Chapter 9
EX–ANTE and EX–POST Model: Contributions and Applications

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ABSTRACT
The current international financial situation is causing serious budgetary constraints at the level of governmental organizations. This chapter describes how the Portuguese Air Force, in response to financial constraints, has added effectiveness and efficiency to the management of scarce resources by adopting new artifacts. One of the tools adopted is the Integrated Operational Management Information System (SIGOP). At the operational level, this tool is used for storing execution data, with no relation with the planned operational objectives. In order to join planning and execution, this research used the theoretical support of the EX-ANTE and EX-POST Model, in conjunction with the Zachman framework, to propose the Operational Management Model, which allows accounting of access control, registration and validation mechanisms within the information systems, essential to the Organization. Also, inserting planning data and Key Performance Indicators increased the SIGOP capabilities and permitted alignment between strategic level management objectives and execution.

INTRODUCTION
The Business Intelligence concept assumes the ability of organizations to access data and exploit information, analyzing and developing insights and opinions to allow increased and better decision making. The Portuguese Air Force (PRT AF) has the responsibility to: i) raise performance levels; ii) prepare its

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operational planning in order to overcome vulnerabilities by making the best use of available resources; iii) contribute effectively and efficiently for safeguard of the national interest; iv) align strategic objectives with execution at all levels of the Organization.

Recent drastic budget cuts makes imperative to rationalize and reduce the running costs of the organization, increasing operational value. Achieving management objectives is directly linked to the continuous adaptation capability to the changing environment in which the PRT AF operates.

This chapter describes the research conducted to improve the operational domain while increasing levels of effectiveness and efficiency. The research focused on studying and proposing changes to solve some shortcomings in the monitoring and operational analysis on the Flying Regime (FR) linking execution to management objectives. As execution is recorded in the Integrated Operational Management Information System (SIGOP) and management objectives are recorded in the Integrated Management Defence System (IMDS), helping the Organization to overcome existing vulnerabilities and raise levels of performance, resulted in adding a link between both systems and improving SIGOP in such a way that it has all the information needed to operate taking into consideration management objectives.

Conducted by the PRT AF, the research was based on knowledge theories and principles of Organizational Engineering (OE) that culminate in the adaptation of two concepts, EX-ANTE and EX-POST and Zachman framework, which allowed the development of the Operational Management Model (OMM) that, applied to SIGOP, provides the introduction of operational planning, as well as the necessary data to analyze KPI of all essential operational elements: missions (flight hours), crews and aircraft. During the research period the Model was used, as a prototype by the PRT AF Operations Division in a joint effort with the PRT AF Academy. The research also produced a master thesis that gave theoretical support to the Model. The Model is now in the initial stages of implementation into SIGOP.

The remainder of this chapter is organized as follows:

- Section “Concepts and Application” introduces concepts and applications that: i) stresses the importance of linking execution to planning; ii) identifies associated literature review’s contributions to the model; iii) characterizes the PRT AF operational key elements.
- Section “OMM Development” explains the Model concept and development, the validation process and the added value to the PRT AF.
- Section “Conclusion” reinforces that organizations must have the ability to improve and strive for excellence and the benefits the Model can bring.
- Section “Future Work” identifies the actions that are now being taken to extend the application of the concept.

CONCEPTS AND APPLICATION

This section presents the theoretical framework used to develop the research, divided into an overview of knowledge theories and principles used, and the scientific models directly involved in the development of the model proposed in the Section “Operational Management Model Development”.