

# General Purpose Technologies and the Exploration-Exploitation Tradeoff

## **Abstract**

We apply a formal model to understand the effects of the relative learning rates of embedded agents and the institutional field on organizational outcomes.

## **Keywords:**

Embedded Agency

## GPTs and the Exploration-Exploitation Tradeoff

Arora & Fosfuri (2003)

Bresnahan & Trajtenberg (1995)

Gambardella & McGahan (2010)

Maine & Garnsey (2006)

Nelson (1959)

Thoma (2009)

Boudreau (2010)

Hosasain et al. (2011)

Teece (2012)

Rosenberg & Trajtenberg (2004)

Mostly work in economics. Very little work in strategy - some of it in Enabling Technology and Platforms Teece (2012)

Dedicated technology vs. General purpose technology

Low adaptation costs

complementarity of R&D investments

Vertical externalities

Horizontal externalities - unique to GPTs not in dedicated technologies

I am going to pitch this as an Appropriability Capabilities vs. Appropriability Environment framework that determines if the appropriate strategy is to explore, exploit, explore and exploit or just trade (or stay away).

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Insert TABLE 1 about here.

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Bring in the following: Absorptive Capacity Dominant Design Network Effect Search (Broad search vs Focussed search) Complementary Assets

## RESEARCH DESIGN

### Dependent Variable

***Degree of Exploration*** 0 - Exploitation, 1 - Exploration, 2 - Exploration and Exploitation, 3 - Trade

### Independent Variables

***Appropriability Capability***

***Appropriability Environment***

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**TABLE 1:** The Exploration-Exploitation Tradeoff with GPTs

		Name1	
		Factor1	Factor2
Name2	Factor1	5	4
	Factor2	2	2