

Statement of Purpose

“When love and skill work together, expect a masterpiece.”

- John Ruskin

The IS Identity Crisis and My Career Goals

I am a first year Ph.D. student in Management Science, but I have decided to transfer to an IS program. Although my background is a good fit for IS research, I didn't apply for admission to an IS program last year, because several Ph.D. students from different IS programs told me that the IS discipline was under crisis and would disappear from business schools soon. Yes, I remember there are a dozen of papers in *MISQ* and *JAIS* discussing the identity crisis of the IS discipline. Do I want to become a professor in an area that, as the Ph.D. students mentioned, might disappear soon?

However, after one more year's exposure to research, now I believe the IS discipline is rigorous and the research areas and core skills will be very important for many years to come regardless of the name of the department that I end up working as a faculty. It is true that the job market for IS Ph.D. graduates becomes more and more competitive. I believe I could still find a good position in a top research university if I have good publications before I graduate.

Placement records of the BIT Ph.D. program in the Ross School of Business show that at least four graduates in the program, who were doing in the same area as mine, have become faculty members in top universities. Therefore, the program is a good fit for my research interests and career goal. With the opportunity to work with the outstanding professors, I can expect a successful career.

Research Interests & Experiences

My proposed research topic is: *managing IT infrastructures and IT-enabled capabilities*. This research aims to investigate *how* could a firm manage a portfolio of IT infrastructures and build its dynamic capabilities and managerial flexibility to cope with technology and market uncertainty. Drawing theories from strategy management and technology management (e.g., Teece et al, 1989), researchers (e.g., Pavlou & El Sawy, 2006) have revealed that firms could gain competitive advantage from its IT-enabled capabilities. The remaining questions are: what are

the specific values of each category of IT infrastructures? How to build dynamic capabilities and managerial flexibility through IT planning and investment? I try to address these two problems by drawing theories and methods from real options and portfolio management literature (Trigeorgis, 1998; Luechrman, 1998; Fichman, 2004).

Research Experiences

My research experience related to the proposed research topic consists of two large projects.

1. Inter-functional Coordination for New Product Development, Granted by the NSF of China (07/2007 – 07/2009)

This project aims to understand how different functions (functional departments in a company, suppliers and customers out of the firm) are coordinated to innovation in the fast-paced information age with high technology and market uncertainty. Since July 2007, I have been working on a research project, *Inter-functional Coordination for New Product Development*, which is granted by the National Science Foundation of China.

Output of the project is listed below:

XX, X., Title of Paper 1, *International Conference on Management of Innovation and Technology (ICMIT 2008)*, 2008, Bangkok. (Literature review)

XX, X., Title of Paper 2, *International Journal of Operations and Production Management*, under revision for second round review. (Empirical study)

XX, X., Title of Paper 3, *Science Research Management* (in Chinese), forthcoming. (Case research methodology)

XX, X., Title of Paper 4, *International Conference on Industrial Engineering and Engineering Management (IEEM 2008)*, 2008, Singapore. (Empirical study)

XX, X., Title of Paper 5, working paper. (Empirical study)

XX, X., Title of Paper 6, under revision for *IEEE Transactions on Engineering Management*. (Master dissertation, an analytical model)

I worked closely with my supervisor Professor YY (the principal investigator) from ideas generation, proposal writing, empirical studies, to analytical modeling. During the ideas generation phase, I reviewed prior research in new product development and organization science and discussed it with my supervisor at weekly meeting, then gradually came up and refined the ideas. It was not until five months passed could we reach a draft framework, which became a proposal after additional two months' refinement under the supervisor of Professor Lu.

After submitting the proposal, together with another three students, I started to do some preliminary field studies to test the framework in the proposal. We visited about ten high-tech firms and did survey and semi-structural interviews with the general managers and department managers. Later, after discussion with my supervisor I managed to build an analytical model to quantitatively analyze the impact of software complexity, team structure and communication/coordination on software development costs. That decision resulted in my master dissertation in software development which won the *Golden Prize* from the graduate school.

2. Real Options and Portfolio Management (07/2009 - now)

My research in the current Ph.D. program aims to evaluate the value of a portfolio of dependent projects, which might be quite different from the sum of the value of each project. Considering the dependency and options value of the project is extremely important while making IT infrastructures investment decisions, because the value of IT infrastructure is related to the capabilities and revenue-generating applications that the IT infrastructure enables. The real options and portfolio management approaches might, from another perspective, help us understand the *Productivity Paradox of Information Technology* (Brynjolfsson, 1993).

Documentation of my research notes (Jul. 2009 – Nov. 2009) is available at:

<https://sites.google.com/site/xxx/ongoing>

References

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