Global regulation of AIT development and use is both essential, but also impossible to achieve. Critically discuss this statement, with reference to existing efforts to regulate AITs

1   Introduction

As AITs are developing and becoming ever more advanced, there have been increasing calls for their regulation. Recently, countries have started to turn their attention from the creation of AITs to their regulation, with regulation best described as intentional attempts to manage risk or alter behaviour to achieve a pre-specified goal[1]. This has generated a range of different regulatory approaches along with different levels of regulation; with some, such as the EU, attempting to create regulation via a centralised approach[2, 3], whereas others, such as the UK, are pursuing a decentralised approach[4], and others are following a more laissez faire approach relying on self-regulation, as appears to be the case with the US[5]. When creating regulation, a broad range of domains have to be considered as well as the different factors which affect it[6], with the regulation needing to balance a government's responsibility to ensure society is able to succeed[7].

While attempts are made to regulate AIT development and its uses at the national level, considerations need to be made about whether AITs also need to be regulated globally. Here global regulation is considered to be a concerted effort to create a uniform regulation at a global level. Here we attempt to discuss whether global regulation is needed to regulate the development and use of AITs by initially considering our relationship with them, as well as the effects that they can have on us, we go on to consider who creates AITs and how this affects the need for global regulation and whether soft laws are sufficient; finally we consider how regulation needs to have forethought as well as why regulation may not be needed due to regulatory convergence. We will then attempt to consider why the global regulation of AITs may be impossible considering how regulation requires transnational cooperation with nations having different agendas, as well as the limitations of soft law for global regulation; we will then finally consider whether the 'cat is out of the bag' in terms of access to AITs preventing there from ever being effective global regulation.

2   Why global regulation of AIT development and its use is essential:

While regulation in general is needed, it is essential that this regulation is global in nature, as it determines the relationship that is had with AITs. It is important that this relationship is determined on the global stage as AITs fundamentally change the society in which we live, as previously seen with other technologies[8], with some of these changes being both beneficial and harmful. It is likely that one of the biggest changes which will be seen in society is the way in which people work; with it projected that AITs will create large levels of job losses[9]. Different groups have different estimates as to what scale this would be, in each case they also

predict that there will be an increase of work in different areas[9]. However, the jobs which are created are likely to be of low quality, such as those offered by Amazon's 'Mechanical Turk', relying on 'micro-workers' that are often poorly paid and could be anywhere in the world[10]. As predominantly lower skilled work is replaced increasingly by automation through AITs, the lack of jobs and the increase in workers is likely to drive down wages as well as the workers' rights, potentially leading to a depression the likes of which have never been seen before[11]. The ecological effects that AITs have also need to be considered[12], this would be best achieved through global regulation as the development and use of AITs is often global in nature. So, if a single country attempts to introduce regulation, it can easily be ignored with the AIT development moved to another part of the world due to regulatory arbitrage.

While AITs have many benefits, regulation is needed due to the potential risk of harm when such systems go wrong[13]. This is especially important as people are often happy to adopt AITs without considering the potential issues produced through their development and use[14]. In the absence of regulation there may be little scrutiny as to how such systems work or are applied, with the relevant ethical issues often being ignored as they can often be seen as an afterthought[12], allowing AITs to potentially infringe on the fundamental rights of the individual[15]. For instance, this is seen when social media algorithms have been manipulated for the purpose of 'nudging', as done in the 2016 US election[16]. As such global regulation is needed to build trust in such systems by dealing with the issues of bias, discrimination, fairness, privacy and accountability[13], especially as regulation may not be enforced if it doesn't affect a country's citizens[13].

As most AITs are produced in the private sector, they are generally developed so as to benefit the companies which develop them[8]. Adding to this, AITs are often black-boxes, with the inner working of such systems rarely seen or held to account; this is often justified as these systems are seen to be intellectual property or in some cases important to national security[17]. As Ziewitz[6] suggests, this may not be a problem as the part of the AITs which impact people is the output, therefore regulation should consider this to a greater extent than the inner-workings of such a system. However, as the systems are often developed in private, by only regulating the outputs we would potentially be neglecting a large number of potential problems[8], such as the handling of data. As Birhane[14] suggests, those that are developing such systems could lose sight of the individuals behind that data, especially as people are often more than happy to accept the AITs into their lives and have little understanding of how their data is being used. By considering only the outputs we not only neglect to consider the unintended consequences that the inner workings of an AIT can have, but also this can lead to failure to consider how AITs are produced, especially its impacts on labour conditions[10] and on the environment in which it is produced[18].

Recently the private sector has produced ethics codes, such as that produced by IEEE[19], in an attempt to self-regulate in the absence of any hard laws. While this may allow the regulation to be tailored to specific sectors[20], it can also create problems with regulatory arbitrage with companies being able to select the codes which best suit their needs[21]. Though there is no enforcement mechanism for such regulation it has been suggested by Wischmeyer[22] that such regulation is 'socially sanctionable', preventing the need for regulation to be imposed. However, it has been seen that self-regulation can have little effect, as people can easily ignore it[12]. Thus government intervention is needed in the regulatory process, especially as even if a company introduced self-regulation, there is no accountability for the self-regulatory process as they control it themselves, as is seen with Twitter regulating their own content[23].

The nature of any regulation created needs to be considered, as parts of its role is to determine how AITs work and who they work for[24]. This is particularly important as any proposed regulation needs to have forethought when created, as it needs to be able to deal with uncertainties arising as new AITs are developed, especially as AITs go from being

designed for specific applications to those created for general application (artificial general intelligence)[13]. Thus regulation is needed which puts the individual first as they often do not understand what they are interacting with, or how it is using the data they generate[10]. This is best achieved through global regulation, as if countries create their own regulation, this has the potential to create regulatory arbitrage.

While global regulation may be desired, Smuha[15] suggests that it may not be needed, as instead of the expected 'race to the bottom' for regulation, there will be a 'race to the top'. Although regulation may impose more conditions on the development and use of AITs it allows them to be more competitive, as if they are developed in the country which initially imposed the regulatory conditions they will not have to play catch up as other countries create similar regulation[15]. The beginnings of this have already been seen with the introduction of GDPR regulation by the EU, as it is making companies in other countries follow it if they want to operate within their borders[21], leading to the beginnings of regulatory convergence preventing regulatory arbitrage[15]. However, the resulting regulation may not be that which is desired, as those with more power and influence drive the direction which regulation takes[25].

3 Why global regulation of AIT development and its use is impossible:

The creation of global regulation is inherently political, relying on the convergence of interests between multiple different countries, with the requirement for them behave rationally, trustworthily and in a public-spirited way[25]; thus creating functioning regulation is extremely difficult. While countries may promote initiatives for the responsible development of AITs they may well also go against them, as seen by the fact that China is suspected of going against the International Code of Conduct for Information Security(UN 2011) which it has promoted[26]. As AITs are constantly becoming more advanced, in many cases where a country is seen to be technically superior, while regulation may be wanted by others they are often opposed to it[27]. This has been seen with LAWS (lethal autonomous weapons systems) whereas some countries and regions such as the UK[28] and EU[2, 3] have banned them, other countries, such as China, would only like there to be a ban on their use but not their development[26]. This could lead to countries developing such systems in fear. While creating a consensus on LAWS may be possible for regulation, current differences in the approaches which countries are taking to AITs and their place in society will be a greater hinderance to global regulation. The EU has proposed a regulatory system based on risk[2, 3] which is at loggerheads with the place the Chinese government feel AITs should have, as is seen with the EU proposing banning systems such as China's 'social credits system'.

As global regulation often requires multilateral agreements this can lead to inflexibility due to the need for agreement between all those participating[15]. This is compounded by the issue of 'breadth vs depth', where as many participants as possible are wanted, but with sufficient depth of regulation also required to make the regulation meaningful, this goes back to the issue of political differences[15]. There have, however, been successful examples of global regulation which are wide-reaching and with sufficient bite that people do not want to cross them, such as the WTO which regulates trade[27]. Such regulation is achieved through a process of 'trial and error' as the best form of regulation is initially unclear due to there being a lack of information[15], with it taking time for the best regulation to emerge, this becomes a problem due to the speed at which AITs are developing[27, 29]. This, combined with the lack of a set definition for AITs and the fact that they often have dual uses, makes global regulation difficult which if rushed poor regulation may be created and this could arguably

be worse than no regulation[27].

Regulating at the global level through soft law, while this may be seen to bring in an element of regulation to the development and use of AITs, as a method of global regulation, it also has some fundamentals issues. The primary issue is that there is little to no oversight, which is needed for any regulation to work[1]. As soft law methods often have no enforcement mechanisms, they have little or no effect on the way in which AITs are developed as they are easily ignored[12]. This is compounded by the fact that AITs are generally developed behind closed doors making it hard to enforce existing regulation even if it is enforceable[12]. When companies operate across borders this can become near impossible, especially as companies will make use of the regulatory arbitrage by moving to regions where the regulation is more favourable to them[21]. AITs often behaved as black-boxes as they are seen as IP, as well as being complex systems with multiple parts making them opaque, meaning that when they go wrong, often it is missed and only picked up by the regulation when someone finds something unexpected[24, 29], as seen in the VW emissions scandal[29].

However due the innovations in AITs, regulation of any form may not be as effective as desired, or at all, as the barrier to accessing such systems is decreasing[29]. This allows greater numbers of people to access and develop AITs, with them potentially being developed outside of any regulatory framework, and with potential outcomes being impossible to control[29].

4   Conclusion:

It has been seen here that as AITs take an ever more prominent the place in society how this is regulated has to be considered, as they have global impacts this would best be done through global regulation. It is also seen that global regulation needs to come through some form of multilateral agreement, as while there are attempts at global self-regulation being made by the private sector, through the use of ethics codes, soft laws can be easily ignored, and if regulation is not global in nature, regulatory arbitrage can occur. We finally see that global regulation may not be needed as regulatory convergence may be occurring, however relying on this has its flaws as those with more power get to decide the direction which regulatory convergence is likely to take. As such it has been seen that global regulation of AIT development and its uses is essential.

It is also seen here that global regulation will be extremely hard to create as it relies upon agreement between multiple different powers each with their own agendas as to how AITs should be developed and used, creating issues with the breadth and depth of any regulation. As the development of AITs is progressing rapidly and the process of creating functioning regulation is time consuming, it is suggested that soft laws may be the way forward. However this creates problems with regulatory arbitrage, as well as the lack of accountability, as they are unenforceable. It is also seen that global regulation may be impossible, as the barrier to access AIT development is decreasing, allowing their development outside any regulatory framework. As such, although global regulation may appear impossible to achieve, it is possible that global regulation may still be possible through hard work and perseverance.

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