

## Chapter 8

# Towards a Utility Theory of Privacy and Information Sharing and the Introduction of Hyper-Hyperbolic Discounting in the Digital Big Data Age

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### ABSTRACT

*Today enormous data storage capacities and computational power in the e-big data era have created unforeseen opportunities for big data hoarding corporations to reap hidden benefits from individuals' information sharing, which occurs bit by bit in small tranches over time. Behavioral economics describes human decision-making fallibility over time but has—to this day—not covered the problem of individuals' decision to share information about themselves in tranches on social media and big data administrators being able to reap a benefit from putting data together over time and reflecting the individual's information in relation to big data of others. The decision-making fallibility inherent in individuals having problems understanding the impact of their current information sharing in the future is introduced as hyper-hyperbolic discounting decision-making predicament.*

### CHAPTER CONTENT

In the age of instant communication and social media big data storage and computational power; the need for understanding people's trade-off between communication and privacy has leveraged to unprecedented momentum. Today enormous data storage capacities and computational power in the e-big data era have created unforeseen opportunities for big data hoarding corporations to reap hidden benefits from individual's information sharing, which occurs bit by bit in small tranches over time. The utility theory of contradicting information sharing and privacy predicaments is presented in this paper for the first time

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and a nomenclature of different personality types regarding information sharing and privacy preferences is theoretically introduced. Unravelling the utility of information sharing versus privacy conflict but also shedding light at the current commodification of big data holds economic theory advancement and governance improvement potentials in the digital age. The article is a first step towards advocating for reclaiming the common good of knowledge via taxation of big data harvesting and self-determination of information sharing based on education about information sharing to curb harmful information sharing discounting fallibility. From legal and governance perspectives, the outlined ideas may stimulate the e-privacy infringement regulations discourse in the pursuit of the greater goals of democratisation of information, equality of communication surplus and upheld humane dignity in the realm of e-ethics in the big data era.

## **1. INTRODUCTION**

Economics is concerned about utility. Utility theory captures people's preferences or values. As one of the foundations of economic theory, the wealth of information and theories on utility lacks information about decision-making conflicts between preferences and values. The preference for communication is inherent in human beings as a distinct feature of humanity. Leaving a written legacy that can inform many generations to come is a humane-unique advancement of society. At the same time, however, privacy is a core human value. People choose what information to share with whom and like to protect some parts of their selves. Protecting people's privacy is a codified virtue around the globe grounded in the wish to uphold individual dignity. Yet to this day, no utility theory exists to describe the internal conflict arising from the individual preference to communicate and the value of privacy. In the age of instant communication and social media big data storage and computational power; the need for understanding people's trade-off between communication and privacy has leveraged to unprecedented momentum. Today enormous data storage capacities and computational power in the e-big data era have created unforeseen opportunities for big data hoarding corporations to reap hidden benefits from individual's information sharing, which occurs bit by bit in small tranches over time. Behavioral economics describes human decision making fallibility over time but has – to this day – not covered the problem of individuals' decision to share information about themselves in tranches on social media and big data administrators being able to reap a benefit from putting data together over time and reflecting the individual's information in relation to big data of others. The decision-making fallibility inherent in individuals having problems understanding the impact of their current information sharing in the future is introduced as hyper-hyperbolic discounting decision-making predicament. Individuals lose control over their data without knowing what surplus value big data moguls can reap from the social media consumer-workers' information sharing, what information can be compiled over time and what information this data can provide in relation to the general public's data in drawing inferences about the innocent individual information sharer. Big data derived personality cues have recently been used for governance control purposes, such as border protection and tax compliance surveillance. The utility theory of contradicting information sharing and privacy predicaments is presented in this paper for the first time and a nomenclature of different personality types regarding information sharing and privacy preferences is theoretically introduced. Unravelling the utility of information sharing versus privacy conflict but also shedding light at the current commodification of big data holds economic theory advancement and governance improvement potentials in the digital age. The article is a first step towards

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