



## INSURANCE CASE STUDY

**Title** - a role-playing game for working with a non-standard insurance product.

**Problematic question** – whether the non-standard insurance product developed will generate profits for the insurance company ?

**Objective** - apply theoretical knowledge of insurance pricing and portfolio risk management to the practical design of a non-standard insurance product.

**Target group** - this game is for higher education students. This game is recommended for students who have studied insurance pricing and portfolio risk management.

**Methods** - a role-playing game

**Industry** (which is analysed in the case) - insurance industry.

**Background** - First, students have to familiarise themselves with the rules of the game of football, the conditions for the financing of a football league, the conditions for the financing of football league clubs by TV consortia (the UK Football Premier League can be used as a basis), and then they have to analyse the insurance cover provided by the new custom insurance product, the methods of selling, the methods of setting the insurance rates, and the profile of possible insurance claims according to the questions asked. After the analysis, students have to decide whether this new insurance product would be suitable for the football league (customers) and financially beneficial for the insurance company (answer the question whether it is worth developing this new insurance product). The main aspects of the analysis and the reasoned decision taken must be presented in a report to the board of the insurance company.

**The aim of the game** - decide on the development of a new insurance product for the Football League (accept or reject the Football League's proposal) and report to the board of your insurance company on this new insurance product.

### **The game scenario:**

The National Football League is on the verge of collapse, with 20 major clubs leaving. They are preparing to set up their own Premier League, which will be financed in real terms by a consortium of satellite TV companies. At the end of each season, the three worst-performing clubs in the Premier League will be relegated to the top sub-group of the remaining football league, to be replaced by the top three teams in the national football league.

The managers of the 20 clubs that are planning to leave the National League have contacted the big insurance company where you work. They want to negotiate a new club insurance contract to cover the club's transfer from the Premier League to the almost bankrupt National Football League, where their TV consortium's share of the funding would probably be minimal.

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A student actuary (a big football fan) has given you the following information:

There is a fairly clear hierarchy of football clubs. The big clubs have been winning the competition for many years in a row, when it was assumed that the other clubs leaving would have to fight for survival in the top league under the new arrangements. However, football is a grand old game in which these expectations may not come true. At the end of the day, it is simply 11 players against 11.

**You must prepare a report for the board of your insurance company on this new insurance product offered.**

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Analyse and justify in your report:

- The types of insurance cover provided:
  - Who will get the insurance coverage?
  - What risks the insurance contract will cover?
  - When the cover will start and when it will end?
  - Why should the club buy insurance cover?
  - Whether any exclusions apply?
  - What will be the amount of cover?
  - Whether there should be a maximum limit on the risk coverage?
- Sales methods:
  - The channels through which such insurance contracts will be sold and the target market for such contracts.
  - How much commission will be paid to sellers?
  - What is the size of the prospective customer segment?
  - Whether it is possible to include a package of additional risks that includes other types of insurance?
  - What administrative and computer systems problems may arise?
- Tariff setting methods:
  - Which risk parameters you will use?
  - What the risk factors will be?
  - Whether they can be used to determine premium levels or whether other factors (substitutes) should be used?
  - Will the insurance company need to adjust the premium at the end of the year?
  - How to predict losses, investment returns, profits and contingencies?
- A profile of potential claims:
  - What is the expected frequency and average size of claims?
  - Whether potential losses will be fixed or uncertain?
  - What is the potential for significant losses or cumulative losses?
  - What is the potential for antiselection against the insurer?
  - Is reinsurer protection required? If yes, what type of reinsurance?

#### **Guidance for idea generation:**

- Imagine that you want to calculate the premium for such an insurance contract. Ask the questions you would like to have answered.
- In parallel, imagine that you represent a football club and think about the need for such an insurance service for your club, or what you can do for your club.

#### **Support:**

- Every season, 3 teams out of 20 go out, which means that the probability of a claim (insured event) is  $3/20$ .

- "Real additional funding" means that the outgoing club loses the following income in the  
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following years.

- Can the amount of future revenue foregone be predicted at the beginning of the year?
- Is there a timetable of which clubs will be shown on TV and when, or will there be a need for an adjustment at the end of the year to anticipate the risk parameters?
- Do all clubs receive the same income, or do some clubs receive more than others?
- It should be noted that your insurance company is large. This means that you have the resources to consider such a one-off arrangement. On the other hand, it may mean that you

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are not interested in such one-off arrangements, which are likely to result in high costs per policy. Conversely, participation in such a project may involve an improvement in the company's image and free advertising.

- It should be noted that this is a new type of insurance. This means that during the rating process (when setting premiums), you will not be able to rely on historical statistics on events and claims (which will not exist). On the other hand, it is possible to look at past league positions in previous seasons as a sort of indicator of the likelihood of relegation in this season.
- What form of insurance will the new insurance product be sold in?
- This is the segment of the insurance market where the maximum number of policies per year will be 20. You may be interested to know how many clubs will buy insurance.
- Obviously, there are different probabilities of big clubs being relegated from the top league and of clubs having to fight to stay in the league. This means that all clubs cannot be treated equally.
- In the absence of more reliable information, it can be assumed that large clubs will be more likely to be shown on TV and will receive a larger share of the total money than smaller clubs.

### Algorithm of the game

Preparation for the game: Lecturer decides on the type of groups. One group of students (2-3 persons) will be representatives of a football league, several groups of students (3 persons each) will be representatives of an insurance company, who will analyse a new insurance product and report to the board of the insurance company. One group of a lecturer and one student or two lecturers or a lecturer and a representative of a real insurance company will be the board members of the insurance company. The content of the reports prepared by the different groups of students for the board of the insurance company may differ. Student groups preparing reports to the board of an insurance company may not communicate with each other or exchange information during the game.

Table “Algorithm of the game”

Students are given a student worksheet in which they first read the case scenario and the questions.

	System action	Player (student) action	Lecturer action
1.	START		
2.	The system assigns avatars to students and lecturer (students and lecturer see each other as created people on the platform)		

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3.	The system records negotiations for later review	Representatives from the football league and each group of student representatives from the insurance company meet on the platform. Initial negotiations take place between the football league representatives and each group of insurance company representatives separately.	
4.	The system records the discussion between the students (representatives of the insurance company) and the board members for later review	The platform brings together representatives from each insurance group and members of the insurance company's board. The members of each insurance group present their reports to the board.	Joins the platform and participates in the discussion as a board member of an insurance company

The results of the analysis and discussion are discussed in class

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