An Interactive Telecommunications Business Game for Strategic Exploration

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Abstract

We have developed an interactive business game based on a model of a telecommunication industry with a number of operators and a regulator. We have used this game in a number of workshops that allow teams of managers to explore new strategies together. In this paper we give an overview of the game, which is based on a Powersim systems dynamics model linked to a Microsoft Excel interface, and relate our experiences of using the game. We will particularly focus on the insight into the potential benefits of using this type of game to create a learning environment and how this fits in with the organisational change processes.

1. Introduction

Interactive business games based on computer models are becoming increasingly popular as learning tools, particularly within training and education [1]. There are fewer documented examples of applications within businesses. Applications in the exploratory stages of the strategy formulation or organisational change processes, as opposed to the later consolidation stages, seem to be very rare indeed. However, the highly interactive nature of such games and their ability to bring a group of people together in a simulated business environment suggests that business games can be a useful technique for helping teams of managers to explore strategic issues.

The game we developed was tailored to address issues that are likely to be faced by telecommunications companies in the next decade where they find themselves operating in new roles and unfamiliar environments outside their country of origin. In this paper we will describe the game briefly and relate our experiences in initial trials of the game with managers from within BT (British Telecommunications).

2. The game

The BT Telecoms Business Game is based on a competitive market model of the telecommunications industry in a fictitious country. The current version of the game has four players: three operators and an industry regulator. The operators offer telephony products to a market of business and residential customers and the players make decisions on tariffs, work force levels, marketing effort and network infrastructure investments. In addition, the game includes a wholesale market including indirect access and interconnect agreements as well as opportunities for operators to lease plant from each other. The regulator has powers to control the tariffs set by the operators as well as a range of powers within the wholesale area.
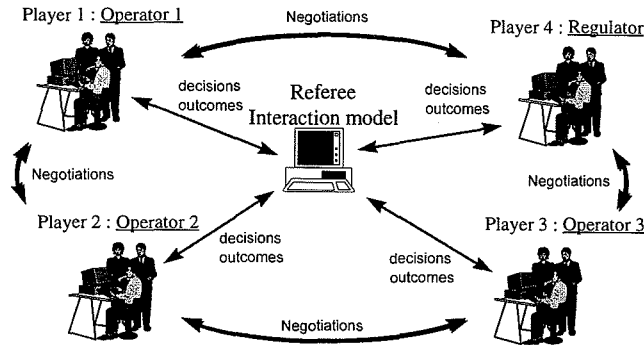
FIGURE 1. Game Configuration

The configuration of the game is illustrated in Figure 1. The central "referee" computer plays host to a system dynamics model, implemented using Powersim, which models the retail and wholesale markets. This is linked dynamically to a Microsoft Excel workbook which enforces the regulatory constraints on operator decisions and manages the communications with game players, receiving decisions and transmitting results. Each of the players use a front-end implemented in Microsoft Excel residing on computers networked to the central computer. The players interact through the decisions they make and the results they receive from the game model. However, we encourage negotiations between the players during the course of the game; this interaction is as important as, if not more than, those mediated by the computerised aspects of the game.
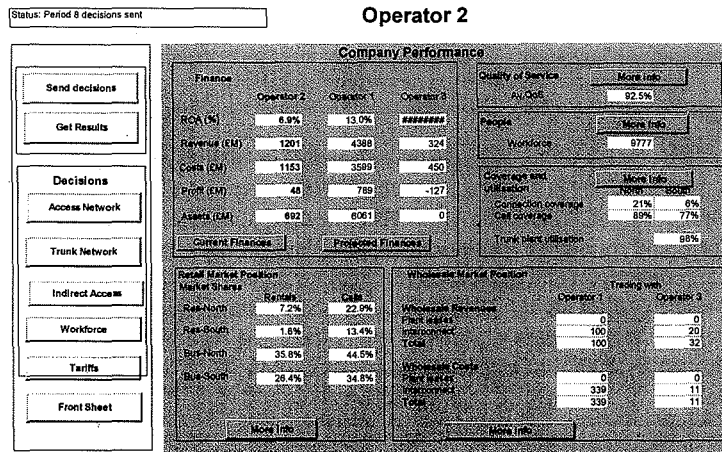

FIGURE 2. Example of operator player front-end

Figure 2 shows an example of the main game control screen of an operator player. The buttons on this screen are linked to other screens used to enter decisions and providing more detailed results. The process of running a game workshop typically takes 6 hours and can be done in one day. Each player is run by a team of 2-4 people so the total number of people involved is usually 8-16,

with the 3 members of the development team acting primarily in a facilitatory role. Workshops have so far been held in one large room with the four teams based in the corners of the room.

The workshop starts with an introduction to the game and a demonstration of the game interface, which takes about 30 minutes. This is followed by about 8 rounds of the actual game, corresponding to 8 years in the game model. At the end of the game a representative from each team gives a brief presentation to all workshop participants, outlining their strategies, how these strategies were pursued and how successful they were in achieving what they set out to do. The presentations and the resulting discussion act as a platform for relating the experience of the game back the real world and real issues faced by the organisation. We aim to allocate at least 90 minutes to this session to allow time to draw out as many learning points as possible.

3. Experiences so far

During the development phase of the game we ran four trial workshops with different groups of BT managers representing areas responsible for technical strategy, national and global marketing strategies, regulatory strategy and the central business management function. We gathered feedback from the participants in the course of the event complemented with a questionnaire completed by participants immediately after each event. The questionnaire included questions about the game, the overall event and the benefits gained by taking part. Table 1 shows some of questions used and percentage of "Yes" responses (the remainder being either "No" or "Unsure"). The numbers in the table are typical of the overall results, i.e. responses were highly favourable in all cases.

Table 1. Questionnaire results.

Question	Positive responses
Does the game reflect a realistic situation?	81 %
Did the feedback you get from the game influence your decisions?	81 %
Did you find the game easy to play?	85 %
Did you learn about alternative strategies which you had not considered before?	81 %
Did you learn anything about the other players in terms of their views on strategic issues?	92 %
Did the gaming experience help the participants feel part of a team?	85 %
Was the playing the game fun?	100 %

A specific point to note is that we seem to have struck a reasonable balance between perceived realism and ease-of-play. The number of decisions that players have to make in each round is quite high, about 30. However, the game is aimed primarily at industry experts who can not only cope with a large decision space but require a significant amount of complexity for the game to be seen as a sufficiently realistic model of a real industry to enable them to explore the issues they are concerned with. We have deliberately not tried to model any specific country since, if we did, minor inaccuracies might distract from the real issues and it would make the game less versatile. The interactive nature of the game also help players become engaged in the game, more than with stand-alone flight simulators.

In terms of the potential benefits of the game, the questionnaire was also highly encouraging, indicating that it does indeed deliver the benefits we were aiming for. We have not tried to programme in specific learning points that we try to get participants to discover. Rather, the game is designed to be an open playing field which allows people to learn from each other and about each other. This is particularly useful when participants are drawn from many different areas since the game helps you to find out what other parts of your business think about strategic issues that are of common concern.
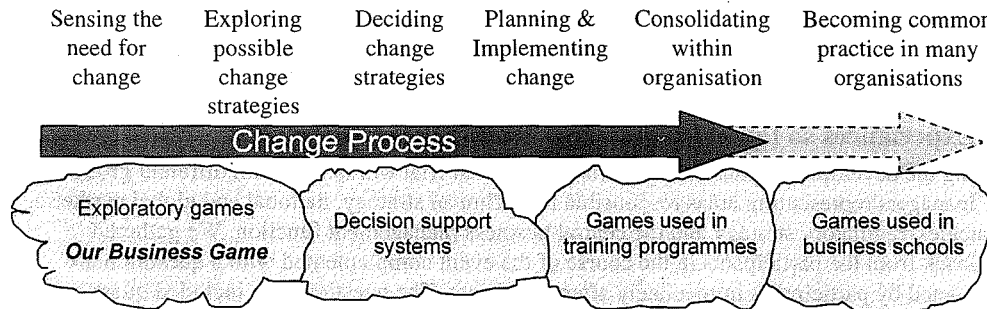
Sensing the need for change	Exploring possible change strategies	Deciding change strategies	Planning & Implementing change	Consolidating within organisation	Becoming common practice in many organisations

FIGURE 3. Change process indicating how models are used in organisational change

One of our main objectives was to make a game for strategic exploration. We appear to have succeeded in doing this as participant indicated that the game did make them discover and experiment with strategies they had not considered before. This emphasises that games and simulation models in general have many potential uses within organisations. Figure 3 shows how our game is positioned in relation to organisational change or strategy development processes and indicates how models may be used within the different stages of these processes. As indicated in the introduction the potential uses towards the left hand side of the diagram appear to be less common than the other uses but we hope that our experiences have shown that it can be done.

4. Outlook

The initial trials of the game have generated substantial interest within BT. Over the next year we will be running a number of workshops commissioned by internal customers seeking to address specific strategic issues with each workshop. One of the main strengths of the game is that it is sufficiently general to enable such customised workshop with only minor modifications to the existing game.

5. Acknowledgements

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6. References

1. A J Faria, "A survey of the use of business games in academia and business", Simulation & Games, June 1987, pp 207-224.