Chapter 15

E–Government Simulation Tool for Accounting Education: Personal Income Tax Simulator

Diogo Pedrosa  
Polytechnic Institute of Coimbra, Portugal

Antonio Trigo  
Polytechnic Institute of Coimbra, Portugal

João Varajão  
University of Trás-os-Montes e Alto Douro, Portugal & Centro ALGORITMI, Portugal

Pedro Sá Silva  
Polytechnic Institute of Coimbra, Portugal

ABSTRACT

This chapter describes a simulator used by accounting students to mimic the official process of filling out a Personal Income Tax form. According to the Portuguese law, this form describes the amount of the employees’ Personal Income Tax withheld within a company, which must be submitted periodically to the Portuguese Tax Administration. This process is accomplished through an E-government tool accessed by only authorized company staff, which makes it impossible for accounting students to use it. This presents an obstacle for students who are learning about accounting because they cannot experiment with the “real” process in the courses they are studying. By using the proposed simulator that imitates the behavior and interface of the official tools, students can “learn by doing.”

1. INTRODUCTION

We live in a constantly changing society, making increasingly difficult to monitor these business developments, especially for those who have not yet entered the labor market. With the implementation of the Bologna process, most students are deprived of what was their “soft” entrance into the labor market, in particular, through internships. Courses in areas such as Accounting and Management once had access to a traineeship, which provided students with the possibility to make direct contact with real businesses in the course of their training. In an attempt to overcome this difficulty imposed by the implementation of the Bologna process, the Business Simulation (BS) course was included in some of the degree programs such as
the Bachelor in Business Management, the Bachelor in Accounting and Auditing, and the Bachelor in Accounting and Public Management, at ISCAC – Coimbra Business School. This course aims at reproducing the life of a company with respect to the areas of management and accounting, thereby providing students with an experience which approximates them to the business world reality.

During the BS classes, students use Enterprise Resource Planning systems (ERP) and simulators. The simulators have the function of generating external information such as business transactions and tax documents, which are then processed by the ERP. ISCAC currently uses ERP, the PHC package and the Enterprise Simulator (Silva et al., 2012). The simulators enable students to learn and test their knowledge in an environment which is identical to the real system, without jeopardizing the system with real consequences (Silva, Pedrosa, et al., 2011).

Given that the BS course at ISCAC has adopted the simulator “Enterprise Simulator” and its users have identified the need to develop new features for the simulator (Silva, 2010), emerged the idea to develop new modules for the simulator. After carrying out a thorough study of the simulator, it was concluded that the Virtual Government was a less developed area being responsible for the simulation of operations related to the delivery of documents to the Portuguese Tax Administration (PTA). Within this area two new modules related to the delivery of the Personal Income Tax (PIT) were chosen for development, including the “Periodic delivery of withheld Personal Income Tax/Corporate Income Tax (CIT) and stamp duty” (or the official name in Portuguese “Entrega de retenções na fonte IRC/IRS e Imposto de Selo”) and “Modelo 10,” briefly explained below.

During the life cycle of a company, many payments are made, such as the payment of salaries to employees. Upon payment of one’s income, companies withhold their employees’ tax amount. Companies are obliged to send the type and amount of tax withheld in the previous month on a monthly basis to PTA via the heading “Sending withheld PIT/CIT and stamp duty,” available on the Portuguese Tax Administration Portal (http://www.portaldasfinancas.gov.pt). At the end of the accounting year, a company must discriminate against the total amounts withheld for each category and for each institution, person and company by completing a second form known as “Modelo 10,” also available on the PTA portal.

In order to develop these two new modules, the procedure used was the one proposed by Robinson (Robinson, 2003) characterized by the existence of four stages of development: analysis of the real system; conceptual model; computational model; and trial.

2. SIMULATION IN ACCOUNTING EDUCATION

We live in a society characterized by continuous technological innovations and improvements of human knowledge. This reality poses a new challenge to the current society, which is to learn faster and faster, and always bear in mind the economic and financial concerns. Schools are faced with these difficulties and use tools such as multimedia materials, software, simulators, etc., in order to improve the transmission of knowledge and the quality of education. Simulators, due to their relative low cost and potential (Banks, 2000; Law & Kelton, 2000), have demonstrated in the past to be excellent teaching tools in the most diverse areas, being the army one of the first groups to believe and apply simulation as a mean of education and training (Magee, 2006; Rosen, 2008).

Simulation has showed to be an important tool in different areas of knowledge (Banks et al., 1996; Law & Kelton, 1991; Stewart Robinson, 2002; Silva, Pedrosa, et al., 2011) and it is a well-known technique used in education. The importance of simulation in teaching lies in the fact that it allows students and teachers to analyze “what if” questions, thus testing different hypotheses of a real system, without jeopardizing the real system (Aldrich, 2005; Banks et al., 1996).
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