

From: Lou Tornatzky, ltornatzky@calpoly.edu, 6-2680
Re: Proposal for Faculty/Student Research Project (*4 units of elective credit*)
Topic: A National Retrospective Study of Technology-Based Regional Economies

The Applied Research Problem

Since the mid-1980s, a number of states have launched various public-private-university partnership programs designed to foster technology-based economic development. These have included: manufacturing extension programs designed to assist small sub-tier suppliers in improving processes, systems and workforce; (2) programs to enhance technology commercialization and technology transfer function at research universities (patenting, licensing, startup companies); and (3) programs to seed major R&D initiatives that are trying to exploit new areas of science and technology with great potential (e.g., biotech, advanced materials). The State Science and Technology Institute (www.ssti.org) has been a clearinghouse organization for chronicling these activities for over 15 years.

The research problem here is to try to understand why there is great variance in the extent to which these programs are implemented and sustained. The lore is that many programs – involving alleged investments of many millions – never even get off the ground, other limp along for a few years, and still others (e.g., Georgia Research Alliance, Ben Franklin Partnership, Arkansas Science and Technology Alliance) survive and thrive, and can demonstrate significant impacts at the project level.

In effect this is a study of what determines the life and death of these types of initiatives. Results would presumably have implication for understanding “best practices” (or worst practices for that matter) in how to do this, which is of considerable interest to many states as well as leaders of high tech industry. It could also have implications in a larger context for understanding how any technology-focused organizational change survives – or not.

Prospective Role of the Faculty Technical Advisor

This is an area in which Dr. Tornatzky has worked and published for over 25 years¹ and the proposed project is one that he would play a major role working in collaboration with an MBA or EMP student. This would be a side-by-side working relationship, with the faculty member and the student working closely on a frequent basis. The faculty would work actively to develop the project proposal, guide the necessary literature review, and work with the student to develop measures and methods.

¹ See for example: Tornatzky, L, and Fleischer, M. *The Processes of Technological Innovation*. Lexington Books, 1990; and Tornatzky, L., Waugaman, P. and Gray, D. *Innovation U: New University Rules in a Knowledge Economy*. Southern Technology Council, 2002.

Prospective Research Design/Approach

This would amount to a retrospective survey analysis focused on participants/informants who were ostensibly involved in a technology program launch. We would draw a sample (N=20-30) of such program starts from the 1987-1997 era, and conduct semi-structured phone interviews and/or online surveys of approximately 4-10 respondents associated with each program. In Gliner & Morgan's terminology, this would amount to an associational design.

Issues and Potential Show Stoppers

At this point the background literature review is incomplete, and some effort needs to be directed to this early on so that we would not be doing what has already been done, and could also learn from what has been done. A second issue concerns whether we can easily identify a large enough sample of program initiatives that correspond to a common time frame. Most problematic is to see if we can identify potential interview/survey respondents, and find them now. Various online search engines will presumably help, but this is a methodological issue that needs to be cleared up, before we fully go.

If we have difficulty in identifying programs/respondents for >20 programs, the study would devolve to something akin to a multi-site (6-10) series of parallel case studies, relying more on archival data. That in itself would be a significant addition to the literature, but would not enable much in the way of sophisticated statistical analyses (numbers too small).

Anything Else?

If this can be pulled off, and there is reason to believe it can, there will be a research article or monograph that will result. Authorship would be shared, and generally follow the ethical guidelines of the APA Publications Manual. There is also a strong likelihood that LT will use the early results and approach as the basis of a grant proposal to the National Science Foundation and/or other potential funding agencies. The graduate student involved could be part of that process, if he/she so desired.

Contact

If you are interested in partnering with Dr. Tornatzky on this research you should send your resume and letter of interest directly to him at ltornatzky@calpoly.edu no later than August 15, 2009.