Chapter 9
Project Management:
The Use of Soft Systems Methodology

ABSTRACT

This chapter seeks to explain possible uses of the soft systems methodology (SSM) for project management (PM) when uncertain and sometimes conflicting aims are being pursued. To this end, two topics were considered: (1) application of SSM for funds allocation planning among major development projects and (2) feasibility of industrial projects considering their compliance with principles of sustainable development. The focus of the SSM is on the so-called human activity system (HAS), synergizing all stakeholders towards a single goal. PM, on the other hand, not only deals with the HAS, but also manages organization-wide initiatives participated by a wide variety of stakeholders. In this respect, SSM can contribute to better implementation of the PM initiatives, thereby enhancing the obtained gains.

INTRODUCTION

By definition, a project seeks to achieve a clearly specified objective through a set of activities and tasks that are performed at the cost of resources. It has to be done within a predefined period of time and to particular specifications. According to this definition, a project must be unique, highlighting the variability of project portfolios (Sankaran and Agarwal, 2013). On the other hand, the project management (PM) refers to the process through which the movement toward achieving the project objective(s) is controlled. PM utilizes

DOI: 10.4018/978-1-7998-4504-1.ch009

special tools and techniques to build on the existing infrastructures and resources and hence manage the project in such a way to avoid interrupting the routine activities of the company (Munns and Bjeirmi, 1996). Basically, PM was introduced to evoke an organizational emphasis on the way inevitable changes are encountered by modern-age organizations. Success/failure of a project is largely determined by the way operational and strategic change initiatives are designed and implemented (Cleland and Ireland, 2006).

According to Archibald, a generic project goes through the following life cycle (Archibald, 2003):

- Formulating the concept (initiation, identification, selection),
- Providing the required definitions (feasibility, development, demonstration, prototyping, quantification),
- Execution (implementation, production, and deployment, design/ construct/commission, install and test),
- Closure (termination and post-completion evaluation).

These four phases comprise an architecture on which the budgeting, allocation of manpower and resources, and for timing of the project can be based. Details of the phasing may render different among different industries or products, but the basis is the same.

Considering different projects as temporary organizations, Turner and Müller (2003) characterized a project as being unique, associated with large amounts of uncertainty, and in need for much flexibility to address the wide variety of problems that may arise. The project complexity has long been a concern for project managers, and the general increase in the complexity has further added to this concern. Accordingly, it is crucially important to perceive the project complexity appropriately and understand the way it can be addressed by making different before the project goal is attained. Imposing clear impacts on the planning and control of the project, project complexity can interfere with the process through which the goals and objectives are identified and also with the choice of a suitable organizational form, contributing to the final project outcomes (San Cristóbal et al., 2018).

Also called human dimension, the human activity system (HAS) is a component of the PM and refers to initiatives implemented across the organization and participated by various stakeholders. The so-called holistic approach to PM sheds light on the PM based on holistic principles and gets to the HAS early in the course of analysis. For inter-connected projects, one needs a more comprehensive view. Taking such a wider view to the PM

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