Executive Summary

Blockchain has created much controversy in literature, society, and business, centering on its potential effect on interactions between companies (Spadoni, 11.12.2017a). Some believe blockchain - a transparent, tamper-proof, and distributed protocol - to be the most revolutionary technology to emerge since the Internet was introduced. Conversely, others argue that blockchain is merely another "tulip mania" with no real potential. Nonetheless, blockchain has caught the world's attention - be it positively or negatively - and it is leading to general confusion as to what it is and how it can benefit society. Ruedi Noser (01.04.2018, p.5), a Swiss businessman and politician, tried to clarify blockchain's benefits as follows: "The Internet allows for *information* to be shared with the world; with blockchain, we can share *values* with the world". In fact, experts progressively agree that blockchain will bring a radical shift in the way we think about financial assets and in the way the financial industry operates. Despite the myriad of literature and studies available, little has been published about the potential blockchain has - particularly for the insurance industry. Past studies offer only a snapshot of the benefits, challenges, and use cases of blockchain in the insurance industry. Implicitly, past literature has explored potential blockchain-based insurance use cases, but seldom analyzed the benefits and barriers of each use case.

To address these shortcomings, this thesis investigates the impact of blockchain on the insurance industry by adding to the literature in three ways. First, it provides an overview of the most prominent benefits and challenges blockchain faces on its path to industry-wide recognition. I introduce a leading consortium of insurers, brokers, and reinsurers (B3i) to demonstrate how the insurance industry is collaborating to unveil the true potential of blockchain. Second, this thesis explores the most prominent and promising blockchain-based use cases in the insurance industry. Third, it stimulates further innovation by acknowledging the disruptive potential of a combination between blockchain and the Internet of Things (IoT). IoT refers to the interconnectedness between all types of "smart property", i.e., software and devices that are connected to the Internet (Szabo, 1996; Garcia, 05.03.2018). Leveraging the benefits of blockchain-powered IoT, the insurance industry is likely to transform completely in the coming five to ten years (Walker, 2017; Klaus, 28.02.2018; Garcia, 05.03.2018; Melero Gómez, 21.02.2018).

Data and information was gathered through literature research. Additionally, I conducted interviews with industry experts from two consultancies (Accenture and KPMG), two startups (Helvetia Fintech and The Rubicon), and one insurer (Zurich). A survey was created for the approximately 500 attendees of a blockchain conference in Geneva. Unfortunately, the sample size turned out to be too small to achieve statistical significance. Nevertheless, sufficient additional information was gathered and integrated into this thesis to increase its relevance.

Concern amongst scholars and industry experts centers the challenges of blockchain on its path to a widespread adoption in the insurance industry. These challenges range from technical limitations (lack of standards, data privacy & immutability, and scalability & sustainability) to business risks (uncertain regulatory & legal status, integration concerns, and business transformation). On the other hand, I find that the most promising benefits of blockchain include faster transactions, improved transparency, increased security, reduced cost, technological awareness, and new business models. Furthermore, the research of this thesis led to the discovery of seven prominent insurance use cases of blockchain. A proprietary theoretical framework was established to evaluate each of these blockchain-based use cases. Figure 1 illustrates the outcome of this evaluation. Lastly, the analysis of interviews conducted for this thesis shows consensus that IoT will facilitate the emergence of the following, highly disruptive blockchain-based use cases: property, pay-per-use, on-demand, and Peer-to-Peer (P2P) insurance.