SKETCHING THE FUTURE OF AUTO INSURANCE

TEAM 2

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AGENDA

INSURANCE MARKET AT A JUNCTURE

➢ The insurance sector is known to be a slow changing industry. Technology may buck that trend however; just as it impacted various established industries such as the banking sector, it may now be on the verge of disrupting the insurance market.

➢ A recent report about the **Global InsurTech market** revealed that the market is expected to **grow by 15.63 Billion from 2018 to 2023**. This translates to an estimated year-on-year growth of more than 45% for 2019. *[1]

➢ This opens the market for **InsurTech** startups that attempt to disrupt the market with digitalized systems in IoT and other technologies. More pertinently however, the biggest threat for traditional companies appear to be well-established tech firms. The data they possess, combined with their knowledge of the customer, would bring about a very real threat. *[2]

➢ Responding to these developments, insurers are increasing their investments internally and in upcoming start-ups. This translates to an investment of $2.6 Billion in insurtech businesses in 2018 and $2.2 Billion solely in the first half of 2019.*[1]

INSURANCE AS WE KNOW IT

The exciting aspect of that development stems from the current problems with the industry, since it presents many **negative and controversial aspects** that lead to customer dissatisfaction. In particular, we decided to focus on the car insurance field and some of its related issues, as some of them are mentioned below:

- The price of car insurance varies a lot depending on several factors. Considering that the user does not perceive a tangible value, or real experience, from car insurance, it can be **perceived as quite expensive.**

- The process and contracts themselves can be **highly complex** and **far away from a user-friendly experience**.

- Insurance companies can build **contracts that are favourable for them**. Even though car insurance can be very expensive, the chances of a pay-out are at 5%, and it is rarely clear how much is covered. Moreover, only 60%-70% of premia are spent on damages.

- However, in defence of insurance companies, the system often allows opportunities to play the system and exploit **betterment**. [*3]

➢ **Blockchain based technologies are perceived as an appropriate solution,** due to their immutability and transparency. Additionally, the **implementation of smart contracts** allows for an automated way of payment. Considering that in the traditional insurance system, payment for claims take weeks or even months, an instant, automated transaction presents a big advancement. Due to the high initial investment cost to implement such a system, the expected entry for blockchain are most likely large short-tail risks, before entering long-term or retail markets. [*4]

What has already been done? Owned by a cooperation of 18 insurance market participants around the globe, B3i is one of the first implementations in the insurance sector that is going to market in the beginning of 2020[*5]:

✓ **B3i** is building a **platform on distributed ledger technology to create a "*single source of truth*"** in contrast to decentralized and obscure data systems. Their target is to be able to optimise the processes in the market and reduce the costs significantly.

✓ B3i's concept is that every node processes and verifies each activity. In this way, there exists a common consensus about the validity of a transaction. Through smart contracting, asset transfers are automatically validated and enforced, while they ensure that only the nodes involved in the transaction can access the information.

PROJECT IDEA AND GOALS

Our project aims at addressing some of the main issues linked to the field of car insurances by implementing a set of smart contracts built on the Ethereum blockchain.

➢ We tried to **redesign the procedure** that starts from the creation of a car insurance contract to the expiration of the contract itself, while including the management of a car accident and the related reimbursement practices.

➢ Our goal is to **make the traditional insurance procedure more efficient and safer:** a blockchain-based solution, indeed, can secure customer data, thus improving customer experience. At the same time, it can help insurance companies by reducing frauds, automating the claim processing procedure, eventually reducing their operating costs.

PROTOTYPING

PERSONAL PROFILE

The **Personal Profile** is an official document created when a person obtains the license. It contains the most relevant information: Name, Surname, Birth date, License ID and the History about his car accidents.

It has two *main functions*:

- ✓ It records all the information about an individual, both personal and related to car accidents. Whenever the police draws up a report about a car accident, it also updates the personal profile. Ideally the insurer might exploit this kind of information to compute the risk premium.

- ✓ It interacts with the insurance company, both with regards to the payment of the risk premium and when it comes to request a refund.

- ➢ Essentially, the Personal Profile is a **tamper-proof identification card** that can be only updated by an official source/node: in our model, the police (through the police reports). Such contract is essential for the insurer both regarding the management of the risk premium and the the resolution of the accident.

INSURER CONTRACT

The **Insurer Contract** manages the relationships with insured people.

It comes into play during two of the main steps of the insurance procedure:

➢ It receives the insurance premia, and it is only then that a person results to be insured.

➢ It manages the reimbursement practices in the event of an accident. When it receives the request of a refund from an insured person it checks two main conditions before providing the refund:

✓ it is not the fault of the person who is requesting reimbursement

✓ the applicant must have paid the premium

If these two conditions are satisfied the insurance company **automatically** provides the payment.
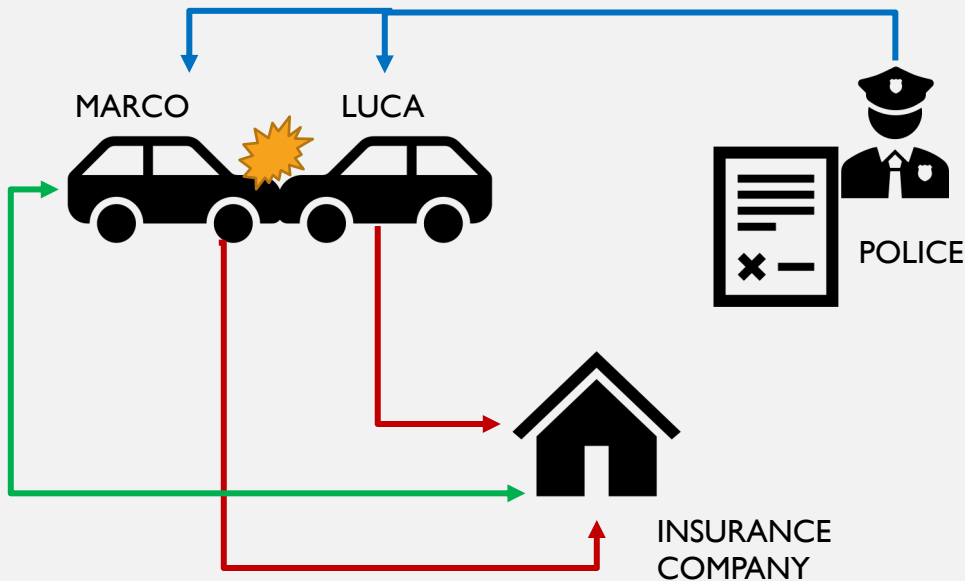
POLICE REPORT

The **Police Report** is created by the police and it contains all the information about a car accident: vehicles involved, fault ownership, description of the incident, estimated damage of the vehicle without fault and the time of the accident.

Since it is drafted by the police, it is an **official source** and its main function is to:

➢ Update the Personal Profile of people involved in car accidents by pushing the information to their profiles. As a result, the insurance company can have all the necessary updated information useful to assess whether the insured person is entitled to a refund or not.

SIMULATION OF A POSSIBLE SCENARIO

Suppose that Luca did not give priority to Marco and he caused an accident. Luca has no fault, thus he can ask for a refund to his insurance company.*

MARCO   LUCA

POLICE

INSURANCE COMPANY

- Luca and Marco have both paid their risk premium to the insurer
- Luca and Marco are involved in a car accident as a result of Luca's action
- The Police arrives and draws up an official report
- The Police push the information to the personal profile of Luca and Marco in order to update them
- Marco, since has no fault, can request a refund to his insurance company
- The insurance company check that Marco had paid the risk premium and has not fault and automatically provides the refund

*Check the entire simulation on the github repository

THE ECONOMICS BEHIND IT

Non-life premium growths are *globally* on the rise, with the US leading the way with an increase of 2.7% of its premium for non-life insurances, with motor segment powering the advance (72.4% of total non-life premiums). [2]

What *factors* determine the premium of an individual's insurance plan?

➤ Client's category of risk and behavior

➤ **Loading factor** → It reflects the insurer's cost of operating plan

➤ Amount of **frauds** against the firm

Business automation is expected to reduce the cost of claims by over 30% [1]

Our targets

➤ Insurance companies incur into administrative expenses that are mostly related to personnel and office expenses and time consuming practices (claims processing, data gathering, etc.).

✓ On average, these expenses account for 10% of the GWP (*Gross Written Premium*) for multiline insurance companies. [4]

➤ Fraudulent claims payment cost the insurance sector about $80 billion a year across all lines of insurance which is roughly about 20% of the total claims payment annually. [1]

✓ Higher cost of insurance for honest motorist due to high payment of claims that include fraudulent ones.

BUSINESS VALUE

Value created by our proposal:

➢ **Reduce inefficiencies:** The automatic data-entry process of clients' information through our set of Smart Contracts makes the old practices obsolete, while guaranteeing security over the management of personal data of customers.

➢ **Fraud reduction:** We provide an immutable historical record (*Personal Contract*) which, once updated by the police (*Police Report*) can independently verify customers, policies and transactions for authenticity. Since blockchain increases transparency, data becomes immutable and reliable within our framework.

✓ The more reliable the data, the less room for mistakes which means insurance companies can better meet the ever-evolving needs of policyholders.

➢ **Claim Processing:** Through our set of Contracts, both parties would benefit from managing claims in a responsive and transparent way. The main advantages are:

✓ **Customizable** → Our set of smart contracts can accommodate the parameters of a policy and execute action automatically through trustless identity verification;

✓ **Automatic** → The funds can then be automatically directed to the correct party when a verified event (a claim) triggers the *Insurance Contract* on the Ethereum blockchain;

✓ **Fast** → Settling a claim can take days or weeks, whereas our smart contracts can settle claims instantly without the need for paper documents, photocopying, and complex web portals.

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THANK YOU FOR YOUR TIME AND CONSIDERATION!