



AI, SOCIAL CHANGE, AND PUBLIC POLICY

INTERNATIONAL CONFERENCE OF THE GEUMGANG UNIVERSITY WITH
THE SUPPORT OF THE KOREAN NATIONAL COMMISSION FOR UNESCO

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KAIST

GRADUATE SCHOOL OF INNOVATION AND TECHNOLOGY MANAGEMENT

A PICTURE PUZZLE: DIFFERENCE? (EXCEPT TIME DIFFERENCE)



ENGINE (1ST INDUSTRIAL REVOLUTION)



URBANIZATION



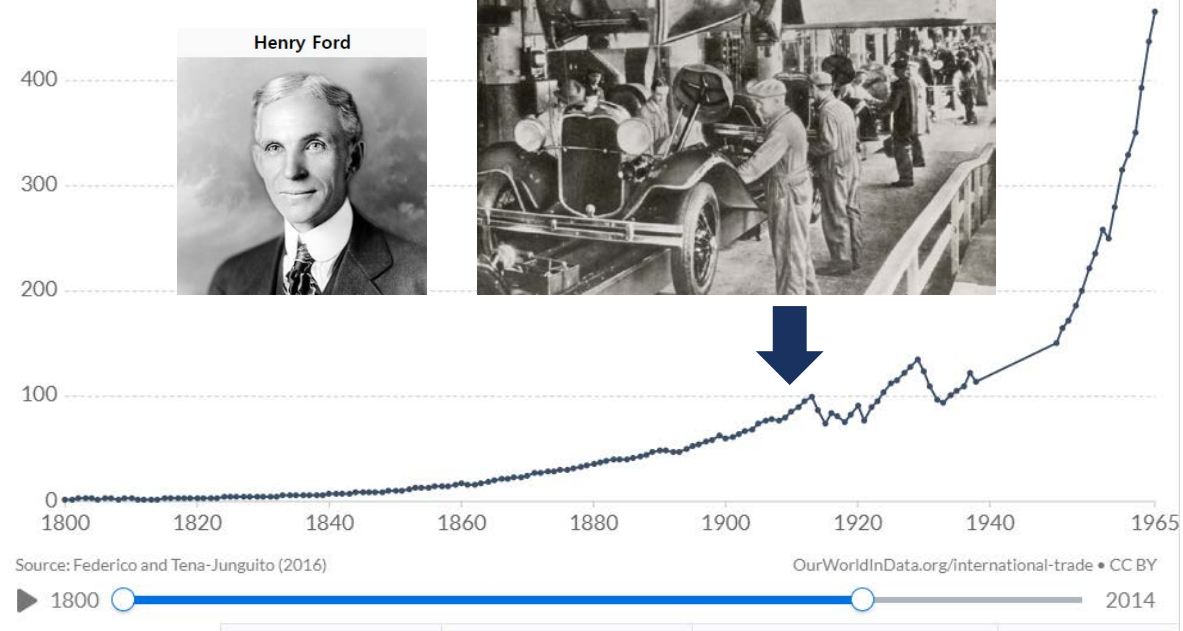
ENGINE (1ST INDUSTRIAL REVOLUTION)

The value of global exports

Time series of value of world exports at constant prices, relative to 1913 (i.e. values correspond to world export volumes indexed at 1913=100)

Our World
in Data

LINEAR LOG



GLOBALIZATION

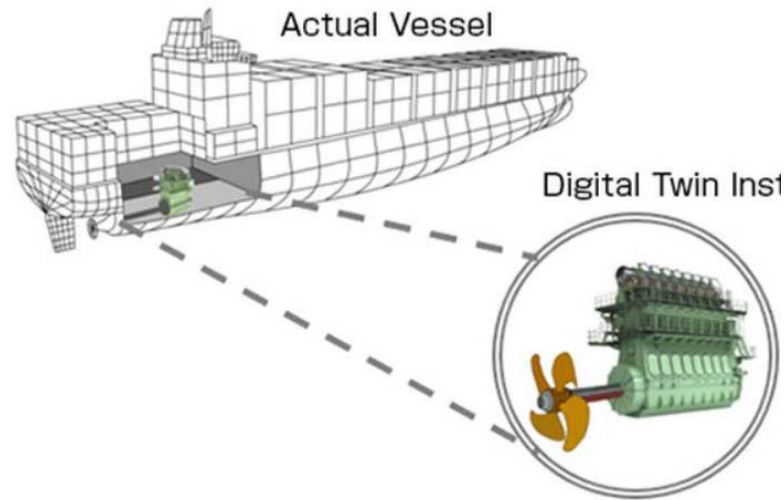


ENGINE (1ST INDUSTRIAL REVOLUTION)

- Capitalism
- Urbanization
- Globalization
- Schumpeterian Economy (Innovation Economy)

I. GENERAL PURPOSE TECHNOLOGY (GPT)

- **General Purpose Technology (GPT)** (vs. Special Purpose Technology (SPT))
 - GPT is a technology that can be eventually used widely to various purposes
 - GPT radially save labor time and cost as well as radically change life pattern and social structure
 - Examples: engine, electricity, computer, internet, etc.



Bresnahan, Timothy F., and Manuel Trajtenberg. "General purpose technologies 'Engines of growth'?" *Journal of econometrics* 65.1 (1995)

Gambardella, Alfonso, and Anita M. McGahan. "Business-model innovation: General purpose technologies and their implications for industry structure." *Long range planning* 43.2-3 (2010)

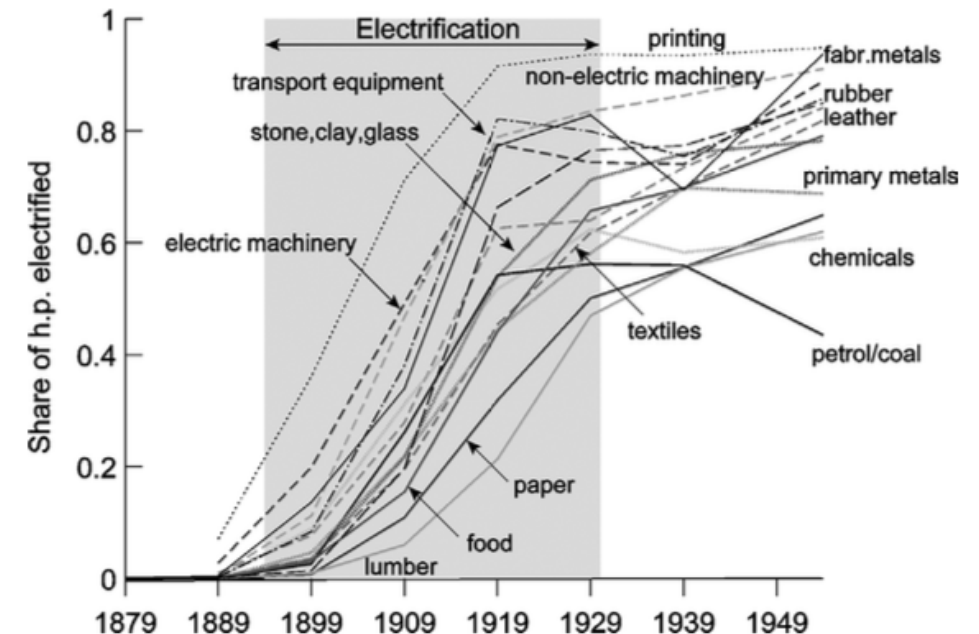
Jovanovic, Boyan, and Peter L. Rousseau. "General purpose technologies." *Handbook of economic growth*. Vol. 1. Elsevier, 2005

I. GENERAL PURPOSE TECHNOLOGY (GPT)

■ GPT Characteristics 1

- GPT expand both "Return to Scale" and "Return to Scope" at the same time
- **Pervasiveness: Effect of "Return to Scope" is Disruptive**

=> create disruptive new industries

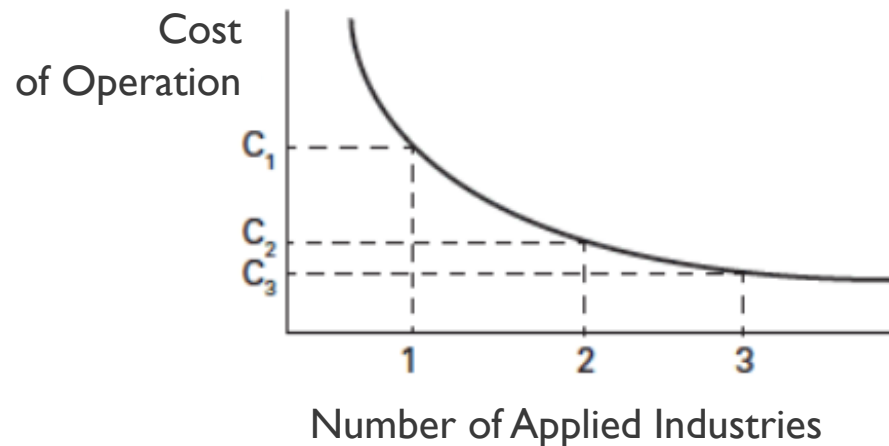


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Gambardella, Alfonso, and Anita M. McGahan. "Business-model innovation: General purpose technologies and the future of the firm." *Strategic Management Journal*. Vol. 28, No. 12, 2007, pp. 1153-1173.
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I. GENERAL PURPOSE TECHNOLOGY (GPT)

■ GPT Characteristics 1

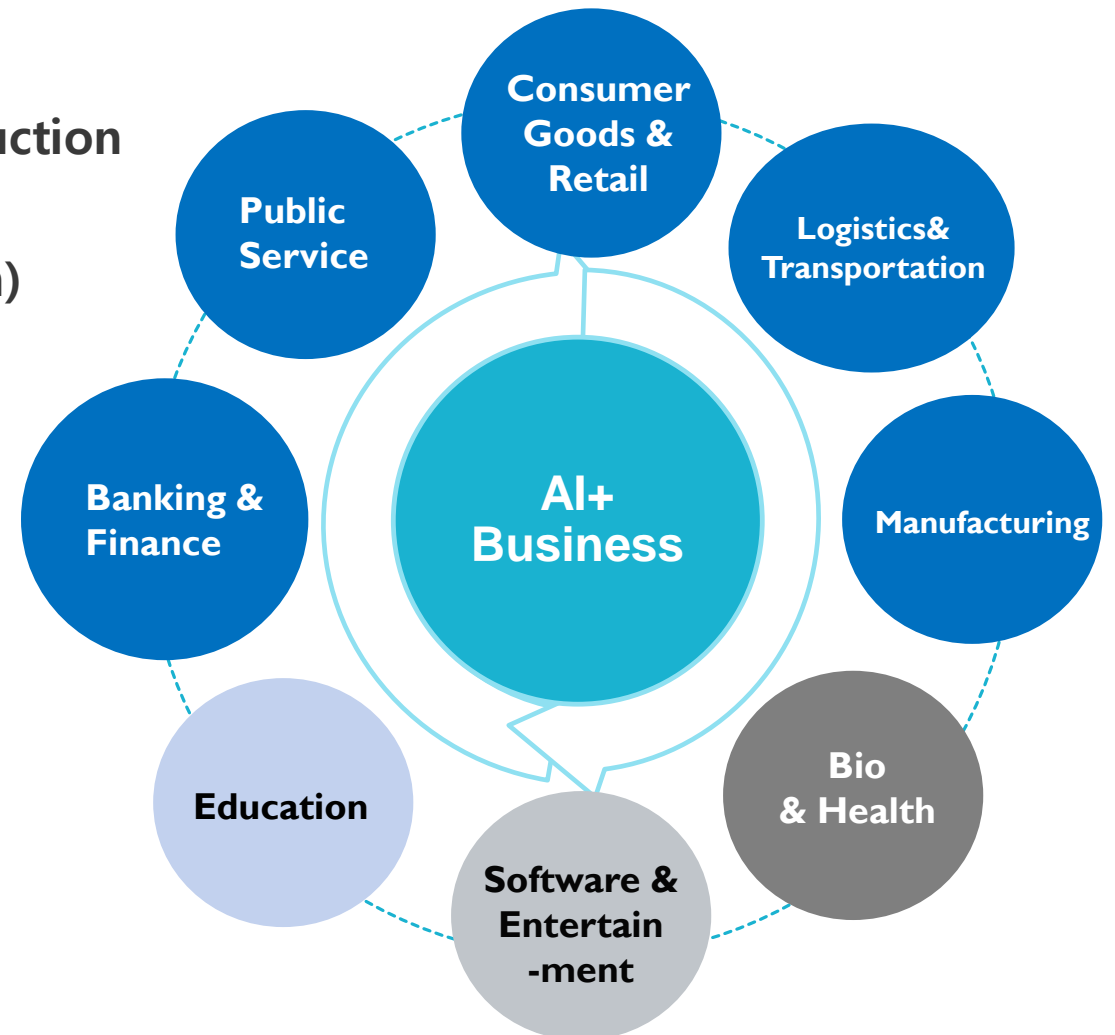
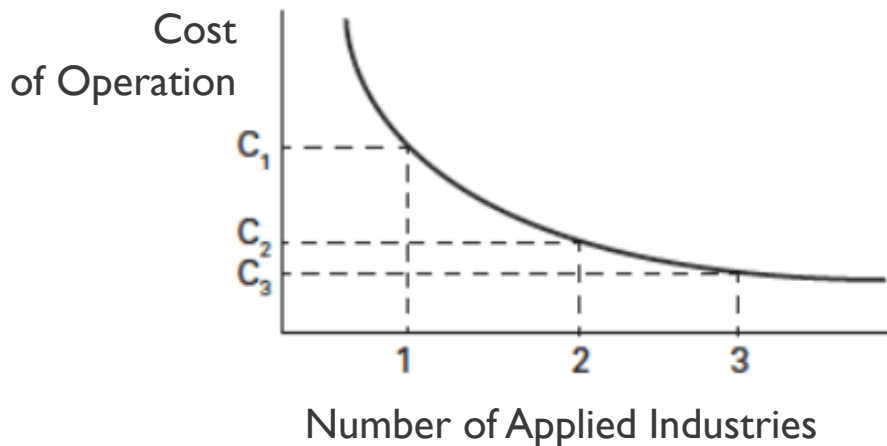
- “Return to Scale”: more used, more cost reduction
- **“Return to Scope” is Disruptive**
: More applied, more returns (cost reduction)



I. GENERAL PURPOSE TECHNOLOGY (GPT)

■ GPT Characteristics 1 - AI

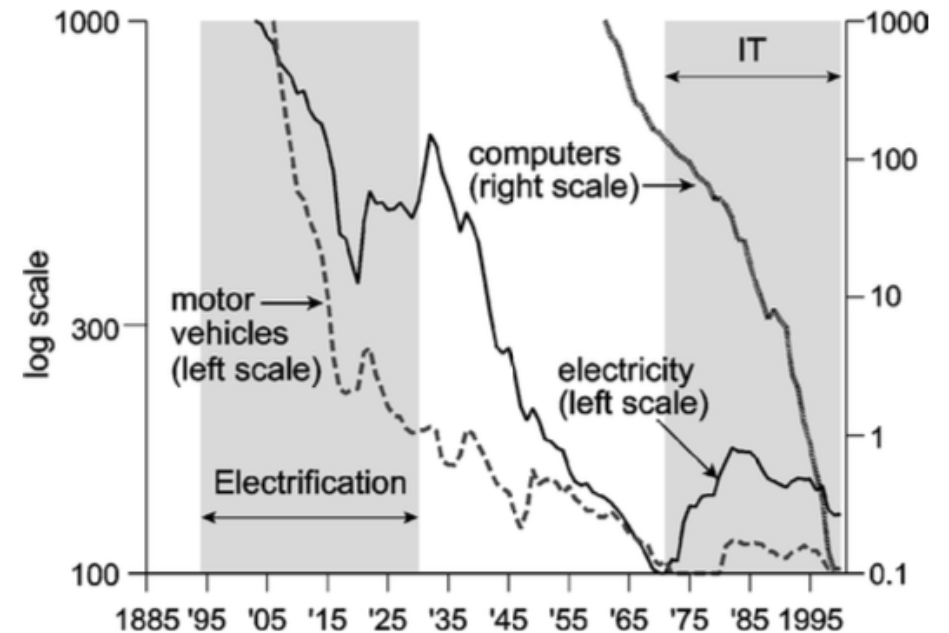
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I. GENERAL PURPOSE TECHNOLOGY (GPT)

■ GPT Characteristics 2

- Pervasiveness: applied to various industries
- **Improvement Potential:** cost reduction can be extensive under continuous innovation
- Innovational Complementarities: become easy to introduce new business innovation, new product innovation, new process innovation



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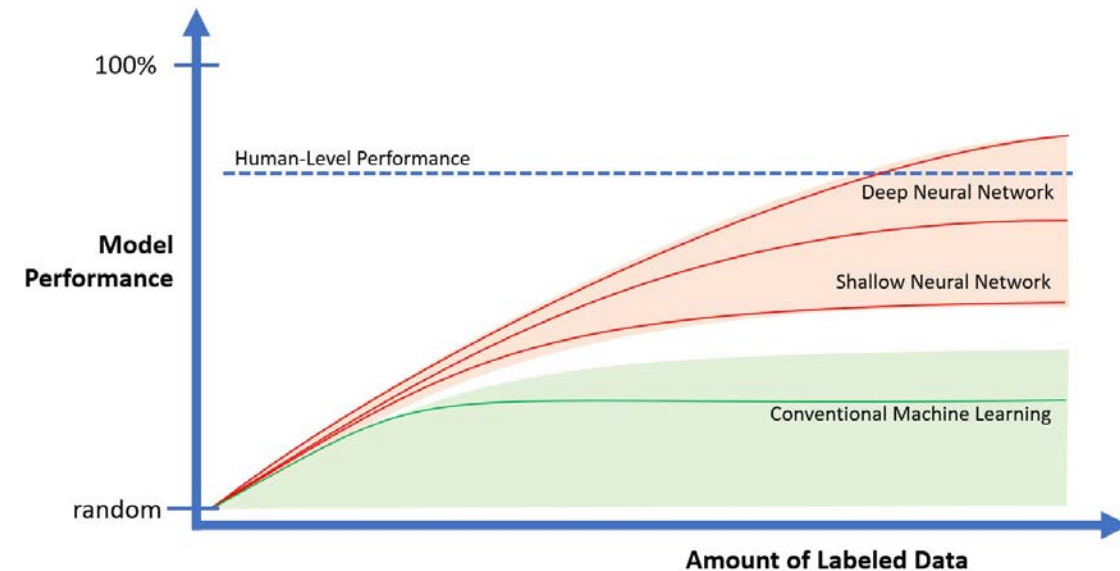
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I. GENERAL PURPOSE TECHNOLOGY (GPT)

■ GPT Characteristics 2 - AI

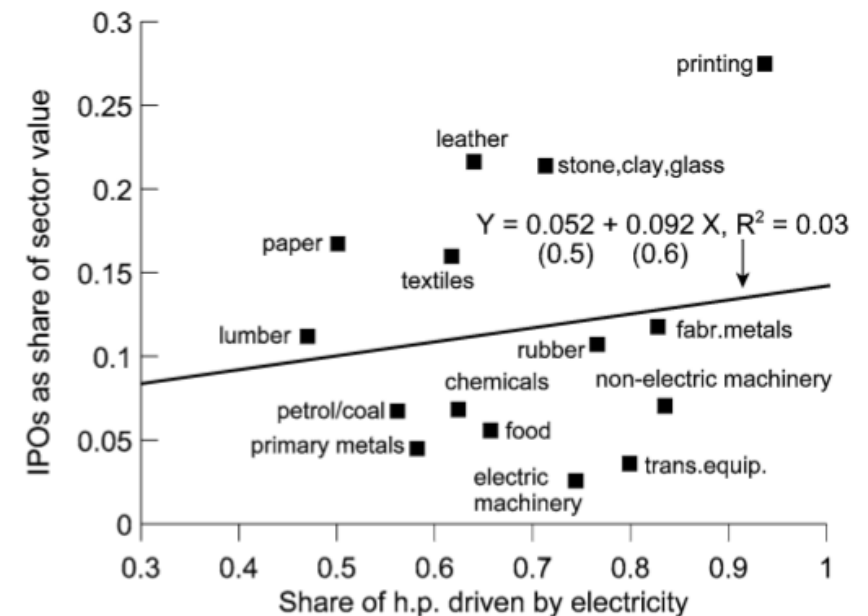
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I. GENERAL PURPOSE TECHNOLOGY (GPT)

■ GPT Characteristics 3

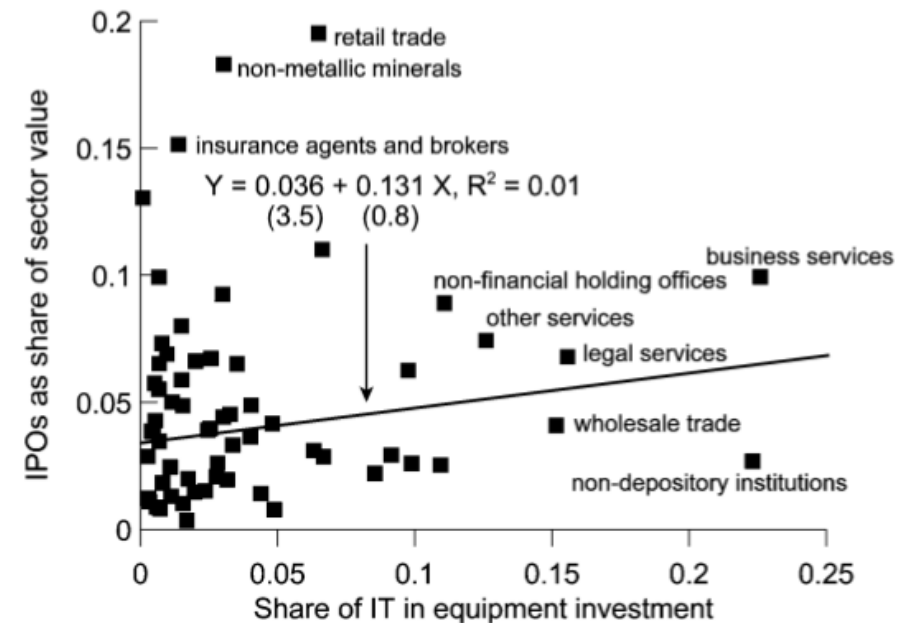
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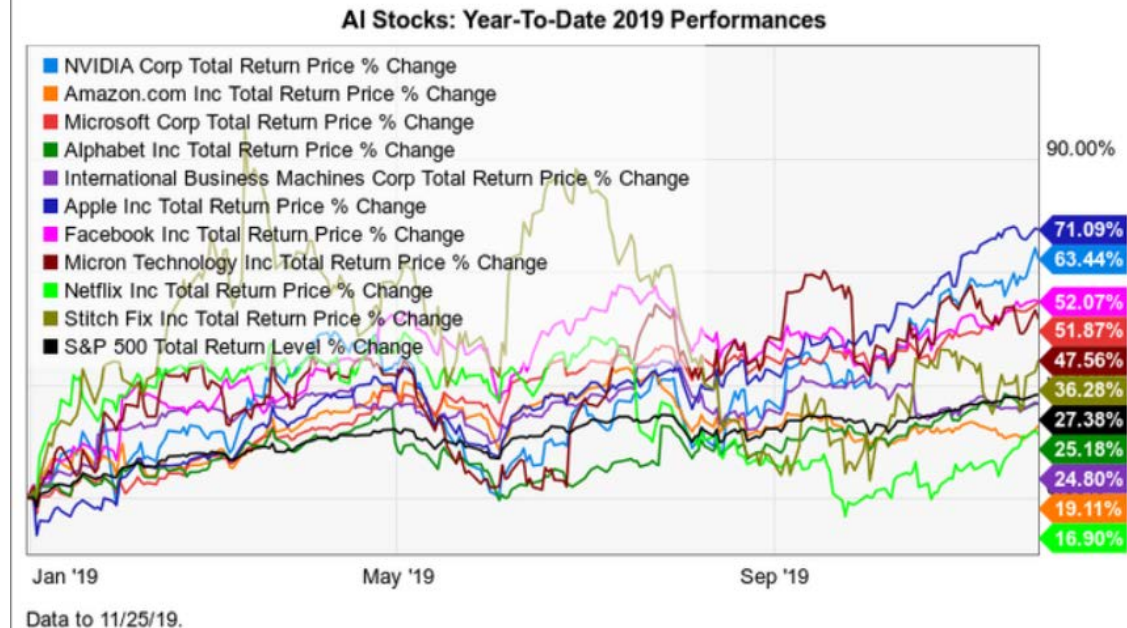
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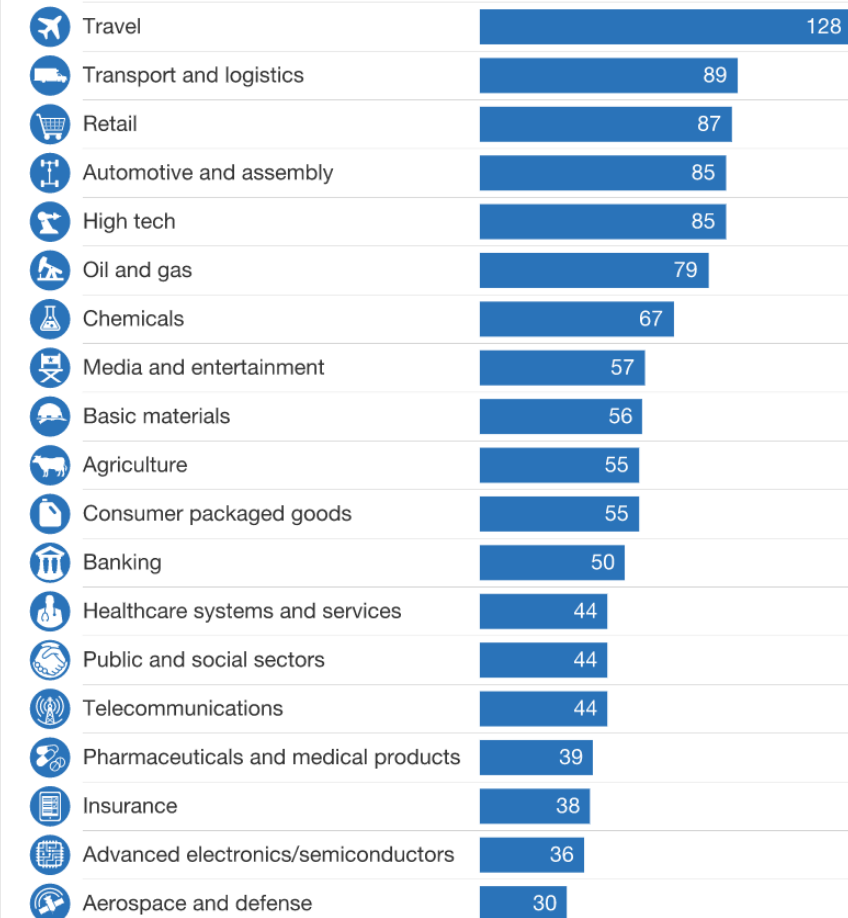
■ GPT Characteristics 3 - AI

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Breakdown of use cases by applicable techniques, %



Potential incremental value from AI over other analytics techniques, %



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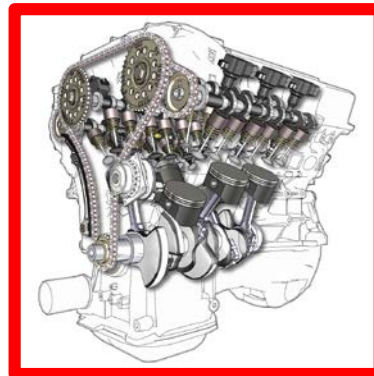
- **GPT: Other Characteristics**
 - **Productivity Slow Down:** takes time and cost to initial adoption and transformation – *J-curve*
 - **Skill Premium**
 - **Increased M&A**
 - **Startups and SME outperform**

II. AI AND SOCIAL CHANGE



URBANIZATION

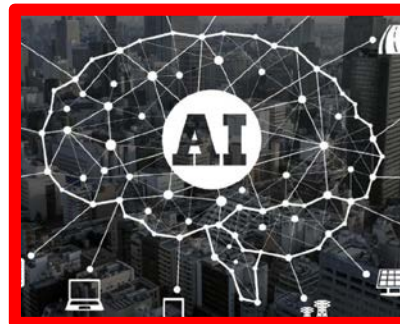
GLOBALIZATION



II. AI AND SOCIAL CHANGE

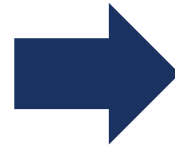


AI-ZATION



II. AI AND SOCIAL CHANGE

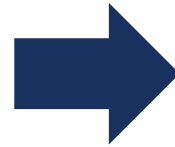
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AI-ZATION

II. AI AND SOCIAL CHANGE

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- **Great Capital Migration**
(to New Industries, New Countries, New Social Segments)
- **Capital Hyper Concentration**
(Super Platforms and Google Tax)
- **Discovering the New World (Metaverse)**
(Meta Opportunities, First Come, First Served)
- **Localization of Globalization**
(Untact Society, Dispersed but Connected Urbanization)

III. AI, SOCIAL CHANGE, AND PUBLIC POLICY

- Policy for Harmonized Migration
 - New Social Consensus for Wealth Redistribution
 - Policy for Aggressive 'Sailing'
 - Policy for Connectedness as Social Basic Infra
- 
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Thank you