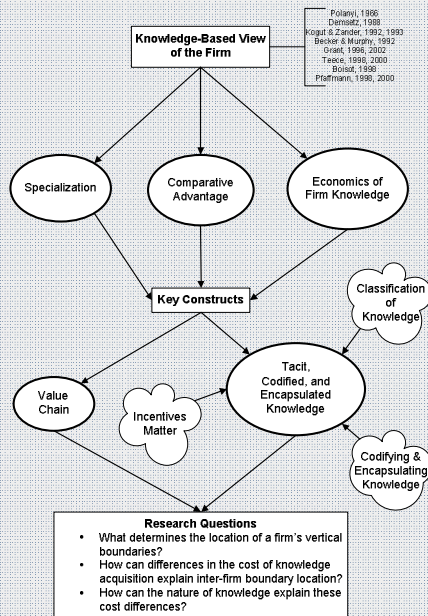


# Knowledge-Based Vertical Integration: How the Nature of Knowledge Affects Economic Firm Boundary Location

## Problem

Everyday, firms are faced with proverbial “make versus buy” decisions. These decisions are neither trivial for the profitability and survival, nor are they inconsequential for economic efficiency in general. Firms must continuously decide whether or not to abandon a process currently performed in-house to upstream or downstream firms and whether or not to extend into upstream or downstream activities. The goal of this research is to empirically demonstrate that the nature of knowledge can contribute to the question of where the vertical boundaries of a firm may be most economically located.

## Conceptual Framework



## Typology

**Knowledge:** *the value-endowing meta-resource that originates from thought, reflection, or experience.*

**Tacit knowledge:** *knowledge that remains resident in the human mind.*

**Codified knowledge:** *knowledge that is expressed as information using systems of symbols.*

**Encapsulated knowledge:** *knowledge that is embedded in an artefact's design and functionality.*

## Dimensions

Tacit, codified, and encapsulated knowledge differ along dimensions which have strategic and economic significance to a firm. Six of these dimensions are **Locus or Knowledge Substrate, Transfer and Diffusion, Expression, Acquisition Process, Source of Economic Value, and Observability.**

## Hypotheses

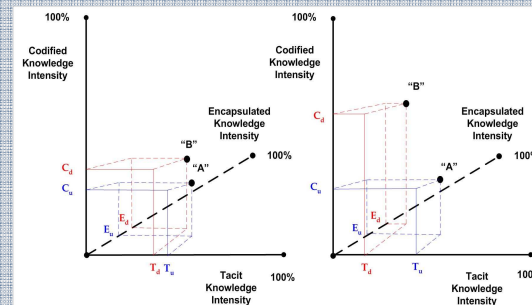
**H1:** *The presence of an inter-firm boundary between adjacent stages in a value chain is positively correlated to the size of the difference in knowledge-based factor intensities between those stages.*

**H2:** *Over time, differences in tacit, codified, and encapsulated knowledge factor intensities will increase between adjacent stages of a value chain.*

**H3:** *Over time, the collective level of tacit (codified, encapsulated) knowledge intensity will decline (increase) for adjacent stages of a value chain.*

**H4:** *The alignment between structure and knowledge-based factor intensities are expected to impact performance as follows:*

	Knowledge-Based Factor Intensities	
Structure	Large Difference	Small Difference
<b>Integrated</b>	Low expected performance	High expected performance
<b>De-integrated</b>	High expected performance	Low expected performance



## Small and Large Knowledge-Based Factor Intensity Differences

“A” represents the location of an upstream stage of production according to its reliance on the three types of knowledge. “B” represents the corresponding location of an adjacent downstream stage of production.

## Research Design

The research is **quasi-experimental** and **correlational-predictive**. Knowledge-based factor intensity will be measured by a survey designed to elicit relative perceived reliance on the three knowledge-based factors of production, in adjacent stages of production.

The population consists of two adjacent stages involved in the production of conventional mutual funds. The upstream stage consists of portfolio managers/advisors and the downstream stage consists of mutual fund managers. Evidence is expected to aid in explaining the co-existence of portfolio managers and mutual fund managers integrated into single firms and those that operate de-integrated and separated by inter-firm boundaries.