Automata in Information: The Scarcity of Knowledge

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Rationality is the ability to reason and make decisions based on your goals, short-term or long-term. With the contemporary ethics of technology and specifically, AI, it has been quite prevalent to argue the rational usage of AI within education and, furthermore, for undergraduates. There are many perspectives on how to decide whether AI is rational. One of the most prevalent topics is the social dilemmas that AI causes, which can be defined as a situation where individual self-interests conflict with the long-term goal of the group. First, we must define the two perspectives that should be taken into consideration when making decisions about the usage of AI. These two perspectives are *Bounded Rationality* (Simon, 1990) and the idea of *Scarcity Mindset (Mullainathan & Shafir, 2013)*. Simon (1990), the author of Bounded Rationality, as a stance on AI, would argue that the widespread use of AI would lead to irrational usage because of our inherently limited cognitive capacity and the heuristics of thinking that the first option is the best choice. Conversely, Shafir and Mullainathan (2013) argued that, due to the finite nature of resources, automating tasks could be a better choice, albeit with the disadvantage of the abundance of AI, which may lead to a power imbalance.

Simon (1990) describes *Bounded Rationality* as a social dilemma where decision-making is limited by constraints, time pressure, or incomplete information. He would say that, because of this, we could not maximize AI outputs and interpret them to the fullest extent. This is supported by Schwartz (2004) argues that an eclectic and abundant amount of outputs would lead to an overall lower quality and less satisfying piece of work. They say we must uphold the shared "commons", which can be defined by Hardin's Tragedy of the Commons (1968), in other words, regulation to have rational use of AI.

The Scarcity of the mind would argue that AI is rational because it provides a more democratizing access to knowledge and information. The use of AI could solve problems for people with limited resources, like providing them with access to tools that they otherwise wouldn't have, such as the use of AI in Finance. Fintech and AI could help lead to implementations of chatbots that could give advice in finance and help people with a lower level of literacy. There is the risk of loan management and AI, where an AI could suggest a worse loan option for the individual, but overall beneficial (Elbæk et al., 2022).

With these two stances, let's take into account a *Utilitarian* point of view. A utilitarian is someone who would agree with anything that would lead to the greatest good for the greatest number of people. A utilitarian would most definitely agree that the use of AI would lead to the tragedy of the commons and overall make the group's long-term goal worse. The bounded rationality and heuristics associated with the basic human mindset would lead to irrational usage of AI and lead to lower-quality decision-making. They would agree that the current implementations of AI and its usage are very irrational and actually harm the group more than benefit. Individual AI usage may be beneficial for the AI, but as a society, it leads to poorer decision-making, and the heuristics associated with Bounded Rationality would lead to the irrational usage.

In my analysis, I do agree with both the utilitarian perspective and the Scarcity Mindset perspective. In other words, both are correct; however, there can't be two extremes rather than one perspective of regulation. AI cannot be eliminated because it is the future. With the advancement of technologies, there will always be a hole and an argument of why it should not be implemented, but as we get closer and closer to a society built upon technologies, it is inevitable. To prevent a dystopian-like society, we do need to argue for ethics and regulation, and

it should be clear that too much of one thing is bad. With each progression of technologies, there will be more jobs, more markets, and a better way of living. If we can implement AI correctly and efficiently with regulation, it can benefit society and outweigh the social dilemmas it causes. So I argue for a perspective that AI should be used because of our Scarcity Mindset, and that, because of the innate attributes of resources in our world, we should be using every tool to our advantage and this would overall propel society to be better. Now, it is not without saying that unregulated usage would be good. If one just took AI's response as literal every time, eventually our society would degrade, or there may be a power imbalance between those who own AI and LLMS versus those who do not. This perspective does not take a stance of either perspective, but it is in the middle more skewed to the right side of the Scarcity Mindset. For example, as a student and an undergraduate, I believe that unregulated AI usage would lead to a cheaper degree if every student just used AI on their homework because they wouldn't actually learn or apply anything. Hardship is what makes one learn. Now it isn't without saying that learning can be better and more beneficial with regulated AI usage. The accessibility of knowledge compared to a decade ago has significantly increased. Now, students don't even buy textbooks anymore; they read them online. AI giving students information is good, but as long as it's not the solution, so they can actually learn. An example of power influx would be companies using AI for their own sole purpose and greed. An example of power influx would be if AI were without regulation. If there were a significant amount of demand for LLMs and an overreliance on AI, companies that own the AI would have potential political power or a significant say in what people want to do. These dangers of AI need to be regulated, but AI should not be exterminated completely. A utilitarian would argue that it should be exterminated completely, but without AI, we couldn't advance technology as much as we'd like to.

In conclusion, there are two stances on the rational use of AI where one extreme, Bounded Rationality, supported by the Tragedy of the Commons, states that widespread use of AI would be irrational because of the heuristics and human behavior to tend to think the first option or the superior's option is the right choice. The other stance, Scarcity of the Mind, where AI should be supported because of our limited resources and, individually, support our decision-making process. A utilitarian viewpoint would argue for the extermination of widespread AI usage because of the human nature of heuristics. I would argue for the widespread use of AI with regulation and policies to ensure the quality of our decisions and the widespread availability of information to those who may not have access to any.

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