

# Structural Complexity in Knowledge Intensive Research Organisations

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## Abstract

Academic attention has recently addressed the problem of supply chain structural complexity. This is defined as the complexity that originates from the firm's business strategy and is linked to the answer given to questions regarding who the customers are, what do they want, and how they can be reached. Structural complexity originates from strategic and operational choices, and it is typically reflected in the proliferation of products, markets, and channels. Although new product development, expansion to new markets, and the use of diverse channels, are typically associated with innovation, attraction of new customers, and ultimately growth; when out of control, they may introduce hidden costs and limit the firm's capacity for generating profits.

Similar to the case of manufacturing firms, complexity may also affect knowledge intensive research organisations, limiting their capacity for delivering their services. Our study explores the structural complexity of the project portfolio of an industrial research organisation. The objective is to provide insights about the inherent complexity of the organisation's project portfolio. In particular, to investigate if this complexity is evenly distributed across the different groups within the organisation; how the current levels of complexity affect people's performance and well-being; and how could this approach help the centre to identify-and therefore mitigate- hidden costs brought by structural complexity; and to provide better research services for their customers.

**Keywords:** Structural complexity, knowledge intensive, research organisations, decision making, portfolio restructuring