## 2 0 1 6 年度特別研究期間 研究成果概要 Outline of Research findings

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研究課題

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Outline of research findings:

This research is an initial exploration into several aspects or fields of management. The purpose of this research is to deepen and broaden my understanding of these various fields of management so as to further develop material that I use in courses taught here and in research that is presented at various academic conferences and published in journals and other venues. These fields of management flow from fundamental conceptual areas that form important frameworks or theories upon which the practical elements of management are expressed and explained. The management fields that are central to this research involve institutions (or the rules that govern interactions among agents), technological evolution (or the path that technology takes as it changes over time), strategic decision-making (or the process that agents use to navigate through uncertainty) and innovation (or the learning that is gained from generating new objects and the new ways of doing or new ways of using objects).

Over my many years of teaching and research a series of challenges has arisen to my understanding of each of these fields and more importantly to how these fields fit together. These challenges have often arisen from questions posed by students in a classroom setting, but have also come from my observations of business in contemporary society. Given the heavy teaching and administrative roles that occupy much of my time, I have been unable to systematically examine these challenges.

I am most grateful to have been granted the opportunity over the past year to suspend some of my teaching and administrative work to focus more on systematically understanding these challenges and to explore more rigorously possible alternative approaches to each of the fields and how these fit together. I should note that I was unable to devote myself full time to my research activities because of my mentoring duties to PhD students and having to contend with some administrative work that arose from exigencies concerning finding alternatives for my masters level course. The mentoring of my PhD students, however, allowed for some joint research related to my overall topic and thus, on the whole contributed to rather than distracted from my research work. In any case, over the past year I was able to undertake a variety of activities such as participating in academic conferences and conducting more extensive research literature reviews both of academic and practitioner related journals and other sources.

I was able to conduct some interviews of other academics and practitioners who were able to provide a variety of unique perspectives on my research topics. These interviews were conducted at academic conferences or on travel related to these conferences. These perspectives and the information gathered over the past year have substantially influenced my thinking concerning how management is both researched and taught. I have been able to gain new insights into each of these conceptual fields and into their underlying interrelationships. Although the insights gained are still in the formative stages of development, an initial and preliminary summary will be outlined and presented below. In addition the activities will be summarized.

The fields of management in this study have been briefly noted above. What is more important to understand is that the fields of management that have been explored throughout this research project have been and still are seen by most management scholars as separate and independent areas of study and research and consequently teaching and publication. Scholars concerned with institutions have developed the field of institutional economics and those concerned with technological change have developed the field of evolutionary economics and likewise for those scholars who study strategic decision-making. While this accepted convention of following a segmentation path has allowed for the rapid understanding of each of the individual aspects of management, the paths followed through the research process often results in the fragmentation of knowledge concerning research questions and management problems that are common to all the fields. As such our understanding of the issues and problems confronted in management can become technical and sterile in our academic understanding and devoid of the meaning and drive so often observed by the ordinary people caught up in today's events.

This was one of my fundamental findings over the past year. In order to understand, for example, the recent raise in populism and "anti-globalization" that is being exhibited, research into the most basic philosophical elements underpinning our current teaching of management needs to recognize that most of our understanding of strategic decision-making flow from the field of economics. The fundamental philosophical element of economics flows from the work done by Jeremy Bentham and others on utilitarianism were the benefit to the many out weight the loss of the few. However, much of the current negative reaction to both globalization and technological change can potentially be understood as flowing from the ideas of Kant and especially form the categorical imperative that no person should treat another person as a means to an end, since all individuals are ends in and of themselves. Hence, the institutional regimens set up under a utilitarian conceptual framework do not take into adequate consideration loses incurred to individuals due to globalization and technological innovation. However, those who have suffered loss are able to express that by voting. Through interviews with some professors at other universities that teach philosophy combined with reading on these subjects, I have been able to gain deeper insights into the fundamental philosophical underpinnings of management and have already begun to incorporate these insights into my teaching of courses such as International Management and will incorporate these insights into other courses such as Leadership and Corporate Renewal and Technology Management and Diffusion of Innovation. My interviews and further explorations through reading of these fundamental philosophical ideas have also made me more aware of the inter-temporal aspects of strategic decision-making, in that benefits today may result in harm tomorrow and our current accounting and financial systems are inadequate to provide the necessary

information required to make appropriate decisions. I hope to initiate discussions with the relevant faculty concerning these issues and in turn to generate future research project and teaching materials.

Another central finding concerns the inter-relationships among the conceptual fields that form the basis of my study. In this respect I have observed that these fields interact in a cyclic manner over time. There are many cycles embedded in these interactions but an example of one may suffice for this report. This cycle includes the following: how the rules are developed to govern interactions among agents, which is studied in the conceptual framework of institutional economic theory, alters the incentive structure for the agents resulting in how technology changes over time as acted upon by the governing rules of institutions among other factors, which is studied in the conceptual framework and theories related to technological evolution which then influences how managers approach the inherent uncertainty that is attendant to the processes involved in technological evolution which is studied in the conceptual framework and theories related to strategic decision-making which in turn influences how the decisions that are made that result in innovations (or various types of learning through experiments) that again in their turn feedback and/or feed-forward into the institutional environment through the processes exhibited by technological evolution and strategic decision-making which again in their turn alter the governing rules of interaction among agents and so on. Although this is an abstract example, I have used the insight gained over the past year to write and present several papers at academic conferences and to have one paper published in a peer review English language journal. I was able to utlize the new conceptual understanding gain over the past year and combine these with already existing data to develop papers based on these new insights. This is especially the case with my understanding of the concept of effectuation as an approach to confronting uncertainty. In the published paper I was able to combine those insights with more insights gained this past year through my readings and discussion with other academics at conferences into the varieties of innovation related to triple level learning and intellectual capital. To the best of my knowledge, this is the first paper published linking these management fields together.

In conducting my research over the past year and in working with my PhD students it became apparent that an area of research that would allow for a more quantitative examination of all the management fields noted above in combination was the subject of entrepreneurship and the activities of entrepreneurs. As noted above, through my extended reading of relevant research literature, I was able to gain more understanding of an emerging concept in the field of strategic decision-making; that is effectuation. While the concept was initially introduced to the field in the early 2000's, and I was aware of it some years later, I was unable to devote the time necessary to come to a more full understanding of the concept until this year. Because of this understanding, I was able to develop a questionnaire which one of my doctoral students and I administered to entrepreneurs. In it we examine a number of elements related to institutions and uncertainty. This work resulted in a paper that was presented at academic conferences and another paper that we are currently working on for presentation and possible publication. In addition, the insights gained on the effectuation concept were also incorporated in the two papers that were presented as a single author at academic conferences. These papers and the conferences and journal are noted on a separate document.

As often happens when you begin to explore in depth some areas of research, new questions and topics come into view. From my research this past year into institutions, technological evolution,

strategic decision-making and innovation, it became more evident that there are connections between these management fields and the broader fields of economics and political science. This is most evident in the interactions between the economic system of capitalism and the political system of democracy. There is a common link at the philosophical level and also at the institutional level. This insight is not unique in and of itself, since other researchers have explored this relationship. Nor is the insight that an open and inclusive system of democracy can better foster the creative destruction of innovation that helps to foster growth in capitalism. However, there are currently few studies into the details of the interaction among democracy, capitalism and technical innovation. One area that appears to be understudied is the initiating effect of technological innovation on changes in both the political and economic systems at the institutional level. A contemporary example that I observed during my research leave may help to clarify a future area of research that I would like to pursue that has grown out of my past year's study. Social media, such as Facebook, Amazon, Google, all work on algorithms (a technological innovation) that amplify an individuals preferences. Like is grouped with like (an institutional rule). This has obvious benefits when choosing an economic commodity such as a car or movie or restaurant, however it may have negative effects when these algorithms influence the type of new reporting we read or filter who are our friends and the connections among us (a form of technological evolution). As a result, information about political and economics issues are filter in a way that may subtly reinforce polarization processes that in turn will close democratic political system and blunt the ability to share the diverse economic information that often results in breakthrough innovations. While these ideas are still very preliminary, I hope to build on my insights gain over the past year to develop both teaching materials and papers for presentation and publication on these topics.

Finally, because of the work I have been able to do over the past year, I have been honored be asked to join the international editorial board of a journal (Kindai Management Review), to join the advisory and reviewing committee of and international academic conference organization (International Conference on Innovation and Entrepreneurship) and to be nominated and accepted as an affiliate of the Center for Japanese Studies at the University of Michigan, in Ann Arbor.

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