can recommend sustainable policies and decisions, augmenting the capacities of human directors.

It can predict the efficacy of sustainable oriented corporate policies with precision, aiding in formulating and optimizing CSR programs for distributive justice. AI can facilitate automated planning of environmental, social and governance investment strategies and complementary tasks, identify stakeholders' networks and assessing

variables for strategic clarity. AI's roles extend to prevention, where it acts as a barrier against human, corporate harm to society and the environment. Smart technology driven by AI can predict and prevent discrimination, fraud, conflict of interest, thereby mitigating social and environmental risks. AI in cooperation to decision making process can enhance both adaptive capabilities and expedite responses to environmental changes.

 The alignment of AI with organization's core values is crucial. AI ethical programming must occur in the goal setting phase, striking a balance between the organization's interests, features and available data. However, while AI presents numerous benefits, it also poses challenges such as data dependence and biases, potential ethical conflicts and exhibition of societal inequalities. For effective AI driven sustainability, it is vital to establish a harmonized regulatory framework. The current scenario categorized by fragmentary and inconsistent approaches, necessitates comprehensive and coordinated strategies.

 The complexity of AI and its potential impact requires a harmonized framework as evidenced by three critical issues. The first is uncertainty stemming from multiple ethical principles, the influence of private sector and the lack of enforcement mechanism. Recognizing these challenges, the European Commission introduced a proposal for AI regulation in 2021. This regulation based on the concept of trustworthy AI aims to foster a trustworthy AI environment while establishing transparent and proportionate obligations for AI systems. Similarly, the UK has also engaged in exploring the implication of AI and has called for international norms to regulate AI's design, development   and   deployment.

 However, the journey towards harmonized AI regulation is a long one and any regulatory model should be grounded in a risk based assessment to ensure proportionate responses to potential harms. Now, let us look at the risk based regulatory approach. The argument for a consistent legal framework for AI has been established. The next consideration revolves around determining the most effective approach. AI, a domain encompassing a multitude of technologies with distinct attributes and potential risks, inherently   lacks   a   universal   solution   due   to   its   diversity.

 Furthermore, the rapid evolution of technology renders traditional regulatory methods inadequate for promptly addressing new challenges. In light of these factors, a novel strategy is proposed, one predicated on the inherent risk levels of each specific AI solution. This approach refers to as de minimis regulation outlines a set of overarching principles and minimal standards adaptable to each situation. This innovative regulatory model strives for harmonized application across diverse market actors while simultaneously fostering technological advancement and innovation. The next we will

look   at   the   proportion   of   a   risk   based   approach.

The introduction of a risk based approach to AI regulation is advocated. This approach already prevalent across various domains such as environment, finance, food and legal services involves the use of specific strategies and techniques by regulators. This entails constructing decision   making frameworks that prioritize regulatory actions and risk assessment. The methodology starts by identifying risk as its foundation and delves into the various attributes of   these risks, including their nature, type, magnitude and probability. Subsequently, a hierarchical arrangement of risk based on these evaluations is   established.

Although space constraints limit an in-depth exploration of this approach in this present module, it is anticipated that adopting such a strategy will facilitate the deployment the development of AI technologies in a secure and advantageous direction. This approach is particularly pertinent for regulators tasked with addressing potential AI related accidents or security breaches. A global collaboration to mitigate risk and cultivate AI for the collective benefit necessitates the involvement of regulatory bodies. The harmonization of legal framework holds potential to offer clear and consistent AI risk assessment standard. The salient advantage of this risk based regulatory stance lies in incentivizing companies   to incorporate meticulous risk evaluations into their corporate decisions.

Ultimately, this regulatory paradigm contributes to a robust governance structure that optimizes the allocation of regulatory resources based on the gravity of risks. Next we will talk about the principle of proportionality and gradation of regulation. The regulatory measures for AI systems differ in accordance with the associated risk of adverse outcomes. Four scenarios involved, either negligible or low risk, a flexible approach suffices. This might encompass a voluntary ethical code of conduct or adherence to international   AI   principles.

In instance, where risks range from medium to high, the implementation of business standards or guidelines are complete by transparent disclosures and compliance mechanism becomes requisite. For high risk systems, comprehensive regulatory measures could be introduced. Consequently, the degree of regulatory intervention is correlated   with the potential harm posed, underscoring the regulator's role in safeguarding public   interest. European Commission's validation and proposal.   The European Commission has recently endorsed this model in its proposal for an AI regulation, acknowledging the adverse consequences of AI on stakeholders, workers and individuals.

This regulatory framework seems to harmonize the diverse objectives and interests of

involved parties. The proposals are aligned with the open data directive. The regulation on European Data Governance, the Data Act, GDPR and other pertinent legislations emphasizes the safeguarding of privacy, personal data and sensitive information. While some constraints on business operations might ensure, they align with the objective of ensuring the market only accommodates safe products. Such constraints are justified by the overriding public interest in avoiding substantial safety risks and fundamental rights infringement.

 The proposed regulatory framework harmoniously integrates with existing sectoral safety laws, underscoring consistency and minimal additional burdens. Tier regulations and enforcement. The regulatory proposal categorizes AI systems into different risk tiers. Unacceptable risk, high risk, low and minimal risk. Systems constituting unacceptable risk   via   violating   fundamental   rights   are   prohibited.

 High risk systems necessitates adherence to specific rules including high quality data, transparency, human oversight,   accuracy, reverseness and ex-ante conformity assessment. For AI solutions in lower risk categories, limited transparency obligations are proposed. Encouraging voluntary code of conduct for non-high risk AI providers further enhances the regulatory framework.   The next is the vitality of effective enforcement and monitoring. The efficacy of all regulatory endeavors hinges upon robust   enforcement   mechanism.

 A comprehensive monitoring and evaluation scheme are vital to ensuring consistent implementation of the regulation. The proposal recommends establishing a European Artificial Intelligence Board to aid national authorities in executing and applying the European regulation. This collaborative arrangement necessitates   the designation of Nationalist Supervisory Authority within member states. Additionally, AI providers must promptly inform authorities about serious incident of malfunctions   constituting fundamental rights breaches as well as any recall or withdrawal of AI systems. The next comes   stakeholder   participation   and   multidisciplinary   involvement.

 The proposed regulatory framework underscores stakeholder involvement in policy formulation. Emphasizing multidisciplinary contributions, recognizing the importance of minimizing administrative burdens and clarifying existing regulations, this strategy aligns with AI regulations needs. Stakeholder possessing insights into AI applications, particularly those versed in AI, big data and robotics play a pivotal role in crafting accessible and comprehensible regulations.   This collaborative effort between stakeholders and data scientists ensure appropriate data labeling and effective regulation. This approach hinges on a cooperative endeavor that encompasses various disciplines delineating   roles   in   AI   deployment   within   the   corporate   sphere.

In the pursuit of a common good, AI, the role of AI as a catalyst. The regulatory framework extends beyond addressing AI's risks and challenges to encompass societal well-being and environmental preservation. Expressions like common good or the commoners signifying granting all individuals unrestricted access to communal resources for social equity. These concepts underline cooperation, collaboration and coordination aligned with sustainable corporate practices and AI applications. The UK Parliament's proposition that AI should be developed for humanity's common good further enforces this principle.

In essence, the commerce represents the drive for corporate sustainability while the common good emerges as the ultimate aspiration for AI deployment. In the corporate landscape, stakeholders collectively share common spool resources within an organization contributing to its sustainability journey. AI, when employed, seriously serves as a catalyst for these efforts. Its benefits are to extend to all constituencies aligning with the concept of common spool resources. Corporations' utilization of AI to affect positive societal changes ultimately culminates in the attainment of the common good.

In conclusion, AI's myriad benefits and challenges necessitates a risk-based regulatory approach. This approach should aptly balance intervention with innovation, is instrumental in achieving a harmonious and ethical AI deployment landscape. By upholding human values and mitigating potential AI-related harm, a coherent regulatory framework can usher in AI for the common good. The integrate logic underpinning the trajectory is visualized in figure 1.

So, this is the figure 1. Artificial intelligence and corporate decision making, then promote SGD and CSR that leads to sustainable decisions informed by AI which leads to mitigating risks associated with AI. Then that goes to risk-based regulatory approach, AI as a common good and this leads to a harmonious approach and then AI as a common good. So, to conclude, in this module, firstly we have focused on navigating the landscape of CSR and corporate law. Secondly, we have studied, we have studied how AI is reshaping corporate governance and CSR practice. Further, we have studied how AI contributes towards sustainable decisions.

And lastly, we have discussed what is risk-based regulatory approach and the principle of proportionality and gradation of regulation. And these are the 6 sources from which the material for this module was taken. Thank you.