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## **A CRITIQUE OF THE GENERAL PURPOSE TECHNOLOGY FRAMEWORK**

### **Abstract:**

This paper presents a critique of the General Purpose Technology (GPT) framework. It argues that the GPT framework is fundamentally flawed as an approach to understanding growth as it focuses on what are input production technologies (hereafter input technologies), and not on the associated primary inputs and resulting outputs. Computers don't produce output; rather, they produce information which is necessary for the production of output. Dynamos don't produce output, rather they transform prime movers (steam, hydraulics, fossil fuels) into electricity which is transmitted to machines that ultimately produce output. Steam engines don't produce output; rather, they too transmit prime movers (fossil fuels) into output. The problem with the GPT framework lies with the implicit assumption that there exists a one-to-one relationship between the intermediate input and the primary input. We will show that this assumption was violated in all three classic GPT cases, which explains what Paul David referred to as the "electricity paradox" and what Robert Solow referred to as the "information paradox." We then proceed to present an alternative framework based on the concept of enabling technologies.

### **Keywords:**

Growth, General Purpose Technologies, Information Paradox

**JEL Classification:** O31