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Mission

The enormous amount of digital data generated in our society increases tenfold every five years. Yet making sense out of these data represents a challenge of an equal caliber. Large volume, variety, veracity and velocity of data do not automatically mean that the data are also valuable for businesses. Let alone, that businesses can successfully appropriate the value they created. The Digital Business Models Lab (henceforth, the Lab) will focus on how to translate data and the outcomes of data mining and visualization techniques into new business opportunities.

To be successful, any data-driven business has to create value as well as capture value through a working business model. This is for several reasons not straightforward. First, digitization brings new opportunities for value capture in general and monetization in particular. There are many more options to choose from, as compared to the classical model of making a product and selling it for a certain price. Even more important, many digital products and services are being distributed for free due to near-zero costs of reproduction, which creates even more challenges for value appropriation. Second, digitization steadily penetrates our society, thereby increasing connectivity and dependencies between different products, services, platforms and systems. Businesses can utilize multiple data sources, not necessarily stemming from inside the business itself. As a result, a data-driven business cannot operate stand-alone and has to be properly embedded into a (not always digital) ecosystem. Yet managing dependencies and potential frictions between the different partners in the ecosystem is a substantial challenge for data-driven businesses. This challenge is further amplified by the differing goals, business models and institutional perspectives of the various partners, especially in ecosystems at the interface of the public and private domain— such as smart cities and sustainable energy. Hence the research of the Lab needs to identify optimal strategies for creating and managing innovation ecosystems in various markets, for different value propositions and business models of the focal firm.

The Lab engages an array of data science methods, complementing them with qualitative data collection and design science when necessary.

Examples of projects:

Revenue models in the Apple App Store.

In the apps stores developers may choose between direct monetization from the customer (including paid distribution, durables such as new levels or functionalities, consumables such as credits or gems, and subscriptions) and indirect monetization from third parties (advertisement and affiliation). Yet some monetization mechanisms work synergistically with each other, while others may hamper the firm when they are combined. Consider the freemium business model, which is a combination of free distribution and durables, consumables and/or subscription. It takes time and effort to convert the free customers into paying customers in this model. In order to compensate for the lack of immediate revenues, developers are tempted to add advertisements to this model. Yet this addition is generally counter-productive since advertisements tend to irritate the free customers, making it less likely that they convert into paying customers. All in all, we observe that configuring an optimal revenue model is an intricate and delicate task.

Another part of this research project applies text mining to app descriptions to uncover the detailed competitive landscape of apps in the App Store: indeed each category of the Apple App Store contains way too many apps for anybody to know and be able to compare. Hence apps compete in smaller niches, which we can uncover through clustering. Knowing this can help app developers to better position their apps relative to competition, and invest in innovations that improve rather than deteriorate performance.

Earning money with private data: Effects of the GDPR on revenue models in the Google Play App Store

App developers are constantly looking for new methods to enrich their revenue base and in numerous cases they collect private data. The upcoming enforcement of General Data Protection Regulation (GDPR) in May 2018 expands the scope of data protection so that anyone or any organisation that benefits from personal data related to EU citizens must comply with it. The GDPR states among others that organisations need to implement appropriate technological and operational safeguards for dealing with private data, enabling the users to better control what is happening with it and requiring more transparency in the algorithms being used to process the data and arrive at certain decisions. The globally operating Google Play app store will be one of the digital platforms that would be affected by GDPR. Research-wise GDPR is an exciting opportunity to observe a large scale field experiment, by comparing the adaptations in business models of apps in Europe vs. United States or another country from a different continent. Hence, this research aims to examine the implications of GDPR on revenue models and privacy policies in Google Play app store through three studies: i) effect of GDPR regulations on privacy policies and data-driven revenue models, ii) interactions between non-functional permissions and revenue models and iii) user sensitivity to unethical permissions and policies.