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Skriv IKKE her

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1.

Identify and discuss potential ethical challenges that these economists may encounter in their work.

Ontologically there are several ethical dilemmas facing the economists at amazon. The first of all perform trials on customers and employees often without customers being aware, or in the employee case the employee meaningfully being able to opt out. This violates the ontological principle of informed consent and agency lifted forward by Kant. He argues that we have to follow certain ethical rules, that we can derive from the categorical imperative. From this lens Amazon is deriving knowledge and through that also leverage through questionable research ethics, if we want to call what they do research.

We can also argue from a rule based utilitarian perspective that we may observe a trend where corporations use data to gain unfair leverage over its customers, that may be unable to switch due to monopolistic dominance in the case of Amazon as an example. We may question whether this trend in general is good for society and the social fabric, and hence weather practises that contribute to it, where the upside remain abstract or profit focused are ethically motivated. It is a more difficult argument to make because it requires us to recognise that monetary reward is a sometimes incorrect proxy for good economic behaviour since regulation around markets themselves are imperfect and a proxy for something like a rule based ethical framework. I think we may question why corporations should be allowed to violate or privacy, or at least have to argue more for the social benefit that this would have. The American data regulations here may have been subject to a donation based election system where as the EU for an example has more protective data regulations. Still the broader problem of who data belongs to and what is ethical to do with it remains and is an important discussion.

What would be your advice to the Amazon economists concerning the ethical aspects of their research work?

In the light of these challenges, I would advise the economists at Amazon, to question whether their work does meet ethical standards and weather the fact that it is done privately and without public oversight motivates less or more ethical rigour. I would ask them to employ a higher level of transparency and informed consent in the experiments that they are running.

It may be the case that there are tangible benefits to a more personalised experience through algorithmic adjustment. We disused earlier in the course, Instacart’s dynamic pricing scheme and to me it illustrates some of the behaviour that may arise when we give corporations the tools to manipulate us and the incentive to extract all possible economic surplus. If as an economist at Amazon you recognise that this is the ultimate goals of your work, you may question weather this is an outcome you want to support. After all if there is no customer surplus, and profits instead go to corporations we may question why we have corporations in the first place, if not for the good of the society at large. It is specifically the imbalance that causes increased datafication to be a problem, if the customer in theory could also act optimally with their own algorithms, it may very well be that this would be unproblematic. However it is important to recognise that this is not the case and that the pursuit of datafication and adjustment of processes with the goal of extracting data, is done in large for this kind of leverage over customers and employees.

As somewhat of a pragmatist ultimately, I believe that we cannot expect the economists at Amazon to forgo the strong incentives provided, we should instead explicitly regulate around data as the EU has already started doing GDRP, and AI act, to make sure corporate data use remain ethical and beneficial on a larger societal level. As a student of economics, it seems to me

that there are more effective ways to change behaviour in a society than to condemn it socially although it may have some effect. This is the work of incentive aware and people centric policy.

2.

Identify and discuss potential epistemological limitations and challenges concerning the analysis and use of data,

Regarding the epistemological aspects of the Amazon economists research work, there are several challenges depending on what framework for science you use. The Chief economist Pat Bajari states in the text that:

"What I've seen change in the industry, starting about eight years ago, is firms got more serious about using the scientific method and removing chunks of guesswork within companies. You're basically trying to clean up waste."

(Pat Bajari, Amazon VP & Chief Economist)

This suggests the corporate world or at least Amazon, is turning more scientific and that the Applied turn of economics discussed by Backhouse & Cherrier, in "Age of the Applied Economist not only applies the academia but may apply to the market economy and society at large.

Epistemological Challenges and Limitations

From Poppers perspective the work that is done in Amazon does use AB testing, which in some sense is derived from Popper. However it is not science since it is not shared with the science community. Popper states that "The criterion of the scientific status of a theory is its falsifiability, or refutability, or testability." (Popper, p. 36). The fact that the economists of amazon rarely publish in public academic journals means they are not meaningfully contributing to the scientific community. Without peer review there is no way to falsify the knowledge that Amazon produces at least not from the science community's perspective.

From Khuns perspective we could see Amazon as a separate community of practise with its own paradigm, which is more causal inference and machine learning in the hunt for more profitability. Since from this perspective the Amazon research community and the general research community has different paradigms, it is very difficult from knowledge produced there to be generally transferred to the research community at large. We can question if the capitalist objective of money at all can contribute to science, I think it is important to recognise that the objective of Amazon has nothing to do with producing knowledge, and everything to do with profits. If knowledge is produced in the process it is simply a side effect. Since these communities has completely different agendas although they may produce some knowledge we may also question weather as a society it is beneficial to have vast amounts of knowledge not being a public good, since this can create leverage or technological advancements used for exploitation or extraction especially if the subject is human behavioural manipulation.

From Lakatos perspective we could view profit motive and application of machine learning statistics and algorithms to extract profits, as well as the belief that this is a good way to do it, as a type of hard core that can not be questioned. Then we have auxiliary beliefs about for example the trustworthiness of the algorithms and methods they use, as well as notions about

general shopping behaviour that may drive new hypothesis. The research at Amazon is very applied hence Lakatos “ad hoc rescue” , leading to degenerative research where auxiliary hypothesis are modified after failure in order may be less of a risk than in highly theoretical research. However on the other side the profit motive may in itself increase the risk of degenerative research, because people may have vested, monetary, interests in a idea working out or being seemingly beneficial to the bottom line.

as well as identification of causal factors in their analytical work.

Another potential problem may lie in the types of methods used. Renfro discussed the black box problem where particularly AI models may have unforeseen consequences or not work in the way that we expect. Making this “knowledge” less reliable. It is simply patterns contained within a model, but we can not ourselves observe these directly and it is hence not knowledge in the same sense as a traditional statistical model. There are also other risks with the data and datafication. If processes are modified to produce data, if people behave differently when observed this may lead to less reliable results. We must also recognise that all data is dirty, and is made not discovered. Hence Amazon itself must be scrutinised in the processes that lead to data production in order to accurately contextualise results.

We have seen how the black box problem may lead to biases although AI models are not directly evidently causal in the same way instrumental variables may be they may be used as such. Fex in policing an algorithm may treat skin color as a causal factor of crime, advocating increased surveillance of black people. Here the problem is that we can easily observe correlation but causation.

The text states that economists specifically may be better equipped than for example psychologists or data scientists at identifying what causes what, and therefore what to tweak in order to get results on the bottom line. Usually peer review opens up a discussion about research results, putting them into question. Amazon epistemically runs a higher risk of doing mistakes or arriving at wrong conclusions in the long run as a direct result of lack of openness and their smaller private research community. But the most significant risk is that they may find things that are not beneficial for them to release and only release what they deem favourable in order to uphold their public image.

The risk with causal research in this limited way is that Amazon may wrongly adjust factors that has real impact on lives, but an even larger risk is that they are right and adjust causal levers in ways that impact us in unwanted ways without our consent or knowledge. For example the mentioned connections programme, if they find that they can increase productivity and also on a large scale its customers that may be unaware of what exactly is happening but find that their behaviour is manipulated. Where as peer reviewed studies such as the one on Facebook mood altercations faced heavy scrutiny with a secret research community Amazon never has to let the public know at all. Not only is this not producing science but it also comes with ethical risks.

The text discusses the prime subscription specifically, Amazon then deems what works and what to cut off. I think we may also question weather more risk awareness really aggregates on a macro level. I personally believe that too much data and causal knowledge locks our behaviour into what is known, making us more conservative. It is not a given to me that this is entirely beneficial. In an algorithmic metaphor, for reinforcement learning if have an objective function, in the economy this may be resource allocation. But for the algorithm there is a trade-off

between exploration and exploitation. Too much exploitation causes it to get stuck in a local minima, in other words I believe that too much risk awareness may make our economy fragile to change in the long run. So I believe we have to be careful when the corporate world increasingly is going scientific and ask not only how we can gain more knowledge, but what it is that we ultimately want to get out of the knowledge that is produced and weather it is done so in an ethical way. I think from this lens the epistemic is directly tied to ethics and should be discussed in relation to it.

What would be your advice to the Amazon economists concerning the epistemological aspects of their research work?

If I had to advice the Amazon economists on the epistemological aspects of their work, I would state that they had to question whether what they were doing was actually science at all in relation to Poppers theories, and in the case that we do accept it as science or at least significant knowledge creation, weather it is beneficial for a society to have private research communities, instead of perusing science as a public good. If they wanted to solidify their epistemic status they could make their datasets public and open their research up for peer review. I would also advice them to question the bias of algorithms and black boxes, for example in corporation with software engineers and use of different packaged solutions that in themselves may produce AI black boxes. In the case of AI it is important to note any biases in the data you may train on, and to again recognise that the model is a product of this data that is in turn inherently dirty and a product of amazons data collection processes. All this context is needed to work with these types of algorithms, and even then it is hard to do anything more than simply observe model behaviour on different benchmarks or in relation to some goal. I would argue that this is a valid result, however again it comes with other model behaviour that may be unforeseen, and potentially unethical.

Ultimately I would advice them not loose the interest and curiosity in using traditional models in conjunction with AI to find out not only models for how things work but theoretically why. It is tempting to believe that BIG data is all encompassing and that we can remove theory form the equation. It is important to keep in mind the limitations of data discussed as well as the black box problem that may come with these types of large models run on these datasets.

3.

How did Imre Lakatos's understanding of the scientific change and scientific process differ from the view on scientific revolutions proposed by Thomas Kuhn?

Khun mentions scientific revolution where a paradigm is replaced by an incompatible new one, in a non cumulative way. Here the paradigm cannot be compared against a neutral observational base, the gestalt metaphor here illustrates how perception may cause how you look at information. Perception here is paradigm-laiden. This paradigm tests only occur in crisis, in normal science this is not the case, here scientists do research within the paradigm rather than questioning it. Khun hence argues that Poppers falsification contains some nativity, since we may have these revolutions where our perspective has to change entirely.

Lakatos questions and builds Khun, stating that Khuns framework although proposing a way to view science over time, arguing that Khuns framework fails to distinguish science from pseudo science and progress from intellectual decay. (Methodology of scientific research programmes).

Lakatos goes on to define his own framework MSRP, consisting of a hard core, of beliefs that are not questioned normally, this is similar to the paradigm for Khun or contextual lens the research community may view information through, but he specifies some theories that are protected more than others here that are foundational. Around the core we have a protective belt of auxiliary hypothesis, this absorbs anomalies, these may be similar to the anomalies that in Khuns framework accumulate over time and may eventually lead to paradigm shift or crisis if they become too many and too prevalent. Lakatos views scientific revolution similar to paradigm shift as a rational consequence of degenerative research, essentially false believes propped up by bad "degenerative" research programmes, that over time causes us to have to readjust away from these beliefs where they become to obviously false.

Give your own example of a degenerative research program, as Lakatos defined it

To address the view of progress and distinguish science from pseudo science Lakatos discusses what constitutes a progressive vs degenerative programme.

A progressive programmes predict novel facts, they are modifications to the protective belt.

Degenerative programmes on the other hand only accommodate known facts post hoc. Hence no new knowledge is produced. The research process at a fundamental core requires us to first come up with a hypothesis that we then can refute or accept according to Popper. If we have a degenerative programmes this loop of knowledge generation is broken, because you can no longer trust that the results were not made to fit the consensus rather than discovered through experimentation. This is in one way similar to p hacking where by running the experiment several times or on subsets of the data, until you get the p value you want, creates unreliable on unreproducible results.

Again to readdress the first point, Lakatos argues that scientific revolutions are ration in the sense that the progressive replaces the degenerating. That it is this degenerative research that in the first place leads us to believe false things that we later has to refute, what Khun would call crisis as opposed to normal science.

and elaborate on the concept of the degenerative research program, based on your example.

This shows up a lot in economic modelling where an economist may be tempted to tweak the parameters of the model until the results makes sense or fit what is expected rather than find a different model, or explain it away. Again this has a similar effect to p-hacking as it makes the science fit an expectation post hoc. This expectation exists beforehand and by customising a model to strengthen it, we discover nothing new. After all science has to be refutable, and we must be able to refute a model if it fails rather than tweak it and explain the errors away. The failure to do so would constitute degenerative research.

5.

How do you understand the claim that "all models are false"?

A model is something that represents a target in a simplified way. Models help us study understand and make inferences about the target.

In that definition I include "simplified", this simplification usually consists of abstractions which omits information, and idealisations which distorts information intentionally. This may be done in the pursuit of any of the above purposes of the model.

It follows from the fact that we have simplification through these means, that the model therefore contains either less information or distorted information about the target.

In an absolute sense it makes the model a "false" representation of the target.

Do economic models that contain false elements become useless epistemically? Elaborate on your answers based on one or more examples.

I believe that the complete statement should be "all models are false, but some are useful", to also capture the utility in the intent behind the distortions and abstractions.

Epistemically as pertaining to production of knowledge models can be used in many ways. It is crucial to realise that the model itself can act as a means towards more knowledge f.ex through teaching. We must also realise that our brains simplifies everything all the time, our world view is condensed and in some way a model, it is therefore useful to know what compressions of information are most useful for us to get to know, when knowing the target directly is too complex. We use statistics to make sure that the way we simplify is as accurate as possible in econometrics.

A map is not useless, it helps us navigate.

However its usefulness relies on awareness of its limitations, a model may be designed to be used in a given context where we don't need to know everything about the target.

If we are unaware of implicit assumptions or "false" information through deliberate abstractions, this may result in it becoming useless epistemically.