


Chapter 11


Organizational Innovation Approach to Green Technological Innovation

José G. Vargas-Hernández

 <https://orcid.org/0000-0003-0938-4197>

Posgraduate and Research Department, Tecnológico Mario Molina Unidad Zapopan, Mexico

Omar C. Vargas-González

 <https://orcid.org/0000-0002-6089-956X>

Tecnológico Nacional de México, Ciudad Guzmán, Mexico

ABSTRACT

This study aims to analyze the implications of organizational innovation to green technological innovation departing from the assumption that organizational innovation and technological innovation are the dimensions that lead to the creation and development of green technological innovation capacities that have the potential to alleviate and ease the ecological and environmental crises. The method used is the analytical reflective based on the theoretical and empirical literature. It is concluded that the development of green technological innovation organizations tends to develop the competence to innovate and survive for a longer period in their domains.

INTRODUCTION

Organizational innovations are divided into technological innovation and management innovation (Chin & Chuang, 2015). Management innovation refers to the management strategy, structure, and systems. Technological innovation and creativity refer to the product innovation, operation processes and techniques. Organizational theory has influenced the principles of innovation management. Organizational management and technological innovation lead to higher organizational performance (Robbins & Judge, 2016).

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Organizational innovation theory and paradigm is formulated according to its deterministic character and identified in any analysis of innovation theory (Sundbo, 1998). The identification of an innovative organization to determine the structural variables and characteristics on the innovation of processes and products are centered on the organization as the unit of analysis.

The perspectives in innovation theory are the technology-economic, entrepreneurial, and strategic which may mix elements to determine actions leading to transformational social system. (Sundbo, 1995). Elements from each perspective may be valid to mix by a specific agency. The organizational innovation processes shared in practice and theory may be supported by the system-agency relation. However, the strategic perspective is the least developed (Nyström, 1979; Sundbo, 1998; Sundbo & Fuglsang, 2002; Tidd *et al.*, 1997).

Conventional organizational design theories have investigated extensively the interrelationships between the organizational structures, environment, and organizational performance variables. The classical organizational design theory was guided by the universal organizational forms as one best way to organize. Organizations design conceptual, theoretical and empirical models to support knowledge creation, learning patterns and innovative capabilities development, including lean production, high performance systems (Womack *et al* 1990), N-form corporation (Hedlund, 1994) and hypertext organization (Nonaka & Takeuchi, 1995), cellular forms (Miles *et al* 1997), modular forms (Galunic, & Eisenhardt 2001) and project-based networks (DeFillippi, 2002).

The organizational ability in knowledge-based economy to create and develop creativity, innovation and influential ideas is critical factor the viability of organizations and its impact on economic, social, and environmental change (Sørensen & Stuart, 2000). However, only a few studies deal with the relationship between organizational structure and innovation. These investigations have concluded that organizational structures facilitate the innovative creation of processes and products in relation to the environmental changes.

Institutional theories, organizational ecology, and evolutionary theories of the firm study the forces of the organizational inertia that respond incrementally to environmental changes. Industrial economics has provided theoretical and empirical foundations for the organizational structure, strategy, and innovative organization. The system theory in social sciences is the framework for explaining innovation, classify and characterize the modes.

Existing theoretical and empirical literature on organizational innovation is diverse and not integrated into a coherent framework. Empirical research on organizational innovation suggests that sources lie outside the organization (von Hippel, 1988; Lundvall, 1992). Empirical research paradigms suggest that sources of innovation lie outside an organization (von Hippel, 1988; Lundvall, 1992). There is scarce empirical research on the relationships between organizational age and propensities to produce technological innovations. The empirical analysis document the impact of organizational aging on different facets of technological innovation.

Research has the challenge to bridge the gap between the organizational action and the sources for innovative organizational change. The research streams of organizational innovation are interrelated and interacting between the different dimensions of organizational structures and innovation. Between organization and innovation there is a multi-level, dynamic and interdependent relationship between the organizational structural forms and innovativeness. Organizational design theories focus on the link between structural forms and the propensity to innovate (Burns & Stalker, 1961; Lawrence & Lorsch, 1967; Mintzberg, 1979).

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