

# Chapter 30

## Serious Games for Serious Business: Improving Management Processes

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### ABSTRACT

*The focus of this chapter is serious games and their applications in management education, training, and skills development. It is argued that the use of serious games can improve management processes in organizations, and it is shown that there are advantages to using video games for this purpose (games-based learning) in relation to traditional methods. A brief historical review of the use of business simulation games is conducted. It is shown that some types of entertainment video games can also help to develop management skills. Potential benefits of using serious games within businesses are mentioned as well as some problems that may arise in its implementation and ways to overcome them. Finally, some examples of the use of serious games with the aim of improving managers' skills and performance are presented.*

### INTRODUCTION

The dynamic and appealing world of video games has exhibited a remarkable development over the past few decades and the technologies employed in it, both in terms of hardware and software, enjoyed a huge improvement, allowing doing things that were unimaginable 30 years ago. Nowadays, there is already an entire generation that grew up

with video games and that is versed in its use. Video games are a real social phenomenon, which is transversal to all cultures. Therefore, it's not surprising that they began to be applied to areas beyond pure entertainment.

Serious games have emerged as a result of understanding the potential applications of video games beyond entertainment. This new category of video games had a tremendous growth over the last decade. Research and development in this area has given rise to numerous applications, covering

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areas such as health, tourism, safety, engineering, religion, politics, urban planning, and defense, among others. Throughout these years, this type of video games have caught the attention of both teaching professionals and the business world, which are seeking ways to use them as a tool for learning, training and skills development. This learning methodology that makes use of video games is called Games-Based Learning (GBL), presenting several advantages over traditional methods, which we discuss below.

With this chapter we intend to address the field of serious games in a perspective of its applications in management teaching and training. The use of business simulation games already has a long history, being used both in universities for management teaching, but also in businesses as a training tool. These virtual simulations allow applying theoretical knowledge, and allow graduates to experience some degree of reality, without exposing them to real situations that could be damaging.

The main purpose of this chapter is to show that there are significant potentialities and advantages in the use of some types of video games to develop management skills. We intend to show that specific applications for learning and training in management could be developed using video games technologies. As a result of the benefits of using serious games in training, managers will develop their management capabilities and their performance in their activities will be superior, thus contributing to an improvement in the management processes in organizations. Despite these advantages, there are also some potential problems in its use, which we will also address, as well as possible solutions to minimize these problems. Finally, we will also discuss some examples of the use of serious games that seek to improve managers' skills and performance.

## **BRIEF HISTORY OF BUSINESS SIMULATION GAMES**

The advent of computers has made possible to simulate processes that occur in reality. The applications and advantages of simulations were quickly understood. One obvious application would be to use a simulation to provide training and education in certain activities without the need to subject trainees to real life situations, with the disadvantages that this situation entails. The simulation would allow trainees to come into contact with a simulated situation that emulated actual conditions, to perceive the underlying mechanics involved and allow the realization of several attempts, if necessary, to perform tasks without the cost associated with error in a real situation.

According to Wolfe (1993), the origin of the first business games may be related to the use of board games and war games in China in 3000 BC. Regarding the modern management simulation games, Faria & Nulsen (1996) reported that its emergence occurred in 1955, with a simulation developed by the Rand Corporation based on the logistic system of the United States Air Force. In this simulation, called *Monopologs*, players must manage inventories of the supply system in the Air Force. In 1956 comes the first widely known game management, *Top Management Decision Simulation*, developed by American Management Association. This game was followed, in 1957, by the *Business Management Game*, developed by Greene and Andlinger for the consulting firm McKinsey & Company and by *Top Management Decision Game* game developed by Schreiber. Thereafter, the number of business simulation games grew rapidly. Kibbee (1961) conducted a survey of business games in use at that time, reaching a listing of more than 100 games and estimated that more than 30,000 executives had participated in one of those games. Several studies conducting surveys on the use of business simulation games were published; Faria & Nulsen (1996) cited several studies in this field (Dale

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