

Doctoral Thesis in 2026 (Abstract)

Exploration Innovation and Exploitation Innovation: A Case Study of Chinese Electronics Firms

Graduate School of International Studies

International Humanities and Social Sciences

J. F. Oberlin University

Yang Sa

Abstract

This dissertation examines innovation as a structured mode of organizational action rather than as a difference in outcomes. As Chinese electronics firms have expanded their technological capabilities and competitive presence in global markets, they provide an empirical setting in which to revisit a core issue in innovation research: how innovation is initiated, organized, and advanced as a process of action within firms and across collaborating actors. Existing innovation research has largely classified innovation according to the novelty or market impact of its results, such as incremental versus radical or sustaining versus disruptive innovation. While such distinctions effectively describe outcomes, they provide limited insight into how firms frame problems, select approaches, coordinate action, and stabilize development pathways in the course of innovation.

To address this limitation, this study reconceptualizes innovation as a process structured by methodological choice. It proposes an analytical distinction between exploration innovation and exploitation innovation. These concepts are not differentiated by the degree of novelty of their results, but by the orientation adopted at the outset of value creation. Exploration innovation refers to processes in which firms do not take existing technological trajectories or product architectures as fixed premises and instead engage in open-ended search under high uncertainty. Exploitation innovation refers to processes that proceed within an established

technological and product system, focusing on refinement, optimization, and performance improvement. Innovation is analyzed through four dimensions: starting point, method, organizational action, and outcome.

The empirical analysis is based on multiple case studies of DJI and Lenovo, two leading Chinese electronics firms operating under different industrial conditions. Data were collected through field research and semi-structured interviews were conducted between 2023 and 2024. The interview corpus exceeded 400,000 Chinese characters and was analyzed using qualitative coding procedures.

The DJI cases illustrate exploration innovation. In its development of civilian drones and later in the creation of a compact handheld imaging device, DJI operated under high uncertainty and did not rely on fixed technological trajectories. Problem definitions and solution pathways evolved during this process. Innovation was organized through iterative experimentation, rapid prototyping, and the recombination of heterogeneous technological components. Organizational structures were flexible, and decision-making cycles were short. Outcomes included the formation of new product concepts and the creation of new market segments. Across these cases, exploration innovation is characterized by an open starting point, experimental methods, and the construction of new technological configurations.

The Lenovo cases illustrate exploitation innovation. Operating within a mature personal computer architecture, Lenovo's innovation projects began with clearly

defined technical bottlenecks or performance targets embedded in existing systems. Development followed systematic engineering logic and proceeded through stepwise validation and coordinated collaboration with external partners. In one case, strong technological interdependence required sequential adjustment and close coordination; in another, relatively modular technology was integrated to consolidate dispersed components, resulting in cost reduction and efficiency gains. In both cases, innovation deepened and optimized an established system rather than creating a new technological trajectory. Exploitation innovation is therefore characterized by a delimited starting point, methodical implementation, coordinated interorganizational action, and outcomes centered on performance enhancement.

This analysis clarifies that exploration and exploitation innovation represent two distinct orientations in organizing innovation processes. The distinction does not rest on the novelty of outcomes but on how uncertainty is addressed, how problems are defined at the outset, and how organizational action is structured and sustained over time. Exploration innovation is oriented toward constructing new technological trajectories, whereas exploitation innovation is oriented toward deepening and refining an established system.

This study contributes to innovation research by shifting attention from outcome-based classification to process-based understanding, grounded in a methodological orientation. By applying a unified analytical framework to multiple cases, it

demonstrates that exploration and exploitation innovation can be identified as structured patterns of action within concrete organizational contexts. Rather than positioning the two as alternatives for comparison, this study conceptualizes them as distinct but coexisting orientations through which firms organize value creation.

Although the empirical focus was limited to the electronics sector and relied primarily on qualitative evidence, the developed framework provides a conceptual basis for further research. By clarifying exploration and exploitation innovation as processual orientations rather than outcome categories, this dissertation offers a perspective for examining how firms structure innovation under conditions of uncertainty.