

Artificial Intelligence: Implications for Consumers

Introduction

When most of us think about Artificial Intelligence (AI), our minds go straight to cyborgs, robots, and sci-fi thrillers where machines take over the world. But the truth is that AI is already among us. It exists in our smartphones, in fitness trackers that measure our heartbeats, and refrigerators that tell us the expiry dates of our stored foods or the weekly grocery shopping list. It can drive cars, trade stocks, and shares, translate across different languages, recognize human faces with more accuracy than we can, and create original hypotheses to help discover new drugs for curing diseases.

In this way, AI is closely linked with consumer welfare. Consumer welfare means maximisation of consumer utility within the constraints faced by the consumer in terms of income, availability of goods, access, etc.¹ AI maximises consumer welfare by reducing the effect of these constraints through increasing efficiency and reducing time spent on certain activities.

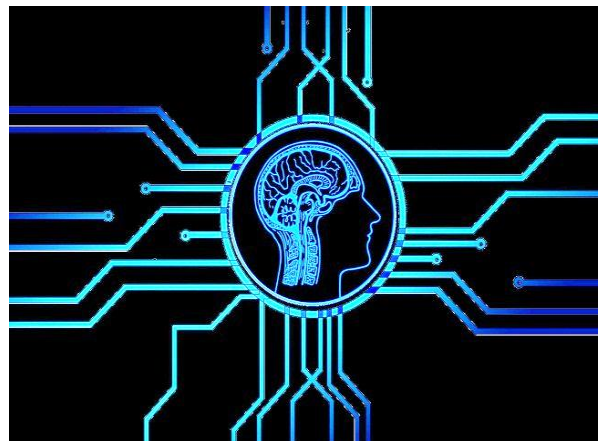
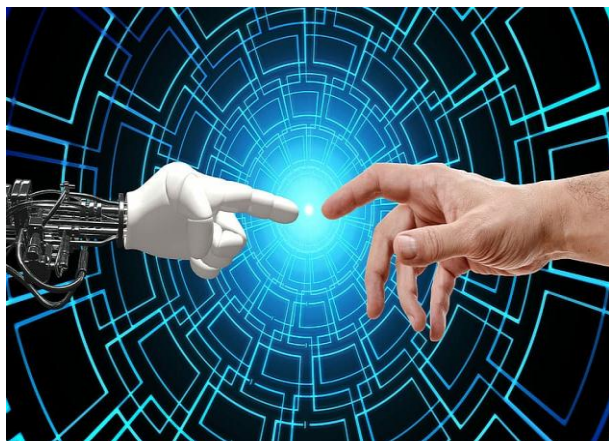
The advance of AI technologies has brought with it many benefits for consumers, in the form of new or improved products and services, 'more intelligent' and faster delivery, reduced search and transaction costs, and increased safety. Alas, the discourse on AI has been captured by concepts, such as bots surpassing human intelligence, ethical use of AI, and

algorithmic bias. At the same time, the potential of AI in empowering consumers must not be lost sight of. A recent paper by Giuseppe Contissa *et al* has done a huge service by bringing this issue into the limelight.²

The use of AI is increasing by 25 percent every year globally. Most rapid adoption has been in developing economies being led by China.³ Current AI use cases in India can be categorised into five key areas related to sustainability:⁴

- Agriculture: Precision farming is the most prominent among these. It uses AI and IoT sensors to ensure that soil and crops receive exact levels of irrigation and nutrients for optimum health and productivity
- Energy: AI solutions for the energy sector seek to improve energy efficiency by monitoring distribution networks and providing predictive analytics on energy consumption. India suffers from one of the highest levels of electricity transmission and distribution (T&D) losses globally
- Water systems: The Central Water Commission (CWC) has partnered with Google to develop early warning systems for floods in India.

However, consumers and consumer organisations are getting increasingly concerned over the possibility of design or learning bias,



manipulative tactics and collusive practices enabled by AI, as well as the privacy threats that AI technologies pose to us.

Unfortunately, there remain significant knowledge gaps amongst the general public (the consumers) regarding these likely detriments, especially in developing countries where the prevailing level of education and awareness is not high. Also, consumers lack the necessary competencies/skills to make the best use of what AI-embedded products and services have to offer.

All the same, even the policymakers and regulators in most countries, including advanced countries, are also struggling to build and update their respective legal and regulatory frameworks to deal with AI. The Governments' AI Readiness Index 2019,⁵ ranked India 19th while no African country is ranked in the top 50.⁶ This points to the relative lack of relevant and predictable policies, legislations and implementation strategies. This gap in institutional capacity increases the risks that AI negatively affect consumers in developing countries.

Thus, there is a need for a bottom-up approach to leverage AI for Indian consumers. Can AI-powered privacy labels be designed that can

present the most important terms and conditions, depending on consumers' likely profile and behaviour, in a format preferred by them, thus facilitating informed decision making? Can privacy policy reviewing tools automatically alert regulatory agencies of unfair terms to overcome consumers' lackadaisical attitude in enforcing their rights and filing grievances? Customised solutions contextualised to meet specific needs can go a long way in empowering Indian consumers⁷.

Thus, this paper seeks to analyse the benefits and costs of AI as a socio-technological practice⁸, having implications in political, social and economic activities around the world affecting consumers and consumer protection. For this, the paper provides a brief overview of the concepts associated with AI and then dives into the benefits derived by the consumers from AI by increasing their efficiency and making day to day tasks easier.

The paper further highlights the risks and challenges of the use of AI such as bias, privacy, manipulation and price differentiation. Based on the analysis of the benefits and risks, we arrive at recommendations that can maximise the benefits of AI in a fair and just manner.

Artificial Intelligence and Other Related Concepts

Artificial intelligence: There is no accepted definition of artificial intelligence (AI). Professor Nilsson, from Stanford University, describes AI, and intelligence, as follows: “Artificial intelligence is that activity devoted to making machines intelligent, and intelligence is that quality that enables an entity to function appropriately and with foresight in its environment”. At the ITU’s AI for Good Summit 2017, AI was described as: “... a set of associated technologies and techniques that can be used to complement traditional approaches, human intelligence and analytics and/or other techniques.”⁹

The machines are now programmed to ‘think’ like human beings and mimic the way humans act. The unique characteristic of AI, which makes it different from conventional software programmes, is its ability to learn and rationalise *on its own*, and then, where required, take actions that have the best chance of achieving a specific goal. On the contrary, with a conventional software programme, the developer is obliged to define all the ways the programme could follow during its life to solve specific problems.

A relevant concept, within the AI domain, would be machine-learning, a terminology already coined in 1959.¹⁰ Colloquially, this means giving computers the ability to learn without being explicitly programmed.¹¹ Machine-learning is the key technology that enhances the functionality of products and services and converts them into what is often described as ‘smart devices’.

Products and services that were known before now have enhanced functionalities while other devices or services that did not exist previously have emerged. Machine-learning applications can be found in our smartphone and tablet keyboards that recognise our typos; they are used in voice-recognition applications such as voice-controlled personal assistants such as Amazon Echo; they turn on our vacuum cleaner robot when we are in office, and switch the light on in our house automatically when we are home. Machine-learning or AI powers the Internet of Things (IoT) and a variety of services and applications.

For a computer software programme (the algorithm) to evolve (learn), it needs to be exposed to large data sets to ultimately be able to process unknown sets of data and make predictions on that basis. Depending on the complexity of the task or the pattern, large data sets are required to train the algorithm. These



data sets are usually referred to as training data.

The training data and the data finally analysed are usually referred to as 'Big Data' – a *very large volume of data*, so that patterns can emerge while it is being analysed. Furthermore, whose analysis is so *quick* that it can happen in real-time, the *origins* of which are extremely diverse and whose *analytics* is being used to make predictions (based on data from the past).

There exists a certain degree of inseparability between AI, big data, machine learning and the IoT, as all these concepts are applied together to optimize processes or to undertake new kinds of actions by machines to enhance consumer experiences. AI cannot work well without a massive amount of data and a high level of computational processing capacity. This explains why AI's growth had been constrained until recently although as a field of study it has been around for close to 60 years; the shortage of data for much of that period, combined with limits in computational power.

Today, with the explosion of the World Wide Web and social media, and the relative ease and affordability of Internet connection, the amount of data being generated and information being recorded has got a quantum leap, setting the stage for AI to become a disruptive force across the global economy. The onset of 5G and Quantum Computing would only accelerate this phenomenon.

According to a PwC report, AI could contribute up to US\$15.7tn to global gross domestic product (GDP) in 2030, with US\$9.1tn coming from consumption-side effects and US\$6.6tn coming from increased productivity. For



context, that would add about 14 percent to global GDP, or more than China and India's combined output.¹² AI applications seem to have infiltrated every aspect of society, from industrial automation, autonomous vehicles, to healthcare (robot-conducted surgery, virtual nursing systems, etc), consumer retail and e-commerce (recommendation systems, predictive shipping, dynamic pricing, etc), financial services and banking (decision support system, automated decision-making system), smart devices and digital assistants.

We can also count headlines about the use of AI in conflict zones, in the immigration determination process, in discovering and tracking online criminals, and even in creative processes such as art-making and scientific invention.

Current Application and Potential Benefits for Consumers

The benefits are many. The experiences of the consumer concerning the benefits derived from AI can be classified into three broad categories based on their interaction with AI-enabled services. Further, technology is increasingly

being used by the government and regulatory institutions.

Direct Interaction with AI-Enabled Services:

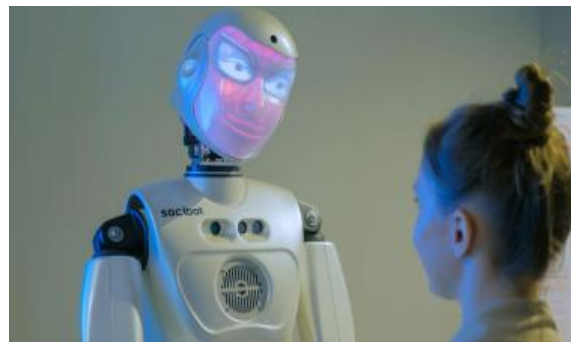
Technologies and applications, such as voice recognition, facial recognition, and speech-to-text and text-to-speech conversions can support people making the day-to-day functioning simpler and more efficient. This is already being used in devices such as Alexa and Google Assistants. Apart from the benefits that consumers already derive, these technologies are also expected to not just act as facilitators but also to take over major responsibilities such as financial advisors and tax preparers.¹³

Background Functioning of AI through

Improving User Experience: AI technologies in commerce helps to increase general efficiency by matching supply to demand. Search engines, price-monitoring, and price-comparison tools help consumers to reduce search and transaction costs, easily compare complex offers and pick the best deal. AI-powered applications also have enormous potential to bring consumers new products that are tailor-made to their needs, more convenient, and time-saving.

AI-enabled Machines: Many daily use appliances are now AI-enabled, to make them more efficient. For example, a vacuum cleaner robot or the smart plant watering system (both already exist and are being widely marketed) liberate consumers from household chores and give them time, which consumers can use productively elsewhere. Smart home systems are being deployed to provide specialised care for the elderly.¹⁴

For normal consumers, such systems offer the potential to optimise energy use and lower the utility costs (e.g. smart lighting and air-conditioning systems which automatically detect that they can go into suspend mode because



nobody is home, and thus the efficiency and sustainability of the devices are increased).

Service Delivery by the Government: The usage of AI is not just limited to technology companies and commercial services, governments around the world are framing policies to capitalise on it for effective delivery of public services. Such initiatives have already begun specifically for access to education, healthcare, and the agriculture sector. For example, a joint project is being undertaken by the Indian government and Microsoft in Karnataka. Under the project, an AI software is developed which informs farmers of the best date of sowing crops in a particular season. Similar projects are also being undertaken in other countries, such as Brazil and Iran.¹⁵

Use of AI for the Consumer Protection:

Furthermore, a PwC report focusing on exploring the realities of AI in India indicated that consumers believe AI systems will be much more effective for customer care services.¹⁶ Similarly, to the benefits of individual consumers, AI can also facilitate consumer protection in general by improving the work of consumer organisations, research, and regulatory authorities. Market studies and forecasting might be facilitated with improved accuracy. Enforcement entities could also use AI systems to, for example, automatically screen consumer contracts and alert consumers about potentially unfair terms before they make an online purchase.¹⁷

Challenges and Risks

But along with the benefits come challenges and risks. The first thing that comes to mind when we talk about AI and consumers would, of course, be issues related to:

Data Protection and Privacy: AI systems require huge quantities of training data as inputs. To generate big data sets, consumer data are continuously collected by on-line and off-line consumer behaviour tracking, stored and merged with other data sources, and processed to elicit further information about consumers through profiling.¹⁸ But given the novelty of issues such as discrimination, bias, manipulation that may arise from the use of AI, the public is largely unaware of the rapid growth of the data industry and the extent to which their personal information has become a commodity that is transferred among private and public entities.

Even more significantly, the average person has little understanding of exactly how much information about herself/himself is being collected by third parties or how private companies and the government have begun to use this data.

Huge databases have been and are still being created by recording the online actions of individuals. These sets of data typically contain information about individuals' transactions, email, video, images, clickstream, logs, search queries, health records, and social networking interactions.¹⁹ Secondly, consumers' personal information could also be gathered and compiled from a variety of offline sources: public records (e.g., criminal records, deeds, corporate filings), retailer's sales records, credit agencies, hospitals and clinics, etc.

Finally, incredible amounts of information are being collected from the ever-growing number

of smart devices like cell phones, security, and traffic surveillance cameras, global positioning satellites and other specifically AI-driven devices like Alexa or google assistants that can record and transmit information. After the authorised or unauthorised collection of consumers' personal information, another most commonly raised concern is the increased risk that this information could be inappropriately accessed or disclosed to third parties. Harmful data leaks could occur in two contexts.

The first is situation where the data-possessing entity intentionally shares personal information in a manner that insufficiently protects individuals' privacy.²⁰ The second is a situation where the data-possessing entity fails to implement sufficient safeguards and a third party can obtain access to the information they have stockpiled.²¹

Data Protection and Privacy Risks

- According to the Privacy Rights Clearinghouse, 7,859 data breaches have been made public since 2005, exposing billions of records with personally identifiable information to potential abuse.²²
- According to a report by the Data Security Council of India, the country has faced a second-highest number of cyber-attacks between 2016 and 2018.²³
- Similar concerns have been raised in Africa, where countries are severely affected by cyberattacks, which are increasingly causing losses to e-commerce companies in the region and putting privacy at risk.²⁴

The most concrete harm that could arise from data leaks and breaches is probably identity theft. According to the US Bureau of Justice Statistics, identity theft affects 17.6 million (7 percent) of all US residents aged 16 and older.²⁵ Consistently, identity theft is one of the biggest consumer-complaint categories in the US – first in 2014, second in 2015 and third in 2016. In 2016, identity theft accounted for 13 percent of consumer complaints, trailing behind debt collection (28 percent) and imposter scam (13 percent), all of which could feed on lost personal data.²⁶

Mobile applications have also got access to some of the most private aspects of consumers', leaving their privacy open to harm. Amazon's Alexa has been found to record private conversations and sending them to random contacts.²⁷ The same privacy risks are true for Google Assistant.²⁸ Furthermore, there is potential for new kinds of risks that might emerge through unethical use of such data like the creation of deep fake²⁹ and unsolicited accounts on social media. Recently, in Nairobi, a deep fake video of the president made through AI technology was circulated, after which a security advisory was released to avoid the circulation of unverified materials.³⁰

In such cases, AI presents itself as a double-edged sword as it poses the risk of both unethical collection and usage of consumer data. Then come other dangers such as stalking, blackmailing and bullying, both online and offline, because consumers' lives are no longer private.

Discrimination: There is also an increased risk of discrimination in the use of AI technologies in commerce, and other social and economic activities. Machines are supposed to take statistically-driven and objective decisions and actions, unlike those taken by human beings

which are bound to be influenced by emotions and prejudice. However, AI systems are only as good as the data we put into them.

Bad data can contain implicit racial, gender, or ideological biases. Many AI systems will continue to be trained using bad data, making this an ongoing problem. The other source of bias in the AI system is, of course, the algorithmic model.³¹ Discrimination in the delivery of advertisements, based on race and gender, has been documented. AI advertisement systems may only show advertisements to those consumers who have previously used a service or have opted for similar options based on the data fed into such systems, this would create a bias against those consumers who want might be new to such service or product.³²

Instances of AI-led Discrimination

- On March 27, 2018, the US National Fair Housing Alliance and three other organisations filed lawsuits against Facebook alleging Facebook's advertising platform enables landlords and real estate brokers to discriminate against several classes of people preventing them from receiving relevant housing ads.³³
- A study led by Anupam Gupta at the Carnegie Mellon University Found that Google's online advertising showed high-income jobs to men much more often to women, thus creating a bias towards men.³⁴
- The Dutch Data Protection Authority found that Facebook lets advertisers target people by labelling their sensitive characteristics like sexual preferences which are deduced through the stream of data that is collected on individuals.³⁵

Discrimination might also occur in automated decision-making processes powered by AI. In financial services, individuals' creditworthiness has traditionally been made using a transparent process with defined rules and relatively limited data sets. This transparency, however, may not always be achievable when AI drives big data. As AI is incorporated into financial operations, institutions run the risk that their algorithms may inadvertently make biased decisions or take actions that discriminate against protected classes of people leaving financial institutions accountable, even if the alleged discrimination is unintentional.³⁶

These concerns become more pertinent for countries which have diverse population belonging to a different religion, ethnicity as well as economic classes. As the training data provided for AI might be marred with a history of discrimination that exists within the social structures leading to prolonging the discrimination through technology-driven services.

Price Differentiation: With big data and AI, companies now can precisely assess one's willingness to pay for a given product. Arguments have been raised that doing so increases efficiency. But what if there are non-economic motivations at play as well? What if a company, say an airline, wishes to exclude members of a particular ethnic or religious group from its services, by selectively raising its



prices? Because it believes that such an action will increase the value some other consumers attach to it and ultimately increase the gains?

Example of AI-led Price Differentiation

Princeton Review a company in the US, charged different prices for its online tutoring services according to the race of people. Asians were charged more for similar services. This happened because the training data provided to the system were from areas where the density of Asian students was higher and they were willing to pay more. So although not intended by the company there existed price discrimination for the services offered on the platform.³⁷

With AI, big data and personalized commercial practices, companies can know what characteristics each consumer has, what their willingness to pay is, and display them a price higher than they can afford. Even in the best scenario, where companies do not intend to discourage some of us from buying their goods or using their services by selectively showing prohibitively high prices, consumers might be forced to pay the highest price they are willing to pay because that lies at the heart of dynamic pricing. This is now already happening online and with advances in face recognition and emotion recognition technologies, it might soon happen offline as well.

Manipulation: With systems fuelled by big data and powered by AI technologies, businesses now understand consumer preferences and behaviour better than the consumers themselves. The ability to display personalised commercial practices like advertisements, offers and suggestions (such as "you might be interested in this product", "others like you also

bought this service”), also called the recommendation systems, might sometimes be good for consumers.

But it also carries a risk of undue influence. AI systems can use Big Data to anticipate consumer behaviours and to try and trigger desired reactions. As a result, consumers can be outwitted, manipulated, and induced into suboptimal purchases or other unwitting choices. Consumers themselves are realising that such targeted advertising is leading them to over-shop and nudge them to buy things that they might not need or instigating addictive behaviours towards online shopping.³⁸

Loss of Control by Consumers: Critics have pointed out that, while our smart devices are designed to make our life easier and healthier, they are also capable of working toward several micro and macro goals that benefit their makers/designers rather than the user – even if it is the users who own the smart devices in question.³⁹ Examples include perpetrators using the ‘Find My iPhone’ app to track a partner’s location or purchasing a smartphone for a girlfriend or spouse and then controlling how and when they use it.

Furthermore, Intellectual Property Rights (IPRs) are becoming important, as more and more products rely on software (e.g. cars). Today, key parts of what makes the product function is now licenced to consumers, and thus, covered by different terms. These licenses may limit how long products are supported for, disable certain features without notice, etc. In this context, copyright rules and their implementation via Digital Rights Management (DRM) is likely to become a major consideration for consumers’ everyday lives. Already, it is eroding the traditional concept of consumer “ownership” of a product.

Example of AI-led Loss of Control by Consumers

In May 2018, in the first case of its kind in a UK court, a husband was convicted of stalking after he spied on his estranged wife by hacking into their smart home hub, installed in the kitchen. Using a mobile app, the perpetrator logged into the audio facility on the iPad system display and listened in as his spouse confessed to her mother that she no longer loved him. Moments later he was at the door, confronting her about what she had just said. While there was no physical harm caused to the victim, it points to the risk associated with the IoT devices.

Market Collusion and Concentration: The nature of AI technologies makes AI-driven markets very prone to collusion and market concentration, ultimately resulting in loss of choice and higher prices for the end consumers. Studies also talk about M2M (machine-to-machine) communications and self-learning algorithms figuring out ways to coordinate prices without their developers/users being aware of it; or how the increasing use of pricing algorithms combined with growing market transparency could result in tacit collusion.⁴⁰



Example of AI-led Market Collusion and Concentration

In 2015, David Topkins pleaded guilty in a San Francisco federal Court to the rigging of prices for classic cinema posters sold through Amazon's online market place. Even if the crime seems unremarkable, Topkins' method was revolutionary: he manipulated the market by programming customised algorithms to keep prices artificially high. Once his rivals agreed to the plan, the algorithm automatically maintained what prosecutors called "collusive, non-competitive prices" on printed wall art.⁴¹

The development and implementation of specific AI applications can also be subject to economies of scale (e.g. high fix costs of collecting training data and training AI applications) and vertical integration. Learning effects can benefit large enterprises and early adopters when AI systems improve due to being applied in practice (e.g. the Netflix recommendation and personalisation algorithms improve with the number of user interactions⁴²) resulting in the markets getting more and more concentrated.

On the other hand, due to particular combinations between hardware and software, or between a particular product and its attached services, it is easier to lock consumers into a manufacturer's product(s) or into a closed ecosystem that lacks interoperability or application programming interfaces (APIs). Consumers might, therefore, be faced with less choice and as a result, price increases due to less competition in the market, as well as the inability to use independent providers or repair services or combining different tools and devices according to their choice.

Conclusion and the Way Forward

All the consumer risks we discussed above about the use of AI technologies lead to another set of challenges, which is how to regulate these markets and how to protect consumers therein. Up until now, the primary rationale for having laws and regulations in place has been to guide human behaviours. The subject of regulations, therefore, is human, and in the context of consumer protection policy and law, the purpose of regulations is to protect consumers (human) against unlawful behaviours by businesses (human). That leads us to the confusion of which law, and how the law would apply where machines are involved.

For example, can we realistically appeal an AI-made rejection of our mortgage application, or who is responsible for accidents caused by autonomous vehicles? How do we even see that there is discrimination in ad delivery? How do we know that consumers are shown aggressive ads if they are only visible to them on their smart devices? Which one do we hold responsible for algorithmic price-fixing, the bots that talked to each other, the engineer who wrote the code, or the businesses which own the machines? How do we make the AI-powered applications law-abiding by design? How do we oversee them? Existing regulatory systems around the world have proven inadequate and/or outdated in dealing with all these questions.

New regulations are being put in places, such as the legislation protecting consumers' data ownership and privacy, but they are only scratching the surface of the matter. On the other hand, we should also be mindful to strike a good balance between hard regulations, prohibitions, obligations, blacklists, etc. and



enabling technologies, AI included, and good-faith companies to benefit consumers. Regulation should be innovation-promoting and not innovation-chilling.

Given the lack of awareness across the board, including consumers, about what AI and other related concepts are, what are the potential benefits, and what are the inherent challenges and risks, it might be over-simplistic just to urge the consumers to be more vigilant, and to conduct more consumer capacity building and advocacy. Our initial recommendation is to adopt a multi-stakeholder, interdisciplinary approach for consumer protection in the age of AI. Additionally, we also recommend exploring the role of AI to enhance consumer protection.

Designing a Multi-Stakeholder Approach

To figure out what may work best in the future, we need to have the viewpoints and contributions from different stakeholder groups. Engineers may have an idea about what concepts like “justice” or “fairness” mean, but there is a high chance that this idea differs from those shared by the society, or enshrined in the law. Legal scholars might have an idea about how to mitigate certain problems, but there is a high chance it is practically inoperable. Policymakers might think they understand the business’s way of thinking, but there is a high

chance that entrepreneurs would be surprised when hearing about it. The absence of a collaborative approach to the adoption and application of AI is one of the key challenges identified by NITI Aayog among several other barriers.⁴³

To move forward, each group needs to be forthright with their ideas, acknowledge their limitations, and be willing to listen to other people in a mutual dialogue. It is only then that we might be able to work out the answers to all the aforementioned questions. This multi-stakeholder approach must focus on aspects of privacy by design, ethical practices within AI formulation and application and extension of non-discriminatory law in the functioning of AI.

These aspects need to be considered and deliberated upon by companies using AI, civil society, consumer research organisations, and regulatory institutions.

- **Privacy by design:** As countries all around the world adopt data protection legislation, inculcating privacy by design principles within them can nudge technology companies and AI-driven startups to design AI systems that adhere to data protection principles. Privacy by design works on a basic principle that the default setting within

an AI machine or software would be to protect privacy as soon as the data is collected.⁴⁴

This is significantly important in cases where consumers are not given an option to opt-out of sharing their data. Another important principle of privacy by design is transparency. It can be achieved by designing AI with an embedded mechanism through which consumers can be informed about how their data will be collected, processed and used. Although acceptance and understanding of these principles are crucial for engineers who work on developing AI.

Thus, a multi-stakeholder dialogue, with engineers and technology companies as participants will also bring to the table any constraints which such design might impose for innovation. At the same time, this enhances their understanding of consumer perspective and makes them aware of the risks and challenges that consumers face through using AI-driven services. This would help in evolving privacy by design principles for optimum benefit to consumers.

- **Ethical use of AI:** There is a need for discussion regarding ethical complications of bias, manipulation, discrimination and other unethical purposes in the use of AI. The adoption of principles for the ethical use of AI by technology companies can be a start for building strong legal frameworks for consumer protection.

One such initiative which pushed for the ethical use of AI is Project Maven Saga, which was started against the use of AI

developed by Google in machinery and equipment used in warfare. The activists moved a petition against Google's decision which was signed by 3000 Google employees.⁴⁵

As ethical consideration may vary across sectors, a multi-stakeholder approach will give a platform for representation to civil society and consumer rights organizations across sectors like finance, healthcare education, etc. to take charge to develop guidelines or norms for the ethical use of AI. Some of these initiatives have already been undertaken which has resulted in the formulation of Asilomar AI principles⁴⁶ and 10 ethical principles of AI by UNI Global Union etc.⁴⁷

- **Non-discrimination law:** There is a need to extend the application of existing non-discriminations laws to indirect discrimination or new classes of biases that might be created through AI. For this, a multi-stakeholder consultation will give insights into the existing and potential cases of AI bias through which flexible application of non- discrimination laws can be developed.

This would give consumers a mechanism through which they can lodge complaints and seek redressal till the time new legal frameworks for the regulation of AI can be formulated.⁴⁸ This could be done by adopting broad guiding principles instead of specific classes of discrimination based on religion, gender, caste, etc.

Use of AI for Consumer Protection

While the paper highlights the risks and challenges posed to consumers, we must aim to establish future building blocks on the optimum use of technology. As earlier pointed out consumers consider that the use of AI in customer care services might enhance their efficiency and increase accuracy. Furthermore, AI has proved to be beneficial for recognising contracts and policies which are biased against consumers.⁴⁹

Such pre-screening might be beneficial in developing economies where consumers might be incapacitated to understand the nuances and legalese within such contracts and policies. For this, consumer rights organisations and civil society must come forward to recognise the areas where AI can be used to empower consumers through AI for providing consumers information about their rights, alerting them about data breaches etc.⁵⁰

Endnotes

- ¹ See <https://stats.oecd.org/glossary/detail.asp?ID=3177>>
- ² Giuseppe Contissa et al., "Towards Consumer-Empowering Artificial Intelligence," International Joint Conference on Artificial Intelligence 2018, 5150–5157., downloadable from www.ijcai.org/Proceedings/2018/0714.pdf, accessed on March 18, 2020
- ³ "Survey: AI Adoption Proves Its Worth, but Few Scale Impact | McKinsey" (McKinsey, 2018), www.mckinsey.com/featured-insights/artificial-intelligence/global-ai-survey-ai-proves-its-worth-but-few-scale-impact>.
- ⁴ <http://library.fes.de/pdf-files/bueros/indien/16723.pdf>
- ⁵ The 2019 Government AI Readiness Index, produced with the support of the International Development Research Centre (IDRC), sees a development of the methodology, and an expansion of scope to cover all UN countries (from our previous group of OECD members). It scores the governments of 194 countries and territories according to their preparedness to use AI in the delivery of public services.
- ⁶ See www.oxfordinsights.com/ai-readiness2019
- ⁷ www.livemint.com/Opinion/ruTtZ4WxAMoWJyJdKJuOEJ/Opinion--The-potential-of-AI-in-empowering-consumers.html
- ⁸ Marco Lippi et al., "The Force Awakens: Artificial Intelligence for Consumer Law," *Journal of Artificial Intelligence Research* 67 (2020): 169–190.
- ⁹ https://www.itu.int/en/ITU-D/Conferences/GSR/Documents/GSR2018/documents/AISeries_IntroductoryModule_GSR18.pdf
- ¹⁰ Arthur Samuel coined the term, while he was working the project of 'alpha-beta pruning' in 1959, See <<https://webonline.international/blog/index.php/artificial-intelligence-ai-visionary-arthur-samuel/>>
- ¹¹ A.L. Samuel, *Some Studies in Machine Learning Using the Game of Checkers*, IBM Journal, July 1959, downloadable from <https://ieeexplore.ieee.org/document/5392560?reload=true>
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- ¹⁴ Forbes, *How is AI Revolutionising Elderly Care*, downloadable from www.forbes.com/sites/shouriyasanyal/2018/10/31/how-is-ai-revolutionizing-elderly-care/#4de412d1e07d

