**Investigating the Risk–Return Relationship of Information Technology Investment:**

**Firm-Level Empirical Analysis**

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This paper is motivated by the evidence of the high returns on IT investment in previous literature. There are considerable prior research on both IT returns and IT investment risks, but this paper is the first to study the risk-return relationship of IT investment.

The main research questions are: 1) How risky are IT investments relative to other types of capital investments? 2) What is the impact of IT risk on the required rate of return on IT investment and on the productivity and market value of firms?

The main conclusions are that IT investments are riskier than other types of capital investments, and that IT returns are associated with a substantial risk premium.

The paper makes several contributions. First, it’s the first to empirically measure IT risk and applied option-pricing theories of investment to examine the payoff from IT investment. Besides, this paper helps to explain the excessive returns on IT investment shown in prior research. It also have implication values. Managers should apply a higher hurdle rate of expected returns when investing in IT assets, as compared to other types of capital investment.

The main limitation of this paper is about data. It’s an old data and they only used industry segment level proxy measure of IT risk, which may decrease the explanatory power of the conclusion.

This study is based on the options-pricing theory. Basically, the key insights from the theory is that IT investment opportunities have the characteristics of real options and the opportunity cost of exercising these options increase in IT risk and, hence, can be a significant contributor to the risk premium associated with investments in IT capital.