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Data 303 Book Report

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Introduction to the Book

Big Data: A Revolution that Will Transform how We Live, Work, and Think is about exactly what it sounds like; it explores how big data helps to solve big problems and affects the way that companies, governments, and humans as individuals make decisions on a daily basis. The authors are Viktor Mayer-Schönberger, Professor of Internet Governance and Regulation at Oxford, and Kenneth Cukier, an American journalist. They define big data as the large-scale utilization of information in modern ways to innovate and produce useful insights. They discuss the advantages, risks, and disadvantages of big data in the book; however, the main point of the book is to show how big data has been transforming and will continue to transform the societies of the entire world. They look at the history of data collection and show that there has been a shift in the mindset of how data can be used. This change in attitude is a prominent theme throughout the book and can be encapsulated by the idea of previously asking why to instead asking what. The strong and natural human urge to wonder why has not been discarded but knocked off the pedestal as big data has made its move.

Summary

The book begins by talking about how big data is involved in our world today (2013 at the time). It shows that Google was able to predict the spread of the H1N1 flu outbreak using

search data. It goes on to explore how big data can help solve big problems and make a big difference just by simply having more data; this newfound "big data" invited a few transitions in the way that we thought about data before. The ability of society to analyze vast amounts of data, embrace big data's messiness, and respect correlations rather than causality along with impressive technological advancements made it possible to solve problems, change business models, and alter our understanding of the world. The book goes through these changes in mindset, discussing the importance of the reduction of limits on data analyzation. For starters, companies can now collect more data than ever, so the way statisticians sampled before is no longer as useful. The authors show that data is heading towards an "N=all" approach; however, with more data comes more inaccuracies due to big data's messiness. This means that societies had to allow their desire for exactitude go in exchange for more valuable predictions. The authors go on to prioritize correlation over causality in the era of big data, for causal links are difficult to show mathematically and knowing what is more important than knowing why. Next, the book talks about how humans can now make data out of almost anything, allowing more predictors in datasets as well as more data.

With all of the changes that big data can make to the world, the book also makes sure to note the dark side of big data, as there are many risks and disadvantages of its predictions. Predictions can be so accurate as to criminalize someone before they have even committed a crime; this leads to some questionable moral applications and forces an important discussion about justice. Big data can also be invasive, and relying on predictions can be dangerous. Thus, big data transforms our understanding of how governments should enforce laws and how we should value, as individuals, our safety, privacy, and intuitions.

Reflection

There is a lot of interesting things to learn from *Big Data: A Revolution that Will Transform how We Live, Work, and Think*. The authors put a lot of emphasis on the idea that asking what leads to better information than asking why. They argue that "causality does not deepen our understanding of the world" (64), which I disagree with. They show in many instances that asking why can lead to wrong decisions and less information, while asking what leads to information that truly transforms us. However, I believe that they put too much emphasis on correlation as wondering why is an important human behavior that I believe will continue to prosper and lead us to innovative ideas. Leaving behind that curious part of ourselves, when it comes to data, can lead to a dangerous overreliance on big data's predictions that would negatively transform our societies. I agree that causality is often hard to prove, but it is good to still wonder why things may be correlated because although not everything needs or even has a legitimate explanation, it can help us to understand our world better.

The book made me think about the moral applications of using big data before it even discussed them in the later chapters. The book does a good job of noticing the dark side of data, but the authors seem to have an overall positive attitude toward the future and the impact that big data is making. They show that because more data is being collected than ever, humans seemingly have less privacy than ever. They even state that we should not rely on data as a crutch because data is fallible, and we should sometimes rely on our own intuitions. They note a few safeguards to these problems and say that the ultimate goal is to make sure that data only transforms our lives, not that it dictates them.

So long as we do not let big data dictate our lives, it is satisfactory or even good that it transforms our lives. The authors list off example after example of big data being used for good

and in interesting ways. Even in some of the examples of it being used for good, it still made me question if this revolution will make a positive impact on our societies. For example, the authors showed how the data from car owner's seating positions can be used to predict that someone is stealing a car and make an alarm go off. The idea of this is good, as it can prevent auto theft, however, it makes me wonder if we really need that nuance to our societies and that companies or governments even being able to get their hands on that type of data is alarming. This ability to quantify anything is a slippery slope that can lead to them quantifying everything and using it against us. Obviously, this brings up questions of privacy and freedom, and the authors note that there are several tradeoffs we have to accept to benefit from big data.

Lastly, it made me think about how I will act in the future as I work with data. What big data can do is impressive to me, and I hope to be able to use it for good, but what is good, bad, or neutral? Amazon's algorithms help the company and transform the way that we shop, but that does not necessarily benefit or transform our lives as individuals. I do not think it is inherently evil to use big data to market products and enhance a customer's experience, but it makes me consider what is good or not, as I want to use data, not for evil or neutral purposes, but for good. This book inspired me to think deeply about how big data transforms our lives and what the ethical implications of those transformations are.

Works Cited

Mayer-Schönberger, V., and K. Cukier. 2013. *Big Data: A Revolution That Will Transform How We Live, Work, and Think*. An Eamon Dolan Book. Houghton Mifflin Harcourt. https://books.google.com/books?id=uy4lh-WEhhIC.