Chapter 12
Navigating Complexity with Enterprise Architecture Management

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ABSTRACT

Enterprises are like living creatures in the ecosystem – there are vast varieties of species; each individual in any species is unique, complex, dynamic, and constantly interacting with its ever-changing environment. Also, like living creatures, enterprises have many commonalities. These commonalities exist in all enterprises, regardless of their business, size, environment, culture, lifecycle stage, or any other factor. Enterprise Architecture (EA) management helps enterprises discover their commonalities, adopt best practices to manage the commonalities, and apply holistic and systemic approaches to tackling unique complexity encountered by enterprises. This chapter extracts thinking from many thought leaders in the EA discipline and consolidates a dynamic and multi-dimensional alignment approach to managing an enterprise's architecture as a living system. This integrated approach utilizes the "Fractal" concept in Chaos Theory and identifies six common alignment dimensions in enterprises. This approach includes dynamic alignment mechanisms to help enterprises navigate the increasingly complex and ever-changing world. This approach bridges individual alignments with enterprise optimization. A fictional example of a disaster relief operation is used to illustrate how the EA approach could help a relief enterprise navigate through the complexity and dynamics of the disaster relief operation to achieve life-saving results.

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1. INTRODUCTION

A Chinese proverb says, *Even a tiny bird has all the guts*. Any individual enterprise, regardless of its type and size, is a complex system. An *Enterprise* is defined in this chapter as *a set of people who are related by a common goal or goals formally or informally, permanently or temporarily, explicitly or implicitly.* An enterprise can be a company, a project, a program, a government, a mass movement, a military operation, a religious mission, a community, a group of nations, the human species, and much more. Enterprises are like living creatures in the ecosystem – there are vast varieties of species; each individual in any species is unique, complex, dynamic, and constantly interacting with its ever-changing environment. Managing any such enterprise is a highly complex pursuit.

This chapter integrates different schools of Enterprise Architecture (EA) thinking to address enterprise complexity through utilizing commonalities and applying dynamic alignment. The sections will discuss the dimensions of enterprise complexity, the unique benefits of the EA approach, the different schools of EA thinking, and an integration of the EA methods to manage enterprises holistically and agilely. The use of the EA approach will be illustrated through a fictional disaster relief operation.

The objectives of this chapter are:

- Integrating different schools of EA thinking to manage the many dimensions of enterprise complexity.
- Demonstrating how to apply the EA approach to tackle complexity and dynamics in real world problems.
- Identifying directions for future development and applications of the EA management approach.

2. BACKGROUND

To tackle the complexity of managing enterprises, an arsenal of management theories and approaches have been developed over thousands of years, with their flourish coming mainly in the 20th century. These management theories and approaches can be grouped into the following categories according to the perspectives they take:

2.1. Functional Perspective

This thought group views enterprise management as a set of responsibilities or activities that can be generalized into basic management responsibilities such as forecasting, planning, organizing, commanding, coordinating and controlling; or common functional branches such as human resource management, operations or production management, strategic management, financial management, information technology management.

The thinking and approach of this group emphasizes defining scope, roles and responsibilities of management activities and functions, identifying guiding principles that apply to management in general and to specific functions, and defining best-practice approach to perform and coordinate these management activities and functions.

Influential authors and works in this group include Henri Fayol's works on general theory and principles of management (Fayol, 1918); Alexander Church's works on the science and practice of management (Church, 1914); and Harvard Business School's Business Administration textbooks since 1921.

2.2. Psychological and Sociological Perspective

This thought group investigates the human and social aspects of enterprise management. It applies psychological and sociological approaches