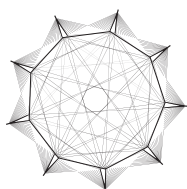


Bonds & Bridges

*Facing the Challenges of the Globalizing World
with the Use of Simulation and Gaming*



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EXTENSION OF COMPUTER BUSINESS GAME: CONNECTION WITH REAL MARKET

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ABSTRACT

In most BGs the decisions are made in terms of money – without taking details into account. Similarly, Web based Business Game “Hard Nut” also didn’t allow the students to take the real market into account. Also, the players could only influence the advertising of their product by changing advertisement expenses according to the financial means available. Thus they had to answer the question “How much money can be spent?”. The player surveys after the game and analysis of the database of results have shown that the players find the purpose of advertising expenses rather hard to understand and explain. The players are asked to use real statistical data from the Lithuanian Department of Statistics. That data lets the students get a real picture of the situation and that leads to evidence-based decisions. Stage Media lets the students choose the media from the set of actually available resources. The players can also choose a slogan for their advertising campaign. The mixed decision making can improve the students’ understanding of the real situation on the market.

1. INTRODUCTION

Most business games that have been developed for several years are rather complex (Kriz, 2011). The complexity of the game also increases with its closeness to reality. Research of R. Teach and E. Murff shows that students find it hard to understand a complex game, while teachers find the requirements hard to explain. Thus they prefer the use of a series of small business simulations as such series conveys knowledge better than a single, large scale business game (Teach and Murff, 2008). Other authors consider use of real data advantageous (Lainema and Makkonen, 2003), that, in turn, increases the complexity of the game.

The university student has to know the environment more deeply, thus in this paper we propose to use the game in various modules starting from its basic form and extending it (according to the module) later. Such an extension also further adapts the business game to multidisciplinary studies (Klabbers, 2006).

The objective of this paper is to help the student to understand the situations in real life. Thus the game is extended so, that some decisions are made using real data, while the rest use the basic model. Such gradual and didactic solution limits the difficulties for the student both in understanding the environment and decision making.

The player surveys after the game and analysis of the database of results have shown that the players find the purpose of advertising expenses rather hard to understand and explain. Experience has shown that students find it hard to understand the advertising expenses and their distribution. It is not a peculiarity of this business game as advertising strategy is known to be a major concern in simulation play (Goosen, 2009). Simulating a realistic strategy in a formalized way is difficult, thus we decided to avoid implementing this model as a computer business game. Instead we ask the students to make a tool, gather the data and explain their advertising expenses. As it is going to take a lot of time, both individual and group assignments can be used. Some authors consider that to be important (Rahn, 2009).

2. EXTENSION OF BUSINESS GAME FOR ADVERTISING DECISIONS

Advertising is one of the major tools that companies use to direct persuasive communication to target buyers and the public. In developing an advertising program, marketing managers must always start by identifying the target market and buyers motives. Then they can proceed to make the five major decisions in developing an advertising program, known as the five Ms: Mission, Money, Message, Media, and Measurement.

As the business game “Hard Nut” simulates the production and selling of real boilers, it seems reasonable to use the stages Mission, Message, and Media during the decision-making, while the stage Money would be done later, taking into account the previous decisions of Mission and Media.

Common schema of organizing extended Business Game is shown in the Figure 1.

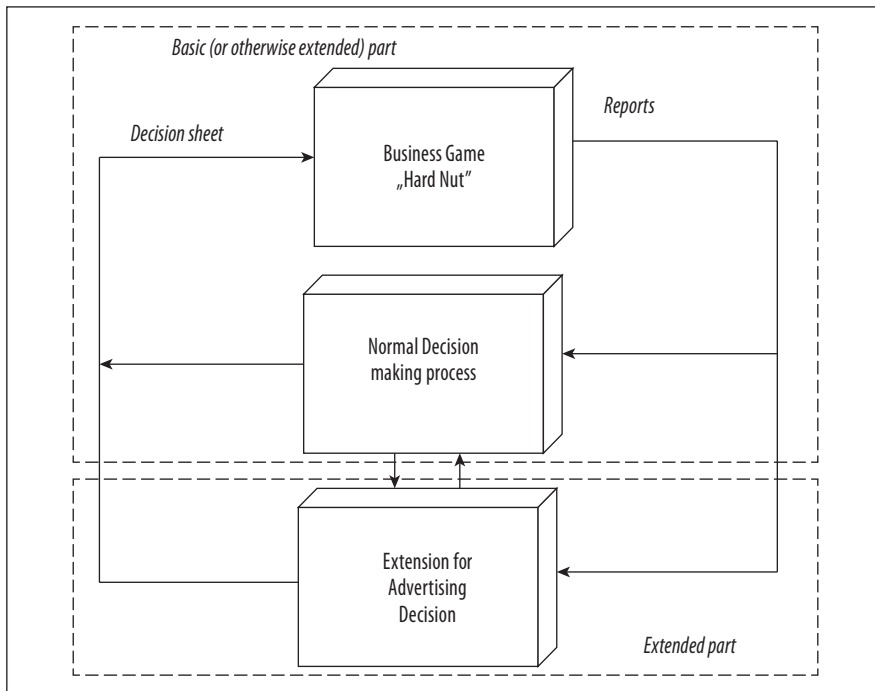


Figure 1. Schema of organizing extended Business Game

We propose to expand the basic part of BG with additional extended part for advertising decision.

Probably the main goal of stage Mission is finding the Target market.

The data regarding the heating of dwellings in Lithuania can be found in the web site of the Lithuanian Department of Statistics. That data describes the state during the census of 2001 and will be updated after the census of 2011.

The students should import the data from Lithuanian Department of Statistics in the form they can easily use. Thus they should create a MS Access database with both data from Department of Statistics and data from the database of the business game. Then, considering the rules of the game, it is possible to estimate the boiler demand in each region.

When boiler demand is known, it is possible to plan the advertizing. First the type of advertisement and its provider has to be chosen.

Table 1. Data from Lithuanian Department of Statistics

Region	Total traditional houses	Central heating from heating network	Central heating from local heating source	Other heating	No heating
Alytaus county	71965	34932	15699	24384	100
Kaunas county	253488	145566	72790	43925	544
Klaipeda county	135259	86299	27941	25476	379
Marijampole county	64945	21199	27786	19812	214
Panezezys county	116105	52232	36132	32034	313
Siauliu county	136507	62588	45197	34627	281
Taurages county	46349	12526	16900	19834	123
Telsiai county	62181	26963	18871	20593	91
Utena county	78076	31205	16715	31999	157
Vilnius county	310180	201046	47777	68870	550
Lithuania	1275055	674556	325808	321554	2752

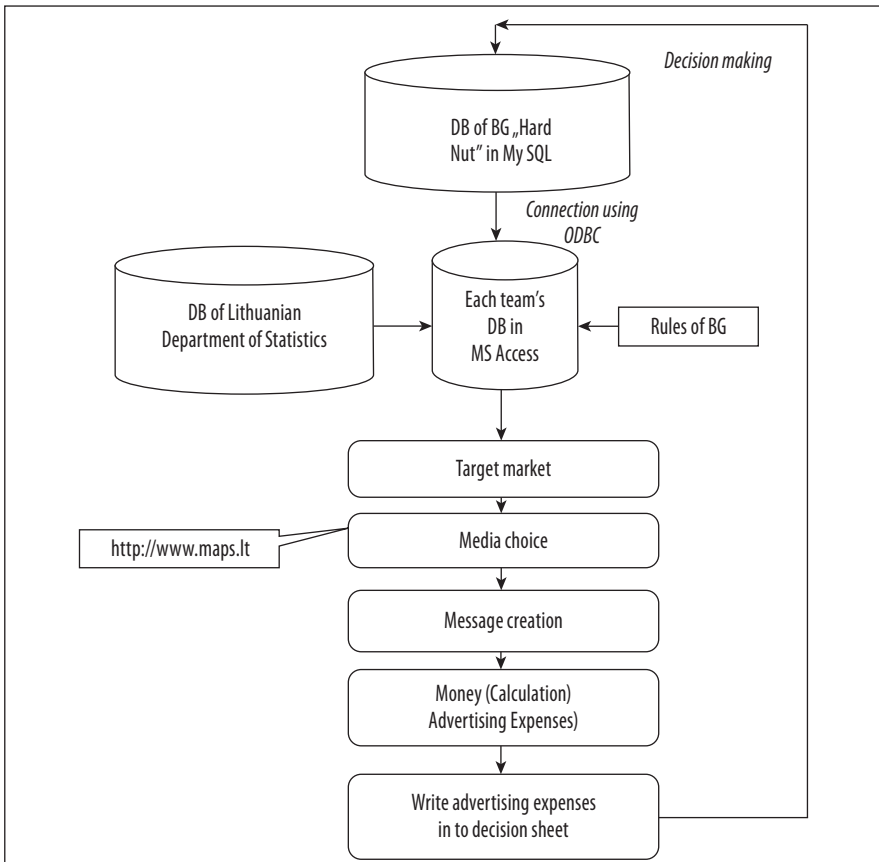


Figure 2. Schema of advertisement choice

That data lets the students to get a real picture of the situation and that leads to evidence-based decisions.

Stage Media lets the students to choose the media from the set of actually available resources:

- Audio advertising;
- Visual advertising;
- Audio-visual;
- Written advertising
- Internet advertising;
- Verbal advertising.

However the students have to explain their choice.

The schema of choice of the advertisement is shown in Figure 2.

The place of advertisements can be shown using ESRI computerized maps (<http://www.maps.lt>).

For example, if billboards are chosen, their placement can be selected from the set of available places. Mapping software can be used for this purpose. An example of possible placing of billboards is shown in Figure 3.

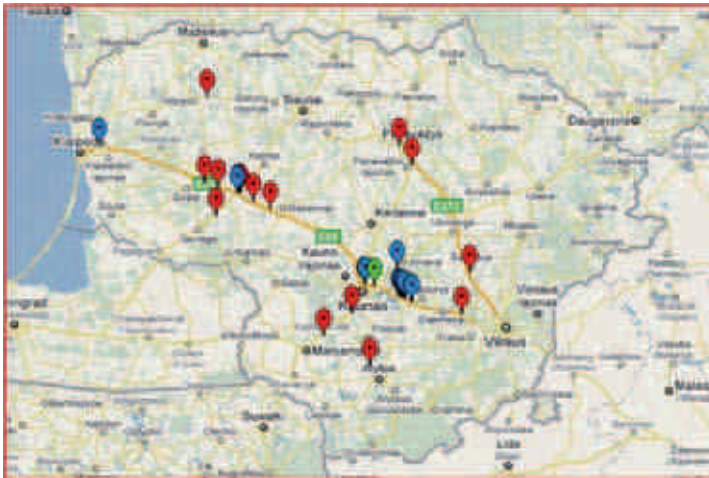


Figure 3. Example of billboard placing

The players can also choose a slogan for their advertising campaign.

It is clear that the slogan or message depends on the chosen media. Thus the players would have to take the chosen media into account.

Of course, the players can choose one or many places for advertisements, but in each case they have to give an exact place, time and costs.

Then the players can calculate the realistic advertisement expenses and enter them to the decision sheet. The slogans are presented, compared, evaluated and ranked during debriefing.

If students are playing extended version of business game they should execute following steps:

- The students should import the data from Lithuanian Department of Statistics in the form they can easily use;
- They should create a MS Access database with both data from Department of Statistics and data from the database of the business game;
- Considering the rules of the game, it is possible to estimate the boiler demand in each region;
- When boiler demand is known, it is possible to plan the advertizing. First the type of advertisement and its provider has to be chosen.

Such method of finding the advertizing expenses has been offered to the students of Young Computer Users' School of Kaunas University of Technology.

A short survey of those students has shown that this extension of business game made it easier for them to understand the necessary level of advertizing expenses. They also found it easy to see where those funds would be used most effectively.

3. CONCLUSIONS

Similar amounts of enterprises indicate the adequacy of the business game. Thus advertising methods used in the real world might be applied in the business game as well.

The proposed approach can facilitate the multidisciplinary learning by requiring the understanding of information systems.

It seems worthwhile to investigate the influence of advertising to decisions made by the players.

Using the maps in connection with the business game makes it easier to extend taking logistics into account. In such a case *ArcGIS* software package (by *ESRI*) could be used. Such an extension might be useful for Service operation management module.

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