Chapter 12
Maintaining Organizational Viability and Performance: The Organizational Configuration Map

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ABSTRACT
A certain state of an organization, in its strategic, tactical, and operational components results from a combination of elements that makes it a very complex entity. Its components should co-exist in a dynamic and constant balance, whose configuration must have flexible and adaptable reaction mechanisms. As processes increase in complexity, it becomes more difficult to manage an organization, almost in real time, in its many dimensions and configurations. It is therefore essential to identify, given its current complexity, how to guarantee holistic organizational adaptation, agent roles in configuration change, and also, how to design, organize, and manage an organization, in the resource domain, considering: 1) multiple restrictions, 2) critical needs of real time, and 3) various configurations. Using design and action research, this chapter proposes the concept of organizational configuration that, based on a macrogenesis capability, allows the creation and adaptation of transversal transformation mechanisms that, harnessing complexity, are able to maintain the necessary balance to guarantee viability and performance.

INTRODUCTION
Given the increasing organizational complexity, several perspectives have been defined by social scientists, management scientists and engineers that have come together in a shared effort to capture, analyze and understand the multitude of factors that affect the organizational world. Organizations are dynamic systems that run in complex environments and need to react to changes, by increasing its self-awareness and its ability to transform and adapt. Failure to adapt can lead to disruption. Adaptation mechanisms need
to consider the wholeness of the organization to maintain its viability and performance.

To steer our research, and due to its similarities to the business organization, we have proposed to use the flying aircraft organization concepts, based on the metaphor *Flying the Organization*, implementing, within the business organization, existing aircraft near real time steering concepts. Following design and action research methodologies, we have applied the theory to the Portuguese Air Force.

The document is structured as follows: Section 2 introduces the *Flying the Organization* concept, its components, actor roles and the need for near real time steering; Section 3 presents the foundations for the Research Context and Research Approach used; Section 4 outlines the aircraft versus organizational configurations and their components and similarities, defines an organizational configuration and proposes its definition and high level components; Section 5 proposes the organizational configuration map; Section 6 concludes and Section 7 presents future research recommendations.

**FLYING THE ORGANIZATION**

Today, globalization increases the need for constant changes in organizations, made by the need to react to constraints that are imposed but also to the need of steering the organization, using information technologies, in near real time. Thus, the relations between dimensions of an organization need to be dealt with in almost near real time, which calls for adaptability and flexibility.

Reacting to constraints that are constantly changing implies that the organization has a well-defined set of concepts, that are interrelated among each other and also that any change effects are known and reflected through out the whole of the organization.

An organization’s ability to implement changes constantly reveals its agility, flexibility and adaptability. Existing national and international contexts impose constant adaptation to different challenges. We argue that failure to adapt can lead to organizational disasters. This requires near real time1 steering (Páscoa, 2012; Páscoa et al, 2012). Therefore the problem statement is: *organizations do not possess near real time steering mechanisms.*

To clarify what we mean by near real time steering mechanisms we start by characterizing the context where they are actually used: the aircraft world.

Flying is an exact science, requiring precision, accuracy and the right information. Flying an aircraft is planning, detail, awareness, precision, learning, monitoring, analysis and reporting in real time, with the aim of “being ahead of the aircraft” and being able to predict (and prevent) the existence of exceptions that can result in errors or mistakes. In the flying “business” common errors or mistakes usually cost lives. Flying success lies in some key factors:

1. **Culture:** The meticulous preparation of personnel;
2. **Mission Planning:** Accurate, meticulous and rigorous planning;
3. **Configuration Selection:** Precise configuration selection;
4. **Real Time Feedback and Control:** Materialized by a cockpit that reveals the state of essential equipment, allowing for situational-awareness and, correction, as necessary;
5. **Adjustment Mechanisms:** To adjust the various parameters;

The selection of factors of flight, altitude, speed and fuel are, likewise, essential tools for mission planning and determine that aircraft components are arranged in a tailored configuration. If any of the mission planning aspects change during the mission, the aircraft may not be able to attain to the desired destination (Páscoa et al, 2012).