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Developing Technology Foresight: Case Study
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Module 3: Technology Foresight and InsurTech

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Developing Technology Foresight: Case Study of Artificial Intelligence (AI) in InsurTech

Module 3

Introduction to Technology Foresight and InsurTech

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Module 3 Objectives

Module 3 Learning Outcomes:

Upon completion of Module 3, students will be able to identify emerging technologies to address the needs of the Insurance Industry. In particular:

1. Identify current needs of InsurTech in the modeling, analysis, and management of risk
2. Map functionalities of various emerging technologies to these current needs of InsurTech

Topics in Module 3

1. Technology gaps & trends in InsurTech
1. InsurTech Case Studies

Ice breaker

What's the best piece of advice you've ever been given?

What is your favorite item you've bought this year?

What is your absolute dream job?

3.1. Technology gaps & trends in InsurTech

- IoT in Insurance industry
- Blockchain in Insurance industry
- Cloud Computing in Insurance industry
- Insurtech and the Rise of Parametric Insurance

What is the difference between parametric insurance and traditional (indemnity) insurance?

- Traditional (indemnity) insurance is triggered by an actual loss of the policyholder. Indemnity means to put you back into the same position as before the loss, not into a better position.
- Parametric insurance is triggered by an event that is not directly a loss of the policyholder but is expected to be correlated with the loss.
- Parametric insurance is based on external trigger correlated to the loss, not on actual loss of policyholder as for indemnity insurance.

What is the difference between parametric insurance and traditional (indemnity) insurance? (cont.)

- Payout might not match loss. This is known as “basis risk” for buyer of this insurance. Parametric insurance has basis risk whereas indemnity insurance does not.
- Parametric insurance has less moral hazard risk than indemnity insurance because policyholder cannot affect the trigger for parametric insurance. In other words, a parametric insurer has less worry about moral hazard by the policyholder than a traditional (indemnity) insurer.
- Parametric insurance can pay very quickly when triggered compared to indemnity insurance. So don't need adjuster to determine payment.

What are advantages and disadvantages of parametric vs indemnity insurance?

- Unlike for traditional insurance, parametric insurance has basis risk for the policyholder, which means the policyholder might receive more or less than the actual loss.
- Parametric insurance does not have any moral hazard risk for the insurer because the policyholder has no control over the loss. Traditional insurance does have moral hazard risk for the insurer because the policyholder has control over the loss, meaning the policyholder might be less careful about trying to prevent losses or have losses on purpose because the policyholder knows the insurer will pay.
- Parametric insurance can pay out almost immediately because the amount of payment to the policyholder depends on an external trigger that the policyholder has no control over. Unlike for traditional insurance, no claims adjuster is needed to determine the amount of loss or if there is any fraud by the policyholder related to the loss.

What are examples of Insurtech being used to make parametric insurance possible?

Example 1: Flight Delay Insurance DApp Powered by Etherisc: 2:40

- <https://www.youtube.com/watch?v=LCRkFifVclc>
- Flight Delay is a first **decentralized** application that provides insurance against flight delays or cancellations.
- The application is fully licensed, regulated, and operates on a public **blockchain**.
- If your flight is delayed by 45 minutes or more, the payout can be received **immediately** after the landing.
- Enter the amount you want to pay as a **premium**. You can then see the estimated **payouts** for respective **delays**.

What are examples of Insurtech being used to make parametric insurance possible? (cont.)

Example 2: [#ITC2018](#): Chris Sheehan, Co-Founder and CEO, WorldCover 4:08

<https://www.youtube.com/watch?v=mpZWeF31W3k&list=PL-rBgTplQXAu3GqeUGeSDuTMml27u5emJ&index=18>

- *What is main problem for 500 million people around the world, especially farmers?*
Lack of rainfall.
- *What does Worldcover do?* Sells drought Insurance to small farmers in emerging markets.
- *What triggers payment and determines how much a policyholder (farmer) will get?*
Trigger for payment is if rainfall in area is less than a certain threshold. The amount below the threshold determines how much the farmer will get.
- *What does Worldcover use to monitor rain?* Satellite data and remote sensing.
- *What has Worldcover eliminated in the way it does this?* Fraud (moral hazard) and adverse selection. And has eliminated adjusters so can pay out fast.

3.2. InsurTech Case Studies

- Pricing and Underwriting Case Study
- Quote, bind issues
- Policy administration and central systems
- claims and settlements



Pricing and Underwriting Case Study

- Click to go to this [Willis Towers Watson Quarter Insurtech Briefing website](#), go to the bottom of the page, download the “Quarterly Insurtech Briefing Q1 2019” pdf document, then answer these questions related to the document:
 1. *What is an important current challenge for insurance pricing and underwriting departments?*
 1. *What has the emergence of data aggregators brought together for the insurance industry?*
 1. *What has the InsurTech company HazardHub to provide insurers a more actionable and accurate approach to risk pricing?*



Pricing and Underwriting Case Study (cont.)

4. *What insurance area has the Internet of Things (IoT) played a substantial role in and where in the insurance industry was this first manifested materially?*
5. *In marine insurance, how is IoT being used and what type of products is being enabled?*
6. *What space does InsurTech company Concirrus provide marine and motor (re)insurers with and what does this allow them to better understand?*



Pricing and Underwriting Case Study (cont..)

7. *What does InsurTech company Root take further, what does it combine it with, how does it make use of the smartphone, and what does this facilitate?*

8. *What are implications for the broader insurance pool itself due to all the improvements and changes in the pricing and underwriting arena allowed by Insurtech?*

9. *What have advances in deep learning and machine learning made possible?*



Quote, bind issues Case Study

- Click to go to this [Willis Towers Watson Quarter Insurtech Briefing website](#), go to the bottom of the page, download the “Quarterly Insurtech Briefing Q2 2019” pdf document, then answer these questions related to the document:
 1. what is the role of UK-based company Direct Line in evolving the quoting process?
 2. How technology helps insurers to improve their quoting process?
 3. How does InsurTech company Simply Business used technology to facilitate quote, bind, issue process for its customers?
 4. What does InsurTech company Bindable take further, how does it make use of technology, and what does this facilitate?
 5. What is the innovation of InsurTech company Confused.com and what does it offer to its customer?



Policy administration and central systems

Case Study

- Click to go to this [Willis Towers Watson Quarter Insurtech Briefing website](#), go to the bottom of the page, download the “Quarterly Insurtech Briefing Q3 2019” pdf document, then answer these questions related to the document:
 1. what do we mean by policy administration and central management systems? what are the components of it? how technology can improve the functionality of components?
 1. How does InsurTech company BriteCore used technology in their policy administration system to its customers experience?
 1. What does InsurTech company RiskGenius take further, how does it make use of technology, and what does this facilitate?
 1. What is the innovation of InsurTech company ProNavigator and what does it offer to its customer?

claims and settlements Case Study

Spixii, founded in 2016, designs white-labeled automated solutions for insurance underwriting, customer service and claim processes. Spixii's differentiator lies in the insurance-specific nature of its integrated chatbots, which are designed to collect and validate structured data necessary to make business decisions. Currently supporting clients in Europe for Property and Casualty, and Life and Health, Spixii utilizes its expertise to analyze the behavioral insights of the user to:

- 1. Provide an experience to the user that is tailored to the user's specific needs
- 2. Enable insurers to make better business decisions based on factual data

claims and settlements Case Study (cont.)

The Spixii claim solution includes an insurance-focused chatbot, which streamlines the claim process from notification to settlement. The user, or claimant, receives a superior experience as there is 24/7 access to the tool, as well as a content management system for uploading photo and video evidence such as CCTV or dash cam recordings. Spixii is also able to tailor the conversation held with its chatbots based on the user type: Brokers will receive a different experience to that of a first-time personal claimant. Enabling incremental optimization of the customer journey, the claim team can make informed business decisions thanks to the knowledge gained from verbatim feedback and net promoter score calculations and from the advanced reporting techniques, including behavioral insights and analytics leveraging machine learning algorithms. All of this serves to bolster the user's engagement and sentiment toward the insurance company and ensure that the insurer receives the pertinent and relevant information.

Module 3- Highlights

- Picture of Module 3

Module 3 Review Questions

1. Explain parametric insurance. Define the difference between parametric insurance and traditional (indemnity) insurance.
2. Choose one of the InsureTech case studies and explain how the company use Artificial Intelligence to improve its services to customers?