

**INFO215: Social Aspects of Information Systems**

**Assignment 1**

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**Subject: Sociotechnical Analysis of “The Selfish Ledger” Video**

Dear Mr. Seberger,

Hi, Mr. Seberger, I am the intern in your group. After watching Google's “The Selfish Ledger” video (Forster & Murphy, 2018), I had some interesting thoughts about it in sociotechnical aspects, so I want to share some of my thoughts with you. From my perspective, “sociotechnical” represents the sum of the interactions and influences between society and technology. For instance, the birth of the Google Search Engine has changed the way society searches for knowledge, and the needs of social development have contributed to the technological progress of the Google Search Engine. Analyzing from the sociotechnical perspective, I have come up with the following three aspects of analysis:

First, in “EPISODE 1” (00:03:30-00:04:15) (Forster & Murphy, 2018), I analyzed it from the privacy perspective. User and information privacy is one of the most significant factors that people consider when using technology products, which directly affects the user's desire to use the product and thus the development direction of the product. This mainly contains the violation of expectations, violation of personal boundaries and ambiguity of threat (Seberger et al., 2022). I disagree that Google applies selfish ledgers in this area, even if it is only in specific areas. We can't normalize the invasion of privacy just because it takes up a small percentage, it certainly contributes to surveillance capitalism, which “aims to predict and modify human behavior as a means to produce revenue and market control” (Zuboff, 2015).

Second, in “EPISODE 2” (00:04:20-00:05:30) (Forster & Murphy, 2018), I analyzed it from the algorithm bias perspective. As a core component of the ledger, the algorithm is a prerequisite to support analysis, recommendation, design and refinement, so it is particularly important to ensure the neutrality of the algorithm. This mainly includes

algorithm data bias, focus bias, processing bias, transfer content bias and interpretation bias (Chandnani & Agosto, 2022). However, I think that this is unrealistic since complete neutrality of the algorithm is highly unlikely to be achieved with the effect of the social determination of technology and thus “contains political properties” (Winner, 1999).

Third, in “EPISODE 3” (00:05:30-00:06:57) (Forster & Murphy, 2018), I analyzed it from the wicked problem perspective. It is extremely challenging to solve human species-level problems through a multi-generational ledger, and such wicked problems usually have no fixed rules, methods and answers, and have a broad impact on society in the process of designing and solving them, so I think it is difficult to implement. For example, everyone has the ability to think analytically and systematically, which in turn can generate intelligence and wisdom, which is impossible for machines. Since wisdom is “essential for the pursuit of ideas or ultimately valued ends, is the characteristic that differentiates man from machines.” (Ackoff, 1999).

Overall, from a socio-technical perspective, selfish documents may be a bit too idealistic; it ignores social privacy boundaries and may aggravate technology's invasion of personal privacy; its algorithmic neutrality is difficult to guarantee and may exponentially magnify discrimination and inequality; it is difficult to solve complex problems, and having a large amount of data does not mean it can independently generate intelligence and solve species-level problems. As Winner mentioned, “...signs, things, actions, and thoughts are not only interconnected, they also interpenetrate and merge in contemporary design thinking with surprising consequences for innovation.” (Buchanan, 1992). In considering the design and innovation process of technology, I think Google can take a more rigorous and cautious attitude by adding more sociotechnical thinking to it, because the social impact brought by technology may far exceed our expectations.

Thank you for your patience!

Best wishes,  
Lixiao Yang.

## References

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