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NEW PROGRAM PROPOSAL FORM

Sponsoring Institution(s): University of Missouri – Kansas City

Program Title: Entrepreneurship and Innovation

Degree/Certificate: Ph.D. in Entrepreneurship and Innovation

Options:

CIP Classification: 52.7099

Implementation Date: Fall 2011

Cooperative Partners: None

Expected Date of First Graduation: Spring 2014

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Doctor of Philosophy in Entrepreneurship & Innovation, UMKC

EXECUTIVE SUMMARY

The University of Missouri-Kansas City proposes to establish a Ph.D. degree in entrepreneurship that will train and develop the future generation of research and teaching scholars in entrepreneurship and innovation. To this end, the proposed degree program is built around a four-course sequence in entrepreneurship theory that will provide students with the theoretical foundation needed to identify and pursue important research questions in entrepreneurship and innovation management. In addition, students will take a five-course sequence designed to give them the quantitative and methodological research skills needed to develop research findings that impact the evolution of entrepreneurial thought. This combination of training in content and technical skills will offer students educational opportunities that are unavailable elsewhere in the State of Missouri or the United States.

The proposed program will build upon the strengths of UMKC's Institute for Entrepreneurship and Innovation (IEI) in order to meet local, state and national needs. It is consistent with IEI's vision to "be a global leader in creating and disseminating knowledge to advance entrepreneurship and innovation." The proposed program is a necessary step toward achieving IEI's goal of becoming "a leading international research institute at the frontier of knowledge creation" in entrepreneurship and innovation. In addition, the new Ph.D. program supports one of the key goals of the UMKC's strategic plan, which is to "produce world-class scholarship and creative activity, encourage entrepreneurship, foster innovation, increase technology transfer, and build relationships that create economic and workforce development." More broadly, the proposed program supports UMKC's vision to "become a model urban research university characterized by signature graduate and professional programs."

The proposed program is designed to meet the documented need for entrepreneurship professors who can teach graduate and undergraduate entrepreneurship courses and conduct scholarly research in the field of entrepreneurship. For example, one recent study found that, in the academic year 2004-2005, there were 102 candidates for 184 entrepreneurship positions. Moreover, student demand for the proposed program is demonstrated by the number of applicants for our interdisciplinary Ph.D. program in entrepreneurship and innovation. IEI received 52 qualified applications for entry into the interdisciplinary Ph.D. program in the Fall of 2009. The number of applications reflects the international reputation of the IEI faculty, along with an aggressive marketing program by IEI staff.

Establishing the proposed Ph.D. program in entrepreneurship will require the development of one additional course in Research Design. Beyond that, the program will require no additional resources beyond those already committed to IEI. Four years ago UMKC made a commitment to develop strong education and research programs in entrepreneurship and innovation. During the last four years the Bloch School has hired five new tenured or tenure-track faculty members in entrepreneurship. In the current year IEI has hired three additional faculty members for the 2010-2011 academic year. The establishment of this Ph.D. program is a

crucial next step in reaching IEI's long term-goal of national preeminence in the fields of entrepreneurship and innovation.

1. INTRODUCTION

The University of Missouri-Kansas City proposes to establish a Ph.D. degree in entrepreneurship that will train and develop the future generation of research and teaching scholars in entrepreneurship and innovation. To this end, the proposed degree program is built around a four-course sequence in entrepreneurship theory that will provide students with the theoretical foundation needed to identify and pursue important research questions in entrepreneurship and innovation management. In addition, students will take a five-course sequence designed to give them the quantitative and methodological research skills needed to develop research findings that impact the evolution of entrepreneurial thought. This combination of training in content and technical skills will offer students educational opportunities that are unavailable elsewhere in the State of Missouri or the United States. Graduates will assume teaching positions in leading universities in the United States and in other countries.

The University of Missouri-Kansas City is committed to developing entrepreneurial leaders who will stimulate economic growth in the greater Kansas City area and the state of Missouri. To this end UMKC has created the Institute for Entrepreneurship and Innovation (IEI), which is committed to the following goals:

- Inspire, foster, and build future generations of entrepreneurs like Ewing Marion Kauffman and Henry W. Bloch
- Awaken and *nurture the entrepreneurial spirit* in students across every discipline and every stage of university life
- Be a *world renowned research* institute in creating and disseminating leading-edge research in entrepreneurship and innovation
- Establish a *world-renowned doctoral program* to support the research activities of IEI and place graduates of the program in leading business schools around the world
- Deliver *unsurpassed education* through degree programs and experiential learning to students university-wide, preparing them with the entrepreneurial skills needed for creating and managing high-growth new enterprises or established companies
- Establish the Kansas City region as an international hub for entrepreneurial talents and activities by contributing to the development of an *eco-system for creating high-growth businesses*

IEI is critical to the future of both the Bloch School and UMKC. The success of IEI will enhance the prestige of the Bloch School and UMKC by positioning the Bloch School as an intellectual leader in the fields of entrepreneurship and innovation. This national recognition will help the Bloch School and UMKC attract talented faculty and students and inspire private donors to support UMKC.

To support IEI, UMKC has made a commitment to fund 12 positions in entrepreneurship and innovation. IEI is led by Professor Michael Song, who has been recognized in several different rankings as the world's leading innovation scholar. He was joined in 2005 by Professor Mark Parry, who has also been recognized as a leading innovation scholar. Since 2005, Professor Song has recruited a total of five faculty members who have joined IEI, and the Institute is currently in the process of recruiting additional faculty members. In September 2009 the efforts of Professor Song and his team were recognized by the Princeton review, which named IEI as one of the country's top 25 graduate programs in entrepreneurship.

The establishment of a Ph.D. program is a crucial step in reaching IEI's long term-goal of national preeminence in the fields of entrepreneurship and innovation. As a preliminary step, in 2005 UMKC approved the introduction of an interdisciplinary Ph.D. program in entrepreneurship and innovation. This program is the only doctoral program in entrepreneurship and innovation currently available in the State of Missouri and one of only 18 in the United States and Canada (see Appendix A). The proposed program will be offered alongside IEI's interdisciplinary Ph.D. program. IEI will continue to accept interested and qualified students into the interdisciplinary Ph.D. program in entrepreneurship and innovation. In addition, IEI will continue to accept interdisciplinary students from other disciplines who wish to select entrepreneurship and innovation as a co-discipline.

The desire for a stand-alone program Ph.D. program in entrepreneurship is motivated by two considerations. First, the proposed program will eliminate the confusion generated in the marketplace by the interdisciplinary Ph.D. program. With a stand-alone program focused on entrepreneurship, IEI will be able to clearly position its graduates for teaching and research positions in entrepreneurship at top universities. Second, the interdisciplinary Ph.D. program requires students to spend time on courses that are often only tangentially related to entrepreneurship and innovation. The proposed program will allow students to better focus on the competencies needed for a successful research career in the fields of entrepreneurship and innovation.

Professor Michael Song, who is the head of IEI, will serve as the program director. The proposed program, like the entrepreneurship area, will be housed in the Organizational Leadership and Marketing OLM department. In the future, the IEI business plan calls for the establishment of a separate entrepreneurship department. When that happens, the new department will assume responsibility for administering the proposed program.

The proposal that follows was developed with the following guiding principles:

- Offer a doctoral-level program in entrepreneurship and innovation that provides students with the knowledge and skills needed to generate high-quality research that is published in leading management journals.
- Build on the unique skills of UMKC faculty while leveraging their research productivity; and

- Generate new knowledge that will stimulate successful entrepreneurial activity within the Kansas City region and across the State of Missouri, as well as throughout the United States.
- All graduates of the new program will be expected to demonstrate competency in both research and teaching. This approach will prepare students to assume teaching and research responsibilities at major universities across the United States.

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CLARIFYING COMMENTS

2. FIT WITH UNIVERSITY MISSION AND OTHER ACADEMIC PROGRAMS

2.A. ALIGNMENT WITH INTSTITIONAL MISSION AND GOALS

The proposed program is aligned with key elements of the University of Missouri's mission statement, which states that "[t]he mission of the four-campus University of Missouri System … is to discover, disseminate, preserve, and apply knowledge." The mission statement also states that the University of Missouri "fosters innovation to support economic development." Consistent with this focus, the goal of the proposed degree program is to train and develop the future generation of research and teaching scholars in entrepreneurship and innovation. Students in the proposed program will develop the ability to identify and pursue important research questions in entrepreneurship and innovation management. Students will also learn the quantitative and methodological research skills needed to develop research findings that impact the evolution of entrepreneurial thought. In addition, the proposed program is also designed to give students practical experience disseminating their research findings through scholarly journals and in the classroom. In addition, students will assist UMKC professors in their own research, and this research will also be published in scholarly journals and disseminated both in the classroom and through various forums that reach entrepreneurs and other business practitioners in the Kansas City area and throughout Missouri.

At UMKC, one of the key goals of the Provost's strategic plan (see Appendix B: The UMKC Provost's Strategic Plan) is to "produce world-class scholarship and creative activity, encourage entrepreneurship, foster innovation, increase technology transfer, and build relationships that create economic and workforce development." IEI supports this goal through its research agenda, which focuses on the ways in which entrepreneurs develop, lead, and transform today's dynamic global businesses. The knowledge generated through IEI research will heighten the ability of the Bloch School to produce an educated entrepreneurial workforce for the state and thereby contribute to the greater economic vitality of the region. Through IEI programs, this knowledge will also be disseminated to current and potential entrepreneurs, increasing their prospects for entrepreneurial success and contributing to economic growth in the greater Kansas City area and throughout the State of Missouri.

2.B. DUPLICATION AND COLLABORATION WITHIN CAMPUS AND ACROSS SYSTEM (BENEFITS FO COLLABORATION)

The proposed program does not duplicate any existing programs within the UM System or the state of Missouri (please see the list of existing Ph.D. programs in entrepreneurship in Appendix A: Existing Entrepreneurship Ph.D. Programs).

3. BUSINESS-RELATED CRITERIA AND JUSTIFICATION

3.A. MARKET ANALYSIS (MARKET DEMAND)

3.A.1 Need for Program

A number of global and academic trends provide UMKC and the Bloch School faculty with an opportunity to develop important curricula in entrepreneurship and innovation.

The economic health of the U.S. has been and should continue to be built on the foundations of being first to market with new products, services, and technologies that are competitive in terms of cost and quality. Our success requires individuals who are entrepreneurial and creative in the innovation of new products and processes.
The demand for entrepreneurial education exploded throughout the 1990's. The results of more than half a dozen national studies reveal an unprecedented interest in entrepreneurship and the entrepreneurial process among the young adults of our country. Of every 10 high-school and college-age students, between six and seven aspire to start a business of their own. The accomplishments of start-up and rapidly growing small entrepreneurial ventures have challenged the traditional dominance of large corporations and thus our economic destiny. The decisions of many large corporations to reduce their workforces has generated a large, disenfranchised pool of experienced managers and professionals who aspire to start their own businesses and need training in entrepreneurship.

As a result of the growing demand for entrepreneurship education, the number of faculty positions in entrepreneurship has increased across the country. Singh (2008)[1] reports that, from 2001-2005, the Academy of Management web site reported 496 position openings in entrepreneurship and small business. However, there were less than 1.3 applications per position in the Academy database.

Finkle (2007) used data from a variety of sources to estimate the number of candidates per open entrepreneurship position at schools accredited by the AACSB. He found that, in 1999-2000, there were 61 candidates for 288 entrepreneurship positions. The ratio of positions to candidates has since declined, but in the most recent year examined by Finkle (2004-2005), there were 102 candidates for 184 positions.

[1] Singh, R. P. (2008). The shortage of academically trained entrepreneurship faculty: Implications, challenges, and opportunities. *Journal of Entrepreneurship Education*. 11: 117-131.

The demand for endowed positions in entrepreneurship in the United States is also growing (Ewing Marion Kauffman Foundation's Center for Entrepreneurial Leadership, 2003). During the 2003-2004 academic year, there were 406 endowed positions compared to 237 in 1999-2000, which translates as one new endowed position every 8 days. Of the 406 endowed positions in entrepreneurship, more than 70 were unfilled in 2004 (Singh 2007).

An important component of the mission of the University of Missouri-Kansas City is to offer signature graduate and professional programs. The proposed Ph.D. program is designed to produce creative scholars with rigorous methodological skills who can serve as research and teaching faculty at leading universities throughout the United States. The quality of the training provided in this program will attract knowledgeable and motivated applicants from Missouri and other parts of the United States, as well as from other countries. Over time, the program will gain international recognition that will further enhance the program's attractiveness to candidates from a variety of backgrounds and regions.

In addition to employment opportunities for enrolled students, the new program will help IEI accomplish several related objectives. First, the program will help UMKC build a national reputation. The new program will position UMKC to be an intellectual leader in the fields of entrepreneurship and innovation while becoming a source of talent for universities around the world. In this way, graduates of the program will enhance the prestige of the University and provide an extraordinarily effective way to fulfill the mutual goals of IEI, the Bloch School, UMKC, and the University of Missouri.

Second, IEI has established a research agenda that focuses on the ways in which entrepreneurs develop, lead, and transform today's dynamic global businesses. Specifically, the Institute is assessing the values and risks of emerging technologies and investigating effective techniques for market opportunity analysis and the identification of new ventures in high-tech industries. In addition, the Institute is examining the success and failure factors of high-tech start-up firms. The presence of a corps of talented, properly-trained Ph.D. students will enable institute faculty to leverage their time and better accomplish IEI's research objectives.

Third, the knowledge generated through program research will heighten the ability of the Bloch School to produce an educated entrepreneurial workforce for the state and thereby contribute to the greater economic vitality of the region. Through IEI programs, this knowledge will also be disseminated to current and potential entrepreneurs, increasing their prospects for entrepreneurial success and contributing to economic growth in the greater Kansas City area and throughout the State of Missouri. For example, in the fall of 2007 IEI issued a report, authored by Professor Mark Parry, entitled *Missouri's Need for Risk Capital: An Assessment and Recommendations*. This paper, which is available on the IEI website, has been cited in a number of Missouri newspaper articles and in other publications. In addition, Professor Parry presented the results of this research at a meeting of the Greater Kansas City Civic Council in 2008. In July 2009 Professor Parry presented the results of study on New Venture Success (coauthored with IEI Professors Michael Song and Lisa Song) at *Innovation in Turbulent Times*, a conference sponsored by the Kansas City Chamber of Commerce. In January 2010 Professor

Parry spoke to the Kansas City Chamber of Commerce's Business Growth Network about methods for developing new product and service innovations. These are just a few examples of the ways in which IEI disseminates its research to the Missouri business community.

3.A.2 Student Demand

Our existing iPh.D. program in entrepreneurship and innovation is in its third year, and we currently we have nine students enrolled. (During this time four additional students were admitted but subsequently left the program.) In the first two years we were prevented from admitting additional students due to budget constraints. In the third year we admitted five students, which is our targeted annual admission rate.

Importantly, the number of applicants for the existing iPh.D. program has consistent exceeded the number of available positions. For example, in the Fall of 2009 we received 52 qualified applications for entry into the interdisciplinary Ph.D. program in entrepreneurship and innovation. Thus for each opening in our program we received 10 applications from qualified candidates. The number of applications reflects the international reputation of the IEI faculty, along with an aggressive marketing program by IEI staff. We expect that the annual number of applications for admission will grow in the coming years.

In the proposed program, the planned enrollment for each class is five students. This number represents a balance between quality instruction with intensive faculty-student interaction and having a critical mass of students who can support each other in their classes and research. Another factor influencing our enrollment target involves placements of graduates: we want to make sure we can place our graduates in top universities around the United States and across the world. We expect that successfully placement of program graduates in top universities will help attract new, high caliber students to the program.

The following table contains student enrollment projections for the first five years of the proposed program. We expect that, in the absence of the proposed program, almost all of these students will enroll in the interdisciplinary iPh.D. program.

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STUDENT ENROLLMENT

Table 1. Student Enrollment Projections

Year	1	2	3	4	5
Full-Time	5	9	13	17	21
Part-Time	0	0	0	0	0
TOTAL	5	9	13	17	21

Based on our experience with the interdisciplinary Ph.D. program, we expect that one student from each class will not complete the program (a 20% attribution rate). Most students will take

4-5 years to complete the program. Thus by the fifth year we expect to have 21 students (4+4+4+4+5) in residence.

As illustrated in the preceding Table, we do not plan to admit any part-time students. The proposed program is very intensive, requiring a minimum of 60 hours work per week. Applicants need to be focused on course and research requirements. Our experience suggests that it is very difficult for students to juggle course requirements with outside job responsibilities. Given the large number of applicants, we have decided to focus our efforts those students who are willing to commit to doctoral study as a full-time endeavor.

For two reasons, we expect that all nine of the students enrolled in the current interdisciplinary Ph.D. program with entrepreneurship and innovation as a coordinating discipline will move to the new program. As explained above, the new program will enable IEI to clearly position its graduates for teaching and research positions in entrepreneurship at top universities. Second, the proposed program will allow students to better focus on the competencies needed for a successful research career in the fields of entrepreneurship and innovation.

If the new program is approved, we will continue to offer the old program in order to serve (1) any existing students who wish to remain in that program and (2) attractive applications who wish to pursue the iPh.D. Maintaining the existing program is consistent with UMKC's long-standing emphasis on interdisciplinary doctoral studies.

3.B. FINANCIAL PROJECTIONS (EFFICIENT USE OF RESOURCES)

3.B.1 Additional Resources Needed

The proposed program will require the development of one new course (Research Design). We have hired three new IEI faculty members who will join the Bloch School in the Fall of 2010. One of these instructors will assume responsibility for the new course as part of their teaching load. Thus, the institution has already committed to providing the additional faculty resources needed for the proposed program.

3.B.2 Revenue

Faculty expenses will be covered by UMKC's existing commitment to fund the interdisciplinary Ph.D. program in entrepreneurship. The small amount of additional funds needed for the new program average less than $8000 per year and will be covered by institutional resources.

3.B.3 Recurring Expenses

The budget for the proposed program was developed to show the expenses for the current interdisciplinary PhD program in entrepreneurship (which are currently covered by institutional resources), and to highlight the small changes in expenses that will result from the program. As the faculty and staff who will support the program have multiple duties within the Bloch School of Business, the approach taken in developing the budget was to focus only on the expenses

related to the Entrepreneurship Ph. D. program; specifically, the courses and related administrative and marketing expenses.

Estimates of recurring expenses were computed under the following assumptions:

- Currently we have eight required courses that are taught by IEI faculty. Three of these courses are taught every year, while the remaining six are taught every other year. Thus on average we teach 6 courses per year.
- Forty percent of faculty time is dedicated to teaching. Faculty members teach four courses per year. Thus the per-faculty cost of a course is 10 percent of the faculty member's annual salary. Under the new program, we will have one additional required class that will be taught every other year. Under the assumptions the cost of this additional class will be $14,105 in Year 1.
- Two faculty members spend a total of 15% of their time administering the program. In addition, one staff member spends 10% of her time administering the program. She is assisted by one doctoral student (25% of the student's RA time).
- Half of the staff administration time is devoted to marketing.
- Benefits are calculated as 22.65% of faculty salaries.
- Salaries and benefits are assumed to rise at a rate of 2% per year.

Students who choose to receive a tuition waiver and stipend spend most of their time doing administrative work for IEI. (We currently have nine doctoral students, and eight are receiving a tuition waiver and stipend.) In return for their stipends, students work 20 hours per week and help with a variety of tasks, including:

- Administer the graduate and undergraduate programs, the New Venture Challenge, and other programs;
- Teaching classes;
- Assisting faculty as course assistants;
- Assisting faculty with research.

The bulk of student work hours are spent helping administer the various IEI programs. If the doctoral program did not exist, the work assigned to these students would still exist. If we did not pay these students to perform this work, we would have to pay someone else. Thus, in general, the doctoral student stipends are not a recurring cost of the program.

The one exception involves administrative work involving the doctoral program. In particular, one doctoral student spends about 25% of his or her time each year assisting with doctoral program marketing and with the processing of applications for admissions. We have included

this cost in the staff expenses reported in Table 2. FP. Financial Projections for Proposed Program Years 1 through 5.

In order to justify offering three required first-year courses every year, we need at least four doctoral students to be enrolled in each of these first-year classes. We expect that we will lose one student from each class in either the first or second year. Thus we expect that we will need 15 students enrolled by the end of Year 5 in order for the program to be financially viable:

Year 5	
Full-Time	15
Part-Time	0
Total	15

3.C. BUSINESS AND MARKETING PLAN: RECRUITING AND RETAINING STUDENTS

Currently our marketing program consists of the following activities:

- We maintain a web site describing our academic program, faculty, and research, along with contact information for interested parties desiring additional information.
- We e-mail contacts (e.g., MBA and Ph.D. directors) in the business and engineering schools of 100 leading U.S. universities with information describing our program and ask that the information be made available to students who might qualify for admission to our program. The e-mail information contains the web address of our program site, along with contact information for interested parties desiring additional information. We target a similar e-mail marketing campaign to leading universities in selected foreign countries.
- We respond to requests for additional information by mailing a packet of information about the program.
- Professors Song and Parry speak directly (either by phone or in person) to potential candidates who have questions about our program.

The current marketing program has been very effective in generating a strong candidate pool. For this reason, we do not currently see any need to expand the marketing program. Currently we spend about $2,500 per year on printing and mailing costs. In addition, one staff person spends about 5% of her time each year on marketing, and one doctoral student spends about 12.5% of his or her RA time on program marketing. These personnel costs are included as part of staff expenses in Table 2. FP. Financial Projections for Proposed Program Years 1 through 5.

As in the current interdisciplinary Ph.D. program, faculty will work closely with enrolled students to increase the probability that students successfully complete the program. For example, faculty work with students to help them satisfy the annual paper requirement (see the description of Program Structure in Section 5.A. Program Structure).

5. PROGRAM CHARACTERISTICS

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PROGRAM STRUCTURE

5.A. PROGRAM STRUCTURE

Students enrolling in this program are expected to come from a variety of backgrounds that include graduate study in subjects such as business, economics, or statistical analysis. Our intention is to have national recruitment of the best students in the country. The program will have theoretical and methodological rigor that is designed to position it among the 10 best entrepreneurship programs in the world. IEI will continue to benchmark this proposed curriculum and will make continuous improvements over time to assure program quality.

Students will complete two sequences of courses, one dealing with existing research in the areas of entrepreneurship and innovation and a second dealing with research methodologies. Through these courses, students will develop a solid grounding in the entrepreneurship and innovation literatures. In addition, students will develop the research skills needed to (1) identify compelling research questions, (2) use theory to identify possible answers to those research question, (3) frame research projects to explore the validity of those answers, and (4) analyze the data generated by that research project using the statistical tools and techniques necessary for publication in leading management journals. Professors teaching courses within this curriculum will use examples from their own research and from other leading scholars to help students understand each dimension of the research process.

All students in the program will take 6 to 9 hours of courses a semester for first two years and 3 to 6 hours of courses a semester for the third year while working as research assistants for designated faculty. Their fourth year will be devoted exclusively to graduate research assistance and dissertation research.

To demonstrate their mastery of the theoretical literature and supporting research methodologies, students will be required to submit one paper annually for either a conference presentation (year 1) or journal publication (years 2-4). Students who fail to meet this requirement will be placed on probation. Ultimately, if the student cannot meet this requirement, the student will be dismissed from the program. In addition, before graduation, each student must have received an invitation to revise a submitted paper from three major journals.

While this objective is ambitious, the requirements will be clearly communicated with entering students. Moreover, the faculty is committed to helping students achieve these goals. Two of our third-year students are already well on their way to achieving these goals. In both cases, the student's first-year paper has been accepted for publication, and the student's second year paper has been reviewed and a revision has been requested from a major journal.

To prepare students for classroom teaching, each student will observe a faculty member teaching an undergraduate course during their second (or third) year while working as a teaching assistant for that faculty member. The following year, the student will teach two sections of the same course (one section each semester) to undergraduate students. In addition, students will be expected to contribute to the administration of various IEI program activities such as the New Venture Challenge, which awards cash and other awards to promising new ventures founded by student entrepreneurs. Based on the quality of incoming students and student publications while enrolled in the program, it is expected that program graduates will be competitive for teaching and research positions at leading universities throughout the United States.
In summary, the proposed program is characterized by the following attributes:

- Highly-qualified students with diverse backgrounds;
- A core theoretical program consistent of 4 courses (12 credit hours);
- A core methodology program consisting of 5 courses (15 credit hours);
- Two elective courses (6 hours);
- Active engagement in research projects and the preparation of papers that are submitted for publication;
- Experience in undergraduate teaching; and
- Involvement in entrepreneurial program activities such as the New Venture Challenge.

1. Total credits required for graduation: 45 hours

2. Residency requirements, if any: 42 hours

3. General education: 0 hours

There are no general education course requirements.

4. Major requirements: 27 hours

All students in the Ph.D. program will be required to complete two sequences of required courses with a minimum GPA of 3.3. The first sequence deals with entrepreneurship theory.

Course No.	Course Topic	Credit Hours
ENT 5691	Doctoral Seminar in Theoretical Foundations of Entrepreneurship I	3
ENT 5692	Doctoral Seminar in Theoretical Foundations of Entrepreneurship II	3
ENT 5693	Doctoral Seminar in Technology, Innovation, and Entrepreneurship	3
ENT 5694	Doctoral Seminar in Theories of the Firm and Strategy	3

(Appendix D: Course Syllabi contains a list of existing Ph.D. courses.)

Students will also be required to complete the following sequence of methodology courses.

Course No.	Course Topic	Credit Hours
ENT 5680	Multivariate Statistical Analysis I	3
ENT 5681	Multivariate Statistical Analysis II	3
ENT 5682	Structural Equation Modeling	3
ENT 5683	Mathematical Models for Entrepreneurship	3
ENT 5684	Research Design	3

5. Elective credits: 6 hours

In addition to the required courses listed above, students will select two electives in consultation with their advisor. In all cases, the timing and composition of electives will be chosen with the approval of the student's adviser so that these courses will support the doctoral candidate's research focus.

6. Requirements for thesis, internship or other capstone experience

Once students have completed their coursework, they must pass a written area examination in Entrepreneurship. The purpose of the major area examination is to enable the student to demonstrate a command of the subject matter. Students are expected to be familiar with major research findings, theory, and appropriate research methods.

To be eligible to apply for candidacy, students must maintain an overall doctoral program GPA of at least 3.3. Admission to candidacy is a formal University process signifying that a student has completed specific degree requirements and that the faculty expects that the student will successfully complete the degree program. Students are admitted to candidacy upon completion of the general examination in Entrepreneurship. The supervisory committee administers this oral test after all area requirements are completed.

After earning candidacy, students must successfully complete a dissertation that demonstrates their ability to identify a significant research question or problem in Entrepreneurship and apply appropriate research techniques to resolve that question or problem. The dissertation must be an original and independent piece of work. Dissertations are supervised by a five-member reading committee. After the dissertation has been written to the satisfaction of the reading committee, the student defends his or her dissertation research in a final oral examination by program faculty.

A doctoral student must spend at least three years of in-residence study beyond the baccalaureate degree, at least two of which must be in full-time continuous residence at the UMKC. Experience has shown that the probability of successful completion of the program diminishes substantially unless the student is committed to full-time, in-residence work until all requirements are fulfilled. Prospective students should plan on full-time studies, including the

summer semester, from the time of enrollment until the completion of the dissertation. Students in the Entrepreneurship Interdisciplinary Ph.D. program are expected to complete all course, examination, and dissertation requirements within five years. The maximum time to completion is seven years.

7. Unique features

Each year the academic market places increasing weight on teaching skills. Many business schools, in fact, now require teaching presentations of all prospective faculty. During the doctoral program, students will be required to teach two courses selected from the following list of undergraduate courses:

ENT 215 Entrepreneurship: An Introduction;
ENT 341 Technology Entrepreneurship;
ENT 361 New Product Development View;
ENT 364 Entrepreneurial Management;
ENT 412 Entrepreneurial Finance and Venture Capital Investment;
ENT 432 Entrepreneurial Marketing and Selling;
ENT 425 Corporate Entrepreneurship; and
ENT 446 Entrepreneurial Selling and Sales Force Management.

To prepare students for this experience, each student will have the opportunity to work as a teaching assistant in the course that they will subsequently teach. While working as a teaching assistant, the student will observe an IEI faculty member teach the course and meet with the faculty member to discuss course content and pedagogical methods. Students are expected to put together formal teaching presentations that aid them both in the interview process and in the transition to full-time tenure-track faculty. See Appendix C for a letter from the Dean of the Bloch School indicating support for the teaching component of the program.

Each year faculty will set a deadline by which doctoral students must complete an independent research paper and present their findings in a research workshop. The research project is supervised by a faculty advisor on a topic selected by the student and approved by the faculty advisor.

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PROGRAM CHARACTERISTICS AND PERFORMANCE GOALS

5.B. FACULTY AND ADMINISTRATION (FACULTY CHARACTERISTICS)

To form and guide this new Ph.D. program, we have brought together faculty with extensive experience in conducting top quality research, advising and mentoring doctoral students. IEI Director Michael Song will be responsible for the success of this program. He will dedicate 10 percent of this time to the program. Professor Song holds the Charles N. Kimball, MRI/Missouri

Endowed Chair in Management of Technology and Innovation. He was the founding director of Center for Technology Entrepreneurship at the University of Washington. He assisted in creating several new ventures in high-tech industries. Professor Song has won numerous international awards for his research projects. He was ranked as one of the most prolific researchers in management of technology by the International Association of Technology Management in 2004 and as the world's leading innovation scholar by *Journal of Product Innovation Management* in 2008.

The instructional needs of the proposed program will be met using existing IEI faculty. The following table lists the assignment of IEI Faculty to program classes and administrative duties

Instructor	Courses	Teaching Time Allocated to Program	Administrative Time Allocated to the Program
Professor Dennis Park	ENT 5682	5%	
Professor Mark Parry	ENT 5683, ENT 5692	15%	5%
Professor Lisa Song	ENT 5680, ENT 5681, ENT 5691	30%	
Professor Michael Song			10%
Professor Li Sun	ENT 5684, ENT 5693	10%	

The teaching time allocation percentages assume each class requires 10% of a faculty member's time. Professor Lisa Song's courses will be taught every year, while the remaining courses will be taught every other year. (Appendix E contains a list of IEI teaching and research faculty in the interdisciplinary Ph.D. program in entrepreneurship.)

IEI faculty members are expected to engage in research related to entrepreneurship and innovation and publish their findings in leading academic journals. In addition to their teaching and research responsibilities, IEI faculty members will devote time to other program activities. For example, faculty will be encouraged to work with students on research papers that target leading management journals. In addition, faculty members are expected to serve on dissertation committees. Faculty will also be encouraged to participate in regular research workshops with students. In some sessions, this will involve presentations of the faculty member's own research. In other sessions, faculty members will be expected to listen to and critique the research of colleagues and students.

Our planning model assumes that 100% of courses will be taught by full time faculty at the University of Missouri-Kansas City. However, if the opportunity arises and the budget permits, it is possible that outstanding scholars from other universities will be invited to teach elective courses.

5.C. STUDENT PREPARATION

Candidates need to demonstrate a sufficient exposure to business concepts and must receive formal approval from the Program Director. Students are expected to have completed two semesters of calculus and a master's level intermediate statistical analysis course prior to enrolling in the program. Students who have completed an intermediate Multivariate Statistical Analysis course such BDS 548 are waived from that requirement. Program faculty will assess the background of each student and design an appropriate plan of study.

In ranking applicants, program faculty will give primary consideration to academic potential and aspiration. Each applicant will be evaluated in terms of the following:

- quantitative skills;
- academic accomplishments to date, as evidenced by graduate and undergraduate grades and courses taken;
- institutions attended;
- scholarships, awards, and honors earned;
- Graduate Management Admission Test (GMAT) or GRE scores;
- relevant nonacademic experience;
- academic and other references; and
- a statement of academic objectives.

In addition, students admitted to the Ph.D. in Entrepreneurship and Innovation program must have a graduate degree or equivalent with good quantitative skills. If the student does not have adequate business, economics, or quantitative coursework, he or she may be required to complete additional course work.

Admission decisions are also influenced by the availability of faculty, the number of students already in the program, and the availability of financial support in each major area of specialization.

5.D. PROGRAM OUTCOMES

Students leaving the program will have a solid grounding in the entrepreneurship and innovation literatures. In addition, students will have the research skills needed to (1) identify compelling research questions, (2) use theory to identify possible answers to those research question, (3) frame research projects to explore the validity of those answers, and (4) analyze the data generated by that research project using the statistical tools and techniques necessary for publication in leading management journals. In addition, students will be prepared to teach courses in entrepreneurship and innovation and will have experience managing non-course entrepreneurship programs such as a business plan competition.

5.E. PROGRAM DESIGN AND CONTENT

The proposed program is based on the existing interdisciplinary Ph.D. program in entrepreneurship and innovation. Program content has been designed to ensure that students master the entrepreneurship and innovation literature and acquire the methodological skills needed to publish the results of their research in leading academic journals. To accomplish these objectives, the proposed program features two sets of courses: one dealing with entrepreneurship and innovation theory and a second dealing with research methodologies.

The theory sequence consists of four courses. One course (ENT 5691: Doctoral Seminar in Theoretical Foundations of Entrepreneurship I) is a prerequisite for the remaining theory courses. These remaining courses can be taken in any sequence.

The research methodology sequence consists of five courses. ENT 5680 (Multivariate Statistical Analysis I) is a pre-requisite for ENT 5682 (Multivariate Statistical Analysis II). Both ENT 5680 and 5681 are prerequisites for ENT 5682 (Structural Equation Modeling). The remaining two methodology courses are stand-alone courses that can be taken at any point in the program.

Eight of the nine required courses are currently offered as part of the interdisciplinary Ph.D. program in entrepreneurship and innovation. The sole new offering is ENT 5584 Research Design. Students who complete this course will be able to:

- Identify important research questions in entrepreneurship and innovation;
- Formulate hypotheses relevant to their research questions;
- Identify the research methods that are best suited to the evaluation of their research hypotheses;
- Formulate a data collection plan designed to collect the kinds of data needed to evaluate their hypotheses;
- Select the appropriate methodological tools for analyzing their data; and
- Evaluate the degree to which collected data supports their research hypothesis.

5.F. PROGRAM MATRICULATION

We expect that all of our students will accept teaching and research positions in entrepreneurship and innovation. As part of the program requirements, each student must submit an approved paper to a national conference in their first year of study. In each subsequent year the students must submit an approved paper to an approved journal. As a result of these requirements, we expect that our students will have at least two invitations for manuscript revisions at leading management journals before they interview for teaching positions. In most cases, students will have at least one publication. In fact, two of the students from our first Interdisciplinary Ph.D. class already have one publication each, one in a

top entrepreneurship journal and the other in a top innovation journal. We believe that a proven record of publication success will give our students a competitive edge when they interview for teaching positions at major universities.
We anticipate about retention and graduation rates of 80%. We do not anticipate that students who complete the program will wish to continue in another degree program after graduation.

5.G. PROGRAM ASSESSMENT

1. Alumni will be surveyed using the following schedule.
2. One month after graduation: to evaluate their satisfaction with the program and employment status.
3. One year after graduation: to collect perceptions about the ways in which the program helped prepare them for their current job.
4. Three, six, and nine years after graduation: to determine current employment status, measure long-term program satisfaction, and determine what course topics are most relevant in the current environment.
5. Surveys will be administered by e-mail. Alumni will be tracked by the IEI office to ensure that current addresses and contacts are on file. Surveys will consist of a five-question numeric section designed to measure satisfaction with the program, and five short-answer questions designed to elicit feedback on changes in the field of doctoral education in entrepreneurship and innovation and identify possible revisions to the program.
6. Employer satisfaction will be measured using the following objective measures:
7. Scheduled job interviews with potential graduates at academic conferences;
8. Scheduled on-campus interviews with potential graduates; and
9. Employer decisions to tenure and/or promote graduates.

5.H. PROGRAM ACCREDITATION

The program will be accredited by The Association to Advance Collegiate Schools of Business (AACSB).

APPENDIX A: EXISTING ENTREPRENEURSHIP PH.D. PROGRAMS

The 18 U.S. and Canadian Universities Offering a Ph.D in Entrepreneurship

- Carnegie-Mellon: Ph.D. in Technological Change & Entrepreneurship
- Indiana : Ph.D. in Entrepreneurship
- Louisville: Ph.D. in Entrepreneurship
- McGill University: Ph.D. in Management with a specialization in International Entrepreneurship]
- MIT : Behavioral & Policy Sciences program, specialization in Technological Innovation & Entrepreneurship
- North Carolina: Ph.D. in Strategy & Entrepreneurship
- Oklahoma State : Ph.D. in Entrepreneurship
- Regents University : Ph.D. in Organizational Leadership–Entrepreneurial Leadership Major
- Syracuse University : Ph.D. in Entrepreneurship
- University of Central Florida : Ph.D. in Management with a specialization in Business Strategy & Entrepreneurship
- University of Colorado: Ph.D. in Management with a specialization in Strategic, Organizational and Entrepreneurial Studies
- University of the Incarnate Word : Ph.D. in International Education & Entrepreneurship
- University of Illinois – Chicago: Marketing with a concentration in Entrepreneurship
- University of Missouri–Kansas City : Ph.D. in Entrepreneurship and Innovation
- University of Pennsylvania–Wharton : Management with a specialization in Entrepreneurial Management
- University of Virginia – Darden: Management with a specialization in Entrepreneurship
- University of Washington: Ph.D. in Technology Entrepreneurship
- University of Western Ontario: Ph.D. in Entrepreneurship

Source: http://www.slu.edu/x17989.xml

APPENDIX B: THE UMKC PROVOST'S STRATEGIC PLAN

The sixth goal of the Provost's Strategic Plan (http://www.umkc.edu/provost/strategic-plan.asp) is to "promote research and economic development." The detailed explanation of this goal reads as follows:

- To produce world-class scholarship and creative activity, encourage entrepreneurship, foster innovation, increase technology transfer, and build relationships that create economic and workforce development.
- Expand opportunities for extraordinary scholarship and creative activity.
- Create cross-disciplinary programs, at all levels, and align with strong community partnerships that support research, innovation and economic development.
- Strengthen workforce development programs to address current and future market needs.
- Encourage innovation within science and technology communities to increase technology transfer.

APPENDIX C: LETTER OF SUPPORT FROM DEAN OF BLOCH SCHOOL OF BUSINESS

From: Tan, Teng-Kee
Sent: Wednesday, May 26, 2010 7:01 PM
To: Parry, Mark
Cc: Bretz, Sandra J.; Song, Michael; Parry, Mark
Subject: Re: e-mail for ph.d. proposal

Dear Mark,
I support our graduate teaching plan as indicated in the email below. This is consistent with our strategy for excellence.
Regards,

Teng-kee Tan
Dean, The Bloch School

On May 27, 2010, at 1:54 AM, "Parry, Mark" <parryma@umkc.edu> wrote:

Hi Teng-Kee:

I hope your travels are going well.

I am in the process of revising our proposal for a stand-alone Ph.D. program in entrepreneurship. I received the following feedback on an earlier version of the proposal:

The support of dean is needed for graduate teaching plan. He or she can indicate support in a letter or email. Provide evidence that sufficient courses are available for students to teach.
To this end, can you please send me an e-mail indicating that you approve of our graduate teaching plan? I have provided a draft letter below. Please feel free to revise this letter as you see fit.

I have attached a copy of the most recent version of the proposal. Please let me know if you have any questions.

Thank you for your help.

Mark

Mark E. Parry
Ewing Marion Kauffman/
Missouri Endowed Chair in Entrepreneurial Leadership & Professor of Marketing
210 Bloch School
University of Missouri-Kansas City
5110 Cherry Street
Kansas City, MO 64110-2499
Phone: (816) 235-6724
email: parryma@umkc.edu

To whom it may concern:

I have reviewed the proposed teaching requirements for students who enroll in the Bloch School's Doctoral Program in Entrepreneurship and Innovation. Under the proposed program, students will be required to teach a total of two undergraduate courses during their third and fourth years in the program. The following courses are available for teaching by doctoral students.

ENT 215 Entrepreneurship: An Introduction;
ENT 341 Technology Entrepreneurship;

ENT 361 New Product Development View;
ENT 364 Entrepreneurial Management;
ENT 412 Entrepreneurial Finance and Venture Capital Investment;
ENT 432 Entrepreneurial Marketing and Selling;
ENT 425 Corporate Entrepreneurship; and
ENT 446 Entrepreneurial Selling and Sales Force Management.

Given the enrollment targets specified in the proposed program, the Bloch School has sufficient courses available for students to teach and thereby satisfy the teaching requirement.

Sincerely,

Dean Teng-Kee Tan

APPENDIX D: COURSE SYLLABI

ENT 5691

Dr. Lisa Song
Fall 2008
236 Bloch School
Mondays 1:00-3:45pm 101 Bloch School 235-5153
Office hours: After class or by appointment email: songl@umkc.edu

Doctoral Seminar in Theoretical Foundations of Entrepreneurship I

This is the first course of a two-course sequence designed as a broad survey of major topics in the field of entrepreneurship. The objective is to familiarize you with some of the primary theoretical underpinnings of the field as well as some of the common and/or promising methodological approaches to the study of entrepreneurial phenomena.

Optional Text:

Scott Shane, The Foundations of Entrepreneurship (ISBN 1-84064-393-5)

Time and schedule considerations may prompt modifications of this syllabus (deletion of assignments/topics, modification of examination dates, etc.). The instructor will explain any changes; however, it is the student's responsibility to keep up with any modifications that are made throughout the semester.

(Updated 8-15-2008)

Grading:

The class includes three evaluation criteria:
Class participation: 40% (15% summaries; 25% presentation and discussion)
Final exam: 30%
Review paper: 30%

Grading Scale:

A 90% or higher
B 80%-90%
C 70% -80%
D 60%-70%

Class participation (40% of the final grade) is a very important part of this course, and the only way this seminar will work is if we are prepared every week to talk about each topic. The evaluation of class participation will be based on your level of preparation and the strength of your contribution to our discussion. Class participation is composed of two components:

(1) Reading Summaries (15% of the final grade): You should read all the articles listed in the reading assignment for each topic. In addition, each of you is required to conduct a literature search, read at least one recently published article that is related to the week's reading, and write a summary on that article and assigned articles. The summary must not exceed one single-spaced page, and it should highlight the most salient points as succinctly as possible. To maintain consistency, each summary should have the following format:

- Complete citation of your own paper (not the assigned papers) : at the top of the page (following *JM* format)
- Summarized by: Your name
- Theoretical foundation: This section should summarize the theoretical argument of the reading, its basic assumptions, major propositions, and theoretical constructs (if appropriate).
- Methodology: This section should summarize the research design, measurements, and methodology (if appropriate).
- Results and conclusions: This section should summarize the results and major discussion points.
- Future research ideas:

The summary is due at the beginning of the class as noted in the schedule.

(2) Class Presentation and Discussion (25% of the final grade): The most important part of preparing for our seminars is to reserve some time prior to class to think about how the assigned readings complement one another. You are also encouraged to discuss these readings with your classmates. While we will discuss the strengths and weaknesses of individual articles, our major focus will be on the relationships and linkages among articles.

Each of you will give a 30-minute PowerPoint presentation of your readings during the class as noted in the schedule. Your presentation should include:

Brief introduction and summary of the readings
What major gaps exist in the literature?; and
What are the directions for future research?

Each of you will start with full credit (40 points for each class) and have 5 points subtracted if a summary is not handed in on time. Points may also be subtracted according to your level of participation.

Term Paper (30% of the final grade):

Each of you will conduct a literature review and Meta Analysis on a topic that we discuss during the semester. We will discuss the details of the paper in class.

Final Examination (30% of the final grade):

The final examination will contain questions similar to those of doctoral preliminary exams. The questions will require that you integrate and synthesize the material we have discussed.

The following reading assignments are tentative and may be modified as the class progresses.

Week 1 (8/18)
Introduction and Course Outline
Literature Search

Week 2 (8/25 No Class Meeting)
Readings – What Is a Good Theory?
(Summary and Presentation due: 9/1)

Van De Ven, Andrew H. (1989), "Nothing Is Quite As Practical As a Good Theory," *The Academy of Management Review*, 14 (4), 486-489.

Whetten, Davie A. (1989), "What Constitutes a Theoretical Contribution?" *The Academy of Management Review*, 14 (4), 489-495.

Weick, Karl E. (1989), "Theory Construction as Disciplined Imagination," *The Academy of Management Review*, 14 (4), 516-531.

Eisenhardt, Kathleen (1989), "Building Theories from Case Research," *The Academy of Management Review*, 14 (4), 532-550.

Bacharach, Samuel (1989), "Organizational Theories: Some Criteria for Evaluation," *The Academy of Management Review*, 14 (4), 496-515.

Van De Ven, Andrew H. (1989), "Using Paradox to Build Management and Organization Theories," *The Academy of Management Review*, 14 (4), 562-578.

Suton, Robert I. and Barry M. Staw (1995), "What Theory Is Not," *Administrative Science Quarterly*, 40 (3), 371-384.

Weick, Karl E. (1995), "What Theory Is Not, Theorizing Is," *Administrative Science Quarterly*, 40 (3), 385-390.

DiMaggio, Paul J. (1995), "Comments on 'What Theory Is Not,'" *Administrative Science Quarterly*, 40 (3), 391-397.

Week 3 (9/1)
Presentation and discussion – What Is a Good Theory?

Week 4 and Week 5 (9/8; 9/15; No Class Meetings)
Readings – Entrepreneurial Process and Existence of Entrepreneurial Opportunities
(Summary and Presentation due: 9/22 and 9/27)

Knight, Frank H. (1964), "Theories of Profit; Change and Risk in Relation to Profit," "Structures and Methods for Meeting Uncertainty," and "Enterprise and Profit," in *Risk, Uncertainty and Profit*, Chapters II, VIII and IX, New York: Augustus M. Kelley, 22-48, 233-263, 264-290.

Schumpeter, Joseph A. (1961), in *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle,* New York: Oxford University Press, 65-94, 128-56.

Schumpeter, Joseph A. (1976), "The Process of Creative Destruction," in *Capitalism*, *Socialism and Democracy*, Chapter VII, London: George Allen and Unwin, 81-86.

Drucker, Peter F. (1985), "Purposeful Innovation and the Seven Sources for Innovative Opportunity," "Source: the Unexpected," "Source: Incongruities," "Source: Process Need," "Source: Industry and Market Structures," "Source: Demographics," "Source: Changes in Perception," "Source: New Knowledge," and "The Bright Idea," in *Innovation and Entrepreneurship: Practice and Principles,* Chapters 2-10, New York: Harper and Row, 30-36, 37-56, 57-68, 69-75, 76-87, 88-98, 99-106, 107-129, 130-132.

Kleorick, Alvin K., Richard C. Levin, Richard R. Nelson, and Sidney G. Winter (1995), "On the Sources and Significance of Interindustry Differences in Technological Opportunities," *Research Policy,* 24 (2), 185-205.

Kirzner, Israel M. (1997), "Entrepreneurial Discovery and the Competitive Market Process: An Austrian Approach," *Journal of Economic Literature,* XXXV (1), 60-85.

Week 6 (9/22)
Presentation and Discussion – Risk and Uncertainty; Creative Destruction

Week 7 (9/29)
Presentation and Discussion – Entrepreneurial Opportunities

Week 8 (10/6)
In Class – Term paper and Meta Analysis
Readings – The Discovery of Entrepreneurial Opportunities and the Decision to Explore
(Summary and Presentation due: 10/13)

Shane, Scott (2000), "Prior Knowledge and the Discovery of Entrepreneurial Opportunities," *Organization Science,* 11 (4), 448-469.

Busenitz, Lowell W. and Jay B. Barney (1997), "Differences Between Entrepreneurs and Managers in Large Organizations: Biases and Heuristics in Strategic Decision-Making," *Journal of Business Venturing*, 12 (1), 9-30.

Busenitz, Lowell W. (1999), "Entrepreneurial Risk and Strategic Decision Making: It's a Matter of Perspective," *Journal of Applied Behavioral Science*, 35 (3), 325-340.

McClelland, David C. (1961), "Entrepreneurial Behavior" and "Characteristics of Entrepreneurs," in *The Achieving Society,* Chapters 6 and 7, D. Van Nostrand, ed. Princeton, NJ, 205-58, 259-300, references.

Amit, Raphael, Eitan Muller, and Iain Cockburn (1995), "Opportunity Costs and Entrepreneurial Activity," *Journal of Business Venturing,* 10 (2), 96-106.

Evans, David S. and Linda S. Leighton (1989), "Some Empirical Aspects of Entrepreneurship," *American Economic Review*, 79 (3), 519-535.

Carroll, Glenn R. and Elaine Mosakowski (1987), "The Career Dynamics of Self-Employment," *Administrative Science Quarterly,* 32 (4), 570-589.

Week 9 (10/13)
Presentation - The Discovery of Entrepreneurial Opportunities and the Decision to Explore

Week 10 (10/20)
In Class - Term Paper Presentation: Abstract/Outline

Readings – Locus of Entrepreneurship and the Process of Firm Formation

Kihlstrom, Richard E. and Jean-Jacques Laffont (1979), "A General Equilibrium Entrepreneurial Theory of Firm Formation Based on Risk Aversion," *Journal of Political Economy*, 87 (4), 719-748.

Shaver, Kelly G. and Linda R. Scott (1991), "Person, Process, Choice: the Psychology of New Venture Creation," *Entrepreneurship Theory and Practice*, 16 (Winter), 23-45.

Gartner, William B. (1985), "A Conceptual Framework for Describing the Phenomenon of New Venture Creation," *Academy of Management Review,* 10 (4), 696-706.

Katz, Jerome and William B. Gartner (1988), "Properties of Emerging Organizations," *Academy of Management Review,* 13 (3), July, 429-441.

Larson, Andrea (1992), "Network Dyads in Entrepreneurial Settings: A Study of the Governance of Exchange Relationships," *Administrative Science Quarterly,* 37 (1), 76-104.

Aldrich, Howard E. and C. Marlene Fiol (1994), "Fools Rush Inc? The Institutional Context of Industry Creation," *Academy of Management Review,* 19 (4), 645-670.

Week 11 (10/27)
Summary and Presentation - Locus of Entrepreneurship and the Process of Firm Formation

Week 12 (11/3) Reserved

Week 13 (11/10) Term Paper Presentation

Week 14 (11/17) Term Paper Presentation

Week 15 (12/1) Reserved

ENT5692
Instructor: Dr. Mark Parry
Spring 2010
210 Bloch School
Wednesdays 10:00-12:45 Bloch 013 235-6724
Office hours: After class or by appointment email: parryma@umkc.edu

Doctoral Seminar in Theoretical Foundations of Entrepreneurship II

This is the second course of a two-course sequence designed as a broad survey of major topics in the field of entrepreneurship. The objective is to familiarize you with some of the primary theoretical underpinnings of the field as well as some of the common and/or promising methodological approaches to the study of entrepreneurial phenomena.

Course Objectives

Our primary objective this semester is to become familiar with and develop an in-depth understanding of the *concepts, models, and paradigms* that collectively form the foundation for entrepreneurship research. Other key objectives for all who participate include:

- Developing the ability to *critically integrate* findings from entrepreneurship research programs that may or may not be directly related to one another.
- Developing an appreciation for the inter-disciplinary nature of entrepreneurship research.
- Developing a keen awareness of *major gaps* that exist in the entrepreneurship literature, and as a result identify research projects that represent high priority areas for inquiry in the coming years.
- Enhancing one's ability to present, explain, and defend scholarly thoughts and positions, as well as to professionally respond and react to other scholars.
- Strengthening the skills needed to conduct original entrepreneurship research that can be published in the leading entrepreneurship, marketing, and strategy journals.

Grading

Grades will be based on your performance of the following components:

Weekly Reading Summaries (weekly)	15%
In-Class Discussion and Summaries	15%
Mid-term Exam (in-class)	20%
Final Exam (in-class)	20%
Research Paper	30%
	100%

Grading Scale: 94%+ = A; 90-93.9% = A-; 87%-89.9% = B+; B = 84%-86.7%;
80%-83.9% = B-; 70%-79.9% = C; 60%-69.9% = D; < 60% = F.
Weekly Readings Summaries (15% of the final grade)

You are responsible for preparing power-point summaries of each article assigned each week. To maintain consistency, each summary should have the following format:

- Complete citation: in bold, at the top of the page (following *JM* format)
- Summarized by: Your name
- Theory Mind-Map(s): this section should summarize the theoretical argument of the reading, its basic assumptions, and major propositions—include any revisions to the theory based on empirical work described in the paper and speculation regarding future research ideas. Use:
- Solid lines to indicate which portions of your theory-map are based on existing theory;
- Dashed lines to indicate the insights resulting from any data analysis, and
- Dotted lines to indicate insights/speculations that are topics for future research.
- Methodology Mind-Map: this section should summarize the research design and methodology (if appropriate).

Make sure that your maps are legible! Your mind-maps should follow the suggestions of Tony Buzan, who is credited with creating the mind-mapping process. We will talk about this process on the first day of class.

Note also that you are asked to email instructor your summaries by 9 a.m. on the day of class. These summaries will be very helpful study and reference tools as you prepare for your exams in this seminar and your preliminary exams.

Note that these summaries will not be formally evaluated. Each of you will start with full credit here (15% of the course grade) and *have one-fifth of this component of your grade subtracted every time a summary is not handed in on time*. If more you submit more than five late assignments, each additional late assignment will reduce your class participation grade will be reduced by one fifth. Late work must still be turned in so that every participant has a full set of readings summaries.

Discussion Leader: We will assign one student to be a discussion leader for each week. The discussion leader will present one or more Mind Maps that integrate and synthesize the material we have discussed. The following questions should guide your preparation:
Integrative Mind-Map: How can the readings be summarized in an integrated framework?
Weaknesses and Opportunities Mind-Map: What major gaps exist in the literature? What are high priority directions for future research?

The discussion leader will share their analysis at the end of class and answer questions from the class and instructor.

Class Participation (15% of the final grade)

Class participation is a very important part of this course and *all* seminar enrollees are *expected to play an active role* in regularly discussing the assigned readings. The evaluation of class participation will be based on your level of preparation and the strength of your contributions to our discussion. Please feel free to discuss your class participation with me at any time during the quarter. As noted above, class participation is composed of several components.

The single most important part of preparing for our weekly seminars is to reserve some time prior to class for thinking about how the *assigned readings complement one another*. While we will spend some time discussing the strengths and weaknesses of individual articles, our major focus will be on the relationships and linkages among articles. As a goal, you might try to complete all assigned readings two days before our class so as to have some time the day before for integrative thinking. During this time you might to consider the following:

How do the articles relate to and build on one another?
What major gaps exist in the literature? and
What are high priority directions for future research?

As noted earlier, your success in this seminar requires that you thoroughly prepare for each of our seminar meetings. Excellent preparation lays the foundation for quality involvement and I hope you will make preparing for class a high priority. Overall, your class participation grade will be based on the quality of your comments (see earlier comments) and the consistency with which you make them throughout the semester.

Mid-term and Final Examinations (each counts 20% of the final grade)

The final examination will contain questions similar to those of doctoral preliminary exams. The questions will require that you integrate and synthesize the material we discuss during the semester.

Research Paper/Proposal (30% of the final grade)

Each of you will conduct a literature review on a topic that we discuss during the semester. We will discuss the details of the paper in class.

All seminar participants are expected to complete their papers/proposals on time. Late papers will be penalized based on when the papers are turned in. If the paper is turned in n days late, the maximum grade on the paper will be 30% - (n*5%). While you will certainly want to further

polish and improve your paper after the semester, this work will not be graded using the incomplete grade.

MISCELANNEOUS

Attendance and Make-Up Policies

Students are expected to attend class. If for some reason (e.g., illness) a student cannot attend class, the student should notify the instructor by e-mail. For each unexcused absence, the final grade will be reduced by five percent.

If for some reason (e.g., illness) a student cannot take an exam, the student should notify the instructor by e-mail. If the absence is unexcused, the exam cannot be made up. If the absence is excused, the student is responsible for contacting the instructor and arranging a make-up exam.

Academic Honesty

A student enrolling in any UMKC course is expected to exhibit high standards of academic honesty. In the case of academic misconduct, I will assess the affected work and report the incident to Bloch School administration according to the guidelines printed in the University catalog. See student conduct policies at
http://www.umkc.edu/umkc/catalog/html/append/policy/0020.html

Cheating and plagiarism will not be tolerated. The tests are to be taken without help or assistance. Persons observed cheating on tests will receive a grade of zero for the exam. Similarly, plagiarism of assignments, projects, and papers is unacceptable, and a grade of zero will be assigned on any such item where plagiarism has been detected. I reserve the right to submit student papers to www.turnitin.com in order to check for plagiarism.

Weather

If the university cancels classes for weather-related meetings, our class will be cancelled as well. In this case, the class will not be made up. In addition, if there is snow or ice on the ground, please check your e-mail before coming to class to make sure that I have not cancelled the class. If the university does not cancel classes, but I have to do so, we will make the class on an alternative day.

Note: last day of classes April 28.

ENT 5693

Technology, Innovation and Entrepreneurship
(3 credits)

Instructor: Professor Michael Song (email: songmi@umkc.edu)

Catalog Description

This seminar will explore academic literature of technology innovation and entrepreneurship. Specific topics include emerging technologies, evolutionary theory, building capabilities based on networks, organizational learning, technological innovation, institutional economics, network externalities, knowledge transfer, technological trajectories and path dependencies.

Course Description

It has become common belief that we now have a knowledge-based economy in which technological innovation and entrepreneurship are keys to competitive performance. However, it is not fully clear just what these assertions mean, or what their implications are, to the extent they hold up to scrutiny. This seminar will explore these issues, through examination of various bodies of theoretical and empirical research that bear on them.

One body of such research is concerned with know-how and command of technique as a source of competitive advantage. Some of that research is focused on capabilities at the level of the individual firm or organization, some on capabilities of broader entities like regions or networks, some on the nation-state. A second body of research focuses on processes of learning, at the level of the firm, industry, technology, and economy as a whole. Much of this literature explores the development of know-how as an evolutionary process. Still another body of research has focused on the processes through which firms, sectors, and economies explore and come to master new ways of doing things.

Course Objectives

Our primary objective this semester is to become familiar with major classic theories in selected top academic journals. Other key objectives include:

- Developing understanding of at least 15 major classic theories and their applications to entrepreneurship and innovation research
- Developing skills as a critical reviewer for academic research papers
- Developing a keen awareness of *major gaps* that exist in the entrepreneurship and innovation literature

- Enhancing one's ability to present, explain, and defend scholarly thoughts and positions, as well as to professionally respond and react to other scholars.
- Strengthening the skills needed to conduct original research that can be published in the leading entrepreneurship journals.

Preparation and Discussion Requirements

For most of the classes, we will focus on a classic theory. The single most important part of preparing for our weekly seminars is to reserve some time prior to class for reading and doing additional research on the application of the theory. For each theory, you should have a complete understanding of what the theory is and conduct a literature review to look for at least one excellent application of the theory.

While we will spend some time discussing the strengths and weaknesses of theory, our major focus will be how the theory has been applied and how we can apply to entrepreneurship research.

As a goal, you might try to complete all assigned readings two days before our class so as to have some time the day before for integrative thinking. During this time you might consider the following:
What is the theory?
What is the best application of the theory?
What major gaps exist in the literature? and
How can the theory be applied to entrepreneurship research?

To help ensure that our meetings have an integrative orientation, some seminar sessions will begin with a short, written warm-up exercise. These warm-up exercises will require that you respond in writing to two questions over a 30 minute period. The questions themselves will require a broad perspective, for example, "What is the theory?" or "What have been the applications of the theory and how can the theory be applied to entrepreneurship research?" These warm-up exercises will have the secondary benefit of helping you prepare for your preliminary exams. Please note that these warm-up exercises will be collected periodically and graded as discussed more fully in the "Grading" section below.

Grading

Grades will be based on your performance of the following components:

Weekly Reading Summaries	20%
Warm-Up Exercises	20%
Research Paper	60%
	100%

Grades with "+" or "-" may be given in this class. An "incomplete" grade will be given only with permission of the instructor. In the case of an "incomplete" grade, the student must complete the course within three months.

Please note that a grade of 3.0 will be given on those assignments that clearly demonstrate a broad knowledge of the relevant literature. To earn a 3.5 on assignments, students must show both a broad knowledge of the relevant literature, plus the ability to integrate the literature by showing linkages and relationships. Grades of 4.0 will be given to those assignments that show a broad knowledge of the literature, an ability to integrate the literature, and creative insight that is not currently present in the literature.

Class Participation Overview

Class participation is a very important part of this course and *all* seminar enrollees are *expected to play an active role* in regularly discussing the assigned readings. The evaluation of class participation will be based on your level of preparation and the strength of your contributions to our discussion. Please feel free to discuss your class participation with me at any time during the quarter. As noted above, class participation is composed of several components.

Weekly Readings Summaries: Each student will provide summaries on the assigned readings. These summaries must not exceed two typed pages (single spaced). To maintain consistency, each summary should have the following format:

- Complete citation: in bold, at the top of the page (following *Journal of Marketing* reference format)
- Summarized by: Your name
- Theoretical foundation: this section should summarize the major theoretical arguments and its assumption (What, How, Why and Where/when/Who).
- Theory applications: How has the theory been applied? (You need to identify at least one new "best application")
- Future research ideas: How can this theory applied to entrepreneurship research?

Please note that you are asked to email instructor your summaries by Monday night and bring two copies of your summaries to each class.

Weekly reading summaries will evaluated as pass or failure. No late assignments will be accepted.

Warm-Up Exercises: As outlined above, some of our weekly meetings will begin with short, written warm-up exercises. These exercises will allow you to outline your thoughts on the day's

readings during the first 30 minutes of class. You will be allowed to review your notes and refer to the readings while answering these integrative questions.

Course Project: Writing a Scholarly Paper

It is required that you write a paper suitable for publication in a top journal. The article must contain a complete review of the literature on a theory discussed in the course. It can be conceptual or empirical and must have an application of the theories discussed in class.

The article should be developed with a targeted publication in mind. Some of the journals that you might want to consider include the *Journal of Marketing*, *Strategic Management Journal*, *Academy of Management Review, Academy of Management Journal, Organizational Sciences, and Administrative Science Quarterly.*

Students selecting this option must submit a 2-3 page outline of the proposed paper (for instructor approval of the topic) at the beginning of the fifth week of the semester and the completed paper at the beginning of the last day of the class. A short presentation of your paper (30 minutes) must be made on the last day of the class.

Class Schedule

Dates:	Assignments
1/14	What is theory?
1/21	Search for 5 best theories in the assigned journal
1/28	Week 3: Upper Echelons Theory 1:00-3:00; Warm up exercise; independent research on the selected theories and determine your course project
2/4	Week 4: Agency / Stewardship (Dr. Lisa Song)
2/11	Week 5: Institutional Theory
2/18	Week 6: Population Ecology
2/22	Project summary due
2/25	Week 7: Dynamic Capabilities
3/4	Week 8: Organization Imprinting
3/11	Week 9: Prospect / Blissful Ignorance / Anticipatory Regret
3/18	Week 10: Charisma / Visionary
3/25	No Class:
4/1	Week 12: Escalation of Commitment (an outline of the paper due)
4/8	Week 13: Social Network
4/15	Overview of Innovation Literature
4/22	Applications of the selected theories in innovation and entrepreneurship
4/29	Reserved
5/8	Final course research paper due

ENT 5694

Doctoral Seminar in Theories of the Firm and Strategy

Catalog Description

In this course, students will become familiar with and develop an in-depth understanding of the *concepts, models, and paradigms* that collectively form the foundation for strategic thinking. Students will develop the ability to *critically integrate* findings from strategic research programs. Employing an appreciation for the inter-disciplinary nature of strategic management, the purpose is to develop a keen awareness of *major gaps* that exist in the strategic literature and as a result identify research projects that represent high priority areas for inquiry in the next millennium. Students will strengthen the skills needed to conduct original strategic research that can be published in the leading academic journals.

Course Objectives

Our primary objective this semester is to become familiar with and develop an in-depth understanding of the *concepts, models, and paradigms* that collectively form the foundation for strategic thinking. Other key objectives for all who participate specifically include:

- Developing the ability to *critically integrate* findings from strategic research programs that may or may not be directly related to one another.
- Developing an appreciation for the inter-disciplinary nature of strategic management.
- Developing a keen awareness of *major gaps* that exist in the strategic literature, and as a result identify research projects that represent high priority areas for inquiry in the next millennium.
- Enhancing one's ability to present, explain, and defend scholarly thoughts and positions, as well as to professionally respond and react to other scholars.

Strengthening the skills needed to conduct original strategic marketing research that can be published in the leading marketing and strategy journals.

Seminar Preparation and Discussion Information

The single most important part of preparing for our weekly seminars is to reserve some time prior to class for thinking about how the *assigned readings complement one another*. While we will spend some time discussing the strengths and weaknesses of individual articles, our major focus will be on the relationships and linkages among articles. As a goal, you might try to complete all assigned readings two days before our class so as to have some time the day before for integrative thinking.

During this time you might to consider the following:
How do the articles relate to and build on one another?
What major gaps exist in the literature? and
What are high priority directions for future research?

Grading

Grades will be based on your performance of the following components:

Weekly Reading Summaries (weekly)	5%
In-Class Discussion	5%
Discussion leader	10%
Mid-term Exam (in-class)	20%
Final Exam	20%
Weekly Paper Assignments	10%
Research Paper	30%
	100%

Grading Scale: 94%+ = A; 90-93.9% = A-; 87%-89.9% = B+; B = 84%-86.7%; 80%-83.9% = B-; 70%-79.9% = C; 60%-69.9% = D; < 60% = F.

Class Participation Overview

Class participation is a very important part of this course and *all* seminar enrollees are *expected to play an active role* in regularly discussing the assigned readings. The evaluation of class participation will be based on your level of preparation and the strength of your contributions to our discussion. Please feel free to discuss your class participation with me at any time during the quarter. As noted above, class participation is composed of several components.

Weekly Readings Summaries: Each week, the seminar team will divide up the next week's readings for the purpose of determining who will provide Power-Point summaries of each article. To maintain consistency, each summary should have the following format:

- Complete citation: in bold, at the top of the page (following *JM* format)
- Summarized by: Your name
- Theory Mind-Map(s): this section should summarize the theoretical argument of the reading, its basic assumptions, and major propositions—include any revisions to the theory based on empirical work described in the paper and speculation regarding future research ideas. Use:

    - Solid lines to indicate which portions of your theory-map are based on existing theory;
    - Dashed lines to indicate the insights resulting from any data analysis, and
    - Dotted lines to indicate insights/speculations that are topics for future research.
- Methodology Mind-Map: this section should summarize the research design and methodology (if appropriate).

Please note that your mind-maps should follow the suggestions of Tony Buzan, who is credited with creating the mind-mapping process.

Note also that you are asked to email instructor your summaries by Sunday and bring copies of your summaries to the start of each class so they can be shared with the other seminar participants and me. These summaries will be very helpful study and reference tools as you prepare for both the final in this seminar and your preliminary exams.

Please also note that although you may only be responsible for one or two summaries per week, *you are expected to read and take notes on all of the articles*. A failure to do so will have a significant impact on your ability to participate in our discussions.

Weekly reading summaries are due at 24 hours before the scheduled class. These summaries will not be formally evaluated. Each of you will start with full credit here (5% of the course grade) and *have one-fifth of this component of your grade subtracted every time a summary is not handed in on time*. Late work must still be turned in so that every participant has a full set of readings summaries.

Discussion Leader: We will assign one student to be a discussion leader for each week. The discussion leader will present one or more Mind Maps that integrate and synthesize the material we have discussed. The following questions should guide your preparation:
Integrative Mind-Map: How can the readings be summarized in an integrated framework?
Weaknesses and Opportunities Mind-Map: What major gaps exist in the literature? What are high priority directions for future research?

The discussion leader will share their analysis at the end of class and answer questions from the class and instructor.

General Class Participation: As noted earlier, your success in this seminar requires that you thoroughly prepare for each of our seminar meetings. Excellent preparation lays the foundation for quality involvement and I hope you will make preparing for class a high priority. Overall, your class participation grade will be based on the quality of your comments (see earlier comments) and the consistency with which you make them throughout the semester.

Research Paper/Proposal

You will be required to select a major company founded by an entrepreneur, provide a brief history of the founding of the company, and analyze the company's history using the models discussed in this class.

You will be responsible for turning a weekly assignments dealing with your selected company. The purpose of these assignments is to help you prepare your paper. Your first write-up is due in our second class. Your first write-up will contain a timeline of important events in the history of your company. Use the *Journal of Marketing* style guide to document your sources and your quotations.

Grading Note: All seminar participants are expected to complete their papers/proposals on time. In addition, and while you will certainly want to further polish and improve your paper after the semester, this work will not be graded using the incomplete grade.

Final Examination

The mid-term and final examination will contain questions similar to those included on doctoral preliminary exams. The questions will require that you integrate and synthesize the material we have discussed.

<u>Class Topics</u>

8/18: What is Strategy?
8/25: Marketing Strategy: Historical Perspectives
9/2: Industrial Organization School
9/9: Structure-Conduct-Performance
9/16: Agency Theory
9/23: Transaction Cost Analysis
9/30: Theories of the Firm and Implications for Entrepreneurship: Transaction Cost Analysis
10/7: In-class Exam
10/14: The Resource-Based View (RBV) and Resource-Advantage (RA) Theory.
10/21: Population Ecology Theory, Institutional Theory, and Self-Referential Systems Theory
10/28: TBA
11/4: TBA
11/11: TBA
11/18: No Class—we will schedule a second day for presentations during the last week of classes
11/24: Thanksgiving Holiday
12/2: Presentations
12/3: Presentations
12/9: Final Exam

ENT 5680

Multivariate Statistics I

Fall 2009
W 9:30am-4:30pm, Bloch School 003
Office hours: after class or by appointment

Instructor: Lisa Z. Song, Ph.D.
236 Bloch School
Ph: (816) 235-5153
Email: songl@umkc.edu
Office hours: after class or by appointment

Textbooks and Other Material

Jeffrey Wooldridge *Introductory Econometrics*
3rd edition: ISBN-10: 0324289782 or
4th edition: ISBN-10: 0324581629
Delwiche and Slaughter *The Little SAS Book*
3rd Edition: ISBN: 978-1-59047-333-7
Kauffman Firm Survey (KFS): http://sites.kauffman.org/kfs/
Access to SAS software

Grading:
Class participation 10%
Assignment (data analysis): 20%
Exam 40%
Term project 30%

Grading Scale:
A 94%; A-: 90% ; B+ : 87% ; B: 83% ; B-: 80% ; C: 70 ; D: 60; F: < 60%

This is an intensive doctoral econometrics and data analysis seminar. We will cover a wide range of basic econometric and data analysis topics at a very fast pace. Students should have read Wooldridge chapters 1-9 before the start of this class, as instructed in admission and orientation packages.

Assignment Schedule (updated 8-24-09):

Please note that there is a scheduling error on pathway; this is not an eight-week class.

Time and schedule considerations may prompt modifications of this syllabus (deletion of assignments/topics, modification of examination dates, etc.). The instructor will inform any changes; however, it is the student's responsibility to keep up with any modifications that are made throughout the semester.

Session	Date	Topic	Reading Assignment	Assignment
Class 1	W, 8/26	Data; Basic Statistics; OLS	Woodridge Chapter 1-5	Odd Problems: Self-check your answers
Class 2	W, 9/2	TA session: KFS documents and Data	Download KFS Document and Data	
Class 3	W, 9/9	Morning: KFS Discussion Afternoon: OLS	Woldridge Chapters 6-9	Odd Problems: Self-check your answers
Class 4	W, 9/16	Morning: SAS Input and output Afternoon: No class meeting (IEI faculty meeting)	Little SAS: Chapter 1,2, 3,4, 6, and 9	Assignment 1 (due 9/23)
Class 5	W, 9/23	Morning: Assignment 1 Afternoon: SAS Basic Statistics and Regression Procedures	Little SAS: Chapters 4, 5, 6, 8, and 9; handout	Assignment 2 due 9/23
Class 6	W, 9/30	Morning: Assignment 2 Afternoon: KSF data analysis and Term Project (due 11/20, Friday before Thanksgiving)		
Final Exam		2 ½ hours: Option -10/7 morning or 11/18 morning		

ENT 5681

MULTIVARIATE STATISTICS II
Spring 2010

Instructor: Lisa Song, Ph.D.
Office: 208 Bloch School
235-5153
email: songl@umkc.edu
Office hours: after class or by appointment

TextBook
James Lattin, J. Douglas Carroll, and Paul E. Green (2003), *Analyzing Multivariate Data*, Brooks/Cole, Thompson Learning.

Reference Books
Lora D. Delwiche and Susan J. Slaughter, The Little SAS Book, 3rd edition, SAS Publication

Larry Hatcher A Step-by-Step Approach to Using the SAS System for Factor Analysis and Structural Equation Modeling by Larry Hatcher,

Richard A. Johnson and Dean W. Wichern, *Applied Multivariate Statistical Analysis* (1998), 4th Edit., Prentice-Hall.

Hair, Black, Babin, Anderson, and Tatham, Multivariate Data Analysis

Dallas E. Johnson, Applied Multivariate Methods forData Analysis

This is the second course of a two-course multivariate statistical analysis sequence. The objective of this course is to develop advanced skills with a range of procedures and programs for multivariate data analysis. The focus will be on practical issues such as selecting the appropriate analysis, preparing data for analysis, SAS programming, and presenting results. Possible topics to be covered include testing moderating hypotheses, quadratic and log-linear regressions, MANOVA, factor analysis, path models, testing mediating hypotheses, two-stage (three-stage) regressions, hierarchical linear modeling, and meta analysis. Topics for coverage are also driven by student interests and readiness.

Grading Components:
Class participation 40% (see attached grading sheet for details)
Term Paper 60% (20% presentation; 40% turned in paper)

Grading Scale:
A: 94%
A-: 90% - 93.99%;
B+ : 87% - 89.99%;
B: 83% - 86.99%;

B-: 80% - 82.99;
C: 70% - 79.99%;
D: 60% - 69.99%;
F: < 60%

Each week, the instructor/TA will provide you a list of readings. The reading materials, if they are not from the textbooks, will be sent to you by TA at least one week ahead of the class. You should read all articles in the list and take good notes of each article. You are also encouraged to share interesting articles with the class. Please send your articles to all participants at least a day before the class. When assigned, hands-on data analysis assignments should be done before the class meeting as well. Each of you should prepare to lead a 10-minute discussion or critique of each article. You also should bring your data analysis assignments and be ready to show your work.

In addition to the weekly readings and assignments, each student will complete a term paper. The paper can be on any topic of your choice. However, you must get approval of your topic from the instructor, and it must involve some advanced techniques of multivariate statistics. Although a submission to an academic journal is not required, the paper will be graded according to the readiness that it can be submitted to a top academic journal. The paper is due 1:00pm on Tuesday, April 27th. The final paper should follow Academy of Management Journal submission guidelines.

All data for the assignments (other than that from the textbook) will be provided. These data sets are copy-right protected and are strictly for the class assignment purpose only. You are responsible to find your own data source for the final project. Talk with me if you don't have a data source by the 20th of February.

Attendance and Make-Up Policies

Students are expected to attend class. If for some reason (e.g., illness) a student cannot attend class, the student should notify the instructor by e-mail. For each unexcused absence, the final grade will be reduced by five percent.

If for some reason (e.g., illness) a student cannot take an exam on the scheduled day and time, the student should notify the instructor by e-mail. If the absence is unexcused, the exam cannot be made up. If the absence is excused, the student is responsible for contacting the instructor and arranging a make-up exam.

Academic Honesty

A student enrolling in any UMKC course is expected to exhibit high standards of academic honesty. In the case of academic misconduct, I will assess the affected work and report the incident to Bloch School administration according to the guidelines printed in the University catalog. See student conduct policies at
http://www.umkc.edu/umkc/catalog/html/append/policy/0020.html

Cheating and plagiarism will not be tolerated. The tests are to be taken without help or assistance. Persons observed cheating on tests will receive a grade of zero for the exam. Similarly, plagiarism of assignments, projects, and papers is unacceptable, and a grade of zero will be assigned on any such item where plagiarism has been detected. I reserve the right to submit student papers to www.turnitin.com in order to check for plagiarism.

Weather

If the university cancels classes for weather-related meetings, our class will be cancelled as well. In this case, the class will not be made up. In addition, if there is snow or ice on the ground, please check your e-mail before coming to class to make sure that I have not cancelled the class. If the university does not cancel classes, but I have to do so, we will make the class on an alternative day.

The schedule is tentative and will be updated weekly. The updates and list of readings will be emailed to you every Tuesday night before 12:00am by TA. It is the student's responsibility to keep up with any modifications that are made throughout the semester.

Assignment Schedule (updated 01/18/10)

Week	**Date**	**Topic**	**Reading Assignment/Data Analysis**
1	1/12	Review: OLS-Interaction	LCG Ch. 1, 2, 3 Articles 1, 2, 3
2	1/19	Moderating Hypothesis; Moderating Hypothesis Testing; Related Issues	LCG Ch. 1, 2, 3 Articles 1, 2, 3, 4
3	1/26	Centering in Regression U-Shape; J-Shape Hypotheses Log Transformation	LCG Ch. 1, 2, 3 Articles 5, 6, 7, 8, 9, 10 Data Analysis
4	2/2	MONOVA	LCG Ch.13 Articles 11 and 12 Handout Data Analysis
5	2/9	Principal Component Analysis and Exploratory Factor Analysis	LCG Ch.4 and 5 Articles 13, 14, 15 Handout
6	2/16	Principal Component Analysis and Exploratory Factor Analysis	Data Analysis
7	2/23	Review and in-class oral quizzes	
8	3/2	Term Project Proposal and Preliminary Data Analysis Presentation	
9	3/9	Logistic Regression	TBA
10	3/16	Generalized Linear Regression	TBA

11	3/23	Path Models Mediating Hypotheses Seemingly Unrelated Regression Two-Stage Least Square Regression	TBA
		Spring Break	
12	4/6	Path Models Mediating Hypotheses Seemingly Unrelated Regression Two-Stage Least Square Regres	TBA
		Spring Break	
13	4/13	Special Topics	TBA
14	4/20	Term Paper Presentation	
15	4/27	Term Paper Presentation	

Reading Articles:

Topic: Interaction, moderating
Echambadi, R., Hess, J.D. 2007. Mean-centering does alleviate collinearity problems in moderated multiple regression models. Marketing Science, 26(3), 438-445.

Hayes, A.F., Matthes, J. 2009. Computational procedures for probing interactions in OLS and logistic regression: SPSS and SAS implementations. Behavior Research Methods, 41(3), 924-936.

Yu, C.H. An overview of remedial tools for collinearity in SAS.

Brambor, T., Clark, W.R., Golder, M. 2006. Understanding interaction models: improving empirical analyses. Political Analysis, 14, 63-82.

Kraemer, H.C., Blasey, C.M. Centering in regression analyses: a strategy to prevent errors in statistical inference. International Journal of Methods in Psychiatric Research, 13(3), 141-151.

Topic: U-Shape, J-Shape
Karim, S. 2009. Business unit reorganization and innovation in new product markets. Management Science, 55(7), 1237-1254. (make sure download the electronic companion)

MacCallum, R.C., Mar, C.M. 1995. Distinguishing between moderator and quadratic effects in multiple regressions. Psychological Bulletin, 118(3): 405-421.

Contractor, F.J., Kundu, S.K., Hsu, C. 2003. A three-stage theory of international expansion: the link between multinationality and performance in the service sector. Journal of International Business Studies, 34(1), 5-18.

Topic: Log transformation
Russell, C.J., Dean, M.A. 2000. To log or not to log: bootstrap as an alternative to the parametric estimation of moderation effects in the presence of skewed dependent variables. Organizational Research Methods, 3, 166-185.

Teekens, R., Koerts, J. 1972. Some statistical implications of the log transformation of multiplicative models. Econometrica, 40(5), 793-819.

Topic: ANOVA, MANOVA, MANCOVA
Olson, C.L. 1976. On choosing a test statistic in multivariate analysis of variance. Psychological Bulletin, 83(4), 579-586.

Woodward, J.A., Overall, J.E. 1975. Multivariate analysis of variance by multiple regression models. Psychological Bulletin, 82(1), 21-32.

Topic: Factor Analysis
Conway, J.M., Huffcutt, A.I. 2003. A review and evaluation of exploratory factor analysis practices in organizational research. Organizational Research Methods, 6(2), 147-168.

Fabrigar, L.R., MacCallum, R.C., Wegener, D.T., Strahan, E.J. 1999. Evaluating the use of exploratory factor analysis in psychological research. Psychological Methods, 4(3), 272-299.

Hayton, J.C., Allen, D.G., Scarpello, V. 2004. Factor retention decisions in exploratory factor analysis: a tutorial on parallel analysis. 7(2), 191-205.

ENT 682

Structural Equation Modeling

Catalog Description

This course presents structural equation modeling (SEM) including a review of regression and the study of path analysis, including model specification, methods of estimation, recursive and non-recursive models, direct, indirect, and total effects, methods of estimation, single and multi-group analyses, moderators, mediators, structural equation model specification, identification, methods of estimation, second-order factor analysis, and the assessment of causal structure. Students are expected to continue a research project started in IEI 681. Prerequisite: IEI 681.

Students are expected to purchase their own software necessary for the course. There remains a debate on whether EQS or Lisrel or AMOS is the best approach in this class.

There are two part of the course: 1) Short Course on Structural Equations Models by Dr. Calantone; 2) Actual practices of the techniques

Course Objectives:

- Learn to perform confirmatory factor analyses
- Learn second-order factor analyses
- Learn PLS

- Learn to perform full structural equation model
- Learn to do path model
- Learn to perform multiple group SEM
- Understand the differences among the above techniques

Textbooks : (Indicated as "K" on syllabus)--- Kaplan, D. Structural Equation Modeling: Foundations and Extensions, Sage Publications, 2nd edition.

Optional but excellent reference books (These are the books you buy used at a big discount tor buy new if you are a methods maven)
Bollen, K., Structural Equations with Latent Variables, John Wiley & Sons, Inc., 1989.
Duncan, Duncan, Strycker, Li & Alpert, An Introduction to Latent Variable Growth Curve Modeling, Lawrence Erlbaum Assoc. Pub, 2006. (paperback edition (2))

Basis of Grade

Short Course on Structural Equations Models by Dr. Calantone	30%
Final Exam	30%
Research Paper with multiple group analyses	40%
Total:	100%

Grading Scale:
90% = A;
86%-89% = B+;
81%-85% = B;
76-79% = B-;
70% -75%= C;
60%-68%= D;
<60% = F

Course Outline

Days 1-3:

Theoretical Foundation of SEM

When	Topic	What we will do in class	What you should read ahead of time	What you should do afterwards
Day 1	Overview	Lecture	Kaplan Ch 1 & 2	ReRead K 1 & 2
10/20/2009	Causality & Philosophy	Lecture	Kaplan Ch 1 & 2	
8:30am	Measurement Rules in Social Sci.	Lecture & Discussion	A1 (article #1)	
	Constructs (reflective & Formative)	Lecture & Discussion		
	Factor Analysis: Confirmatory & Exploratory	Lecture & Discussion	Kaplan Ch 3&4	Review & Quiz each other.
Break		Review for quiz		
Mid-Late	Oral quizzes on CFA, etc.	I will randomly call on folks to explain what we did in preceding section.	Your notes	Rest & Meditate
Morning	(Not graded, just to show how well you are mastering topic)			
	Build some CFA models	Practice draw & code CFAs	Do it Live-yourself	Practice
	Uses and abuses of CFA	Discussion	A2-A3-A4-A5-A6	Review & Quiz each other.
BREAK		Eat & Rest		
Mid-day	Path Analysis logic. Efficacy of using regression, PLS, Cross-sectional econometrics, Panel designs and experiments.	Lecture & Discussion	A7-A8-A9	Practice building Path Models *Tonight*
	CFA and Path analysis into HOLISTIC modeling	Lecture & Discussion	K CH 5; A10-A11-A12-A13	Practice Full SEM & Two-Step SEM using data -- *Tonight*

End of DAY 1				
Day 2 10/21/2009 8:30am	Review Computer Practice from previous evening	Discussion & workshop so everyone who really tries, succeeds at basic models	Bring paper printouts along with your laptops	
	Modifying and Cleaning Models	Demonstrations run on EQS & MPlus by instructor	K CH 6; A14	Reanalyze data from A14
Break				
	Using SEM for Varied Purposes	Lecture & Discussion & Demonstrations	A15-A16-A17-A18-A19	
	REVIEW Computer HW	Critique of original model	Critique our models	
Break				
	SEM in Cross-cultural settings	Lengthy Lecture & Long Discussion	A20-A21-A22	
Break				
	Power, Sample size, Bootstraps & goodness of fit measures	Alternating Lectures & Discussions & Demonstration at conclusion	A23-A24-A25-A26-A27	Bootstrap RE-Re-analysis of Jaworski & MacInnis data
		Exam in the evening		
END OF 2				
Day 3	Review Computer HW	(Bootstrap)		
10/23/2009	Interactions; NON-NORMALITY & TRANSFORMATIONS		K: Ch 7 & 8	Run 1 extra version
8:30am			A28-A29-A30	Live in class
	Latent Growth Curve Models	Discussion then Presentation	A31	
	Big Quiz	Big Computer-based problem		
	Big Wrap	Ask anything	Consulting	

			promise	
11:00am	End of Course			

Day 4-7:
Learn to perform confirmatory factor analyses
Learn second-order factor analyses
Learn PLS
Learn to perform full structural equation model
Learn to do path model
Learn to perform multiple group SEM
Understand the differences among the above techniques

ENT 5683
MATHEMATICAL MODELS FOR ENTREPRENEURSHIP
DOCTORAL SEMINAR

Course Objectives
The purpose of this course is to provide an introduction to game theory and mathematical economics with an application to models in entrepreneurship. Classes will focus on the use of mathematical models to characterize the nature of various entrepreneurship-related decisions in complex environments. The goal of the course is four-fold:

- Ensure that you have basic understanding of important concepts in game theory and math modeling;
- Ensure that you have mastered the basic vocabulary of game theory and math modeling;
- Develop your Mathematica modeling skills; and
- Introduce you to some of the entrepreneurship issues that can be addressed with mathematical modeling.

We could easily spend four semesters (or more) exploring topics in the area of math modeling, so this course is simply an introduction that will hopefully provide the skills and tools you need to explore more advanced math modeling topics.

Prerequisites
Doctoral standing, familiarity with calculus and microeconomic theory, and an interest in theory-building research.

Required Text
Robert Gibbons, *Game Theory for Applied Economists*, Princeton University Press, 1992.

Copies of the text are available in the bookstore.

Required Software
Wolfram Mathematica 6 for Students.

You can buy a copy of this software for about $140 in the UMKC bookstore. Because this may be expensive on a student budget, a copy of the software is available on one of the computers in the graduate student office suite at 4700 Troost. You may also be able to find a used copy. You are welcome to use earlier versions of the software (I used version 3 for about 15 years). Please feel free to ask the other doctoral students about low cost sources for this software. They may know of web sites of other vendors where you can purchase used copies of the software.

Seminar Preparation and Discussion Information
The single most important part of preparing for our weekly seminars is to spend time mastering the assigned reading materials reading and working the assigned problems using Mathematica. Most or our class time will be spent discussing the assigned problems and the underlying concepts, though there may be an occasional lecture.

Each student should be prepared to present any of the problems assigned for each class. Please bring your homework file on your computer or on a thumb drive and be prepared to project this file on the classroom screen. I will ask you to explain your analysis using the file you prepared.

Please include notes in your file that explain what you are doing. You should prepare your file so that your classmates can easily follow your analysis. I will illustrate the process on the first day of class.

E-mail your instructor your homework assignment 24 hours before the start of class.

It is important to complete the assigned reading and work all of the assigned problems. A failure to do so will have a significant impact on your ability to participate in our discussions and successfully complete the exams.

Weekly problem sets will not be formally evaluated, though I will be happy to discuss them with you if you have questions. Each of you will start with full credit here (15% of the course grade) and *have one-fifteenth of this component of your grade subtracted every time an assigned problem set is not handed in on time*. Late work must still be turned in so that every participant has a full set of worked problems.

Exams
There will be two in-class exams (mid-term and final) and two take-home exams (mid-term and final). The in-class exams will be short answer exams designed to test your knowledge of basic course concepts. You will not be allowed to use notes, books, or any other aids in completing the mid-term exams. The exams will cover concepts that are part of basic game theory and math modeling literacy, i.e., the concepts are ones that you should be familiar with for on-

campus job interviews and for discussions of academic papers. If you don't know these concepts, others will question your academic training and your skill sets.
The take-home exams will consist of problems designed to assess student understanding of the assigned material and technical ability. Students are expected to work alone on the exams. For take-home exams, students can use class notes and homework assignments, as well as the course textbook. Other reference sources are prohibited. In particular, students are forbidden to attempt to find the answers to the problems by consulting other textbooks, articles, or the Internet.

Grading

Grades will be based on your performance of the following tasks:

Weekly Problem Sets	15%
In-Class Discussion	5%
Mid-term Exam (in-class)	20%
Mid-term Exam (take home)	20%
Final Exam (in-class)	20%
Final Exam (take home)	20%
	100%

Grades will be assigned using the following scale:

94-100:	A
90-93:	A-
88-89:	B+
84-87:	B
80-83:	B-
78-79:	C+
74-77:	C
70-73:	C-
0-69:	F

APPENDIX E: DOCTORAL FACULTY

RICHARD JAMES AREND

Associate Professor of Entrepreneurship and Innovation
306 Bloch School
University of Missouri-Kansas City
5110 Cherry Street
Kansas City, MO 64110-2499

EDUCATION
Ph.D., Policy Analysis and Strategy, University of British Columbia, 1995.
M.B.A., Technology Management, York University, 1989.
B.A.Sc., Aerospace Engineering, University of Toronto, 1986.

PROFESSIONAL EXPERIENCE
Associate Professor of Entrepreneurship and Innovation. The Bloch School, University of Missouri-Kansas City, 2010-present.
Associate Professor of Management, University of Nevada Las Vegas, 2001–2010.
Assistant Professor, The Stern School, New York University, 1997-2001.

RESEARCH AND PUBLICATIONS
Over his career Professor Arend has published in a number of leading management journals, including the *Strategic Management Journal, Organization Science, Organizational Behavior and Human Decision Processes, Journal of Management, Journal of Management Studies, Strategic Organization, Journal of Management Inquiry, Small Business Economics, Journal of Business Research* and *Journal of Business Venturing*. His research focuses on unusual ways of value creation and destruction, taking both theoretical and empirical approaches to investigation. His UTD research rating (top publications controlled for co-authorship) is 5.0. Recent examples of publications include:

Arend, R.J. & Levesque, M. "*Testing the Resource-Based View: Simulation Results for Violating VRIO*.", Organization Science [forthcoming].

Arend, R.J. (2009) *"Reputation for Cooperation: Contingent Benefits in Alliance Activity"*, Strategic Management Journal: 30(4): 371-386.

Arend, R.J. & Bromiley, P. (2009) *"Assessing the Dynamic Capabilities View…"* Strategic Organization! 7(1): 75-90.

Arend, R.J. (2007) *"Abandoning [Entrepreneur]ship: children and victims first."* Strategic Organization! 5(4): 409-422

Arend, R.J. (2006) "*SME-Supplier Alliance Activity in Manufacturing: Contingent Benefits and Perceptions.*" Strategic Management Journal: 27(8): 741-764

Seale, D.A., Arend, R.J. & Phelan, S. (2006) *"Modeling alliance activity: Opportunity cost and the shadow of the future in an iterated Prisoner's Dilemma game"* Organizational Behavior and Human Decision Processes: 100(1) 60-75.

Arend, R.J. (2006) *"Tests of the Resource-Based View: do the empirics have any clothes?."* Strategic Organization! 4(4): 409-422

Arend, R.J. & Seale, D.A. (2005) *"Modeling Alliance Activity: An Iterated Prisoners' Dilemma with Exit Option".* Strategic Management Journal: 26(11): 1057-1074

WORK WITH GRADUATE STUDENTS

Professor Arend has taught MBAs at NYU's Stern School, at UBC, and at UNLV; he has also taught EMBAs at UNLV. He has worked on proposed doctoral program initiatives at UNLV, and with doctoral students at NYU.

DIRK LIBAERS

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University of Missouri-Kansas City
5110 Cherry Street
Kansas City, MO 64110-2499

EDUCATION
PhD in Public Policy, 2008
Major: Science, Technology & Innovation Policy; Minor: Entrepreneurship
Georgia Institute of Technology, Atlanta, USA

Certificate in Management of Technology, 2008
Georgia Institute of Technology, Atlanta, USA

Master of Science in Technology & Innovation Management, 2004
SPRU (Science Policy Research), University of Sussex, Brighton, United Kingdom

Master of Business Administration (MBA), Major: Finance, 1999
The George Washington University, Washington DC, USA

Bachelor of Mechanical Eng, Major: Applied Physics, 1989
Vrije Universiteit Brussel, Brussels, Belgium

PROFESSIONAL EXPERIENCE
Visiting Fellow, School of Business, Management and Economics, University of Sussex, Brighton, United Kingdom

Assistant Professor of Entrepreneurship and Innovation, Henry W. Bloch School of Business and Public Administration, University of Missouri-Kansas City, 2007 – now

RESEARCH AND PUBLICATIONS
Professor Libaers has currently several papers under review at top management outlets. His research interests include: (International) Technology Entrepreneurship; (International) Technology transfer and commercialization; Emerging technology commercialization; Internationalization of R&D activities; New International Ventures.

Recent examples include:

Libaers, D., Hicks, D., and Porter A.L. (2010) "A taxonomy of small firm technology commercialization", (in press) *Industrial and Corporate Change,* 19(6), 1-35.

Meyer, M., Libaers, D., and Jaeng-Hwo Park (2010) "The Emergence of Novel Science-related fields: Regional or Technological Patterns? Exploration and Exploitation in UK Nanotechnology" (in press) *Regional Studies*, 44(12), 1-26.

Libaers, D. (2009) "Industry relationships of DoD-funded academics and institutional changes in the US university system", *Journal of Technology Transfer*, 34(5), 474-489.

Libaers, D. (2007), "The role and contribution of foreign-born scientists and engineers to the US public Nano Science & Technology research enterprise" *IEEE Transactions on Engineering Management,* 54 (3), 423-432.

Youtie, J., Libaers, D., Bozeman, B. (2006),"Institutionalization of University Research Centers: The Case of the National Cooperative Program in Infertility Research", *Technovation*, 26 (9), 1055-1063.

Libaers, D., Meyer, M., Geuna, A. (2006), "The Role of University Spinout Companies in an Emerging Technology: The Case of Nanotechnology in the UK", *Journal of Technology Transfer,* 31 (4), 443-450.

WORK WITH GRADUATE STUDENTS

At the University of Missouri-Kansas City Professor Libaers has taught a course on Technology Entrepreneurship to MBA students, and a course on Entrepreneurship and New Venture Creation attended by MBA, JD and Engineering students. He is currently working with Tang Wang, a doctoral student to study technology commercialization strategies, more specifically technology in- and out- licensing using data collected through the Kauffmann Foundation survey of nascent ventures.

At the Georgia Institute of Technology, he taught a course in Comparative Science, Technology and Innovation Policy in the Fall of 2007, a course attended by both PhD and MS students.

H. DENNIS PARK

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Henry W. Bloch School of Business and Public Administration
University of Missouri, Kansas City
5110 Cherry St., Kansas City, MO 64110-2499

ACADEMIC POSITION

2010 ~ Assistant Professor of Entrepreneurship and Innovation
Henry W. Bloch School of Business and Public Administration
University of Missouri, Kansas City

EDUCATION

2010 Michael G. Foster School of Business, University of Washington
Ph.D. in Technology Entrepreneurship and Strategic Management
Dissertation: The influence of corporate investors on the development and performance of new ventures (Chair: H. Kevin Steensma)

2000 Robert E. McDonough School of Business, Georgetown University
Master of Business Administration

1994 University of Wisconsin at Madison
Bachelor of Arts in Computer Sciences, Economics, and Mathematics

RESEARCH AND TEACHING INTERESTS

My research interests lie at the intersection between technology entrepreneurship and strategy. I consider how external resource provides influence entrepreneurial outcomes of new ventures. In particular, my current research explores the influence of corporate investors and independent venture capitalists on the development, governance, and performance of new ventures.

I currently teach ENTRE460: "Creating the Enterprise" (undergraduate capstone) and am strongly interested in developing research relationships with doctoral students.

MANUSCRIPTS UNDER REVIEW

Park, H. D., & Steensma, H. K. "When does corporate venture capital add value for new ventures?" (Under second review, *Strategic Management Journal*)

Nam, D., Arthurs, J. D., & Park, H. D. "Looking attractive until you sell: Earnings management, lockup expiration, and the role of venture capitalists" (Under initial review, *Management Science*)

Park, H. D., & Steensma, H. K. "The influence of corporate investors on strategic outcomes of new ventures" (Under initial review, *Organization Science*)

Chan, C. S. R., & Park, H. D. "Competence or over-competence? Individual differences in using knowledge for investment decisions" (Under initial review, *Journal of Behavioral Decision Making*)

CONFERENCE PRESENTATIONS

Park, H. D., & Steensma, H. K. (August 2010). "The influence of multiple agency conflicts on the strategic outcomes of new ventures". *Annual Meeting of the Academy of Management*. Montreal, QC

Chan, C. S. R., & Park, H. D. (August 2010). "Determinants of venture investment decisions: A dual process perspective". *Annual Meeting of the Academy of Management*. Montreal, QC

Nam, D., Arthurs, J. D., & Park, H. D. (August 2010). "Looking attractive until you sell: Earnings management, lockup expiration, and the role of venture capitalists". *Annual Meeting of the Academy of Management*. Montreal, QC

Park, H. D., & Steensma, H. K. (August 2009). "When does corporate venture capital add value for new ventures?" *Annual Meeting of the Academy of Management*. Chicago, IL

Park, H. D. (September 2007). "When do technology ventures pursue an investment from established firm and how does it influence their performance?". *West Coast Research Symposium on Technology Entrepreneurship* (poster session). Seattle, WA

Park, H. D. (August 2007). "When do technology ventures seek corporate venture capital?" *Annual Meeting of the Academy of Management*. Philadelphia, PA

MANUSCRIPTS IN PREPARATION

Chan, C. S. R., & Park, H. D. "Determinants of venture investment behavior: A dual process perspective" (Under final preparation for journal submission)

Park, H. D., Nam, D., & Arthurs, J. D. "Venture capitalists and slack of newly public firms" (Theory development and data analysis in progress)

Chan, C. S. R., & Park, H. D. "Who gets funding? The influence of business plans in the selection of venture investments" (Data analysis in progress)

Park, H. D. "Explaining the discrepancy between selection and treatment effects in strategy and entrepreneurship research" (Theory development in progress – Theory paper)

Park, H. D. “How do cash flow rights in venture capital contracts influence the risk propensity and exit strategy of new ventures?” (Ready for data collection)

Park, H. D. “The influence of incoming CEO’s functional background on the return of discretionary expenditure” (Ready for data collection)

MARK EDWARD PARRY

Ewing Marion Kauffman/Missouri Endowed Chair in Entrepreneurial Leadership
& Professor of Marketing
321 Bloch School
University of Missouri-Kansas City
5110 Cherry Street
Kansas City, MO 64110-2499

HOME ADDRESS: 8352 Maplewood Street, Lenexa, KS 66215

EDUCATION
Ph.D., Management Science, The University of Texas at Dallas, 1988.
M.A., Economics, The University of Texas at Arlington, 1984.
B.A., History, Metropolitan State College, 1981.

PROFESSIONAL EXPERIENCE
Ewing Marion Kauffman/Missouri Endowed Chair in Entrepreneurial Leadership & Professor of Marketing. The Bloch School, University of Missouri-Kansas City, 2005-present.

Professor of Business Administration, The Darden School, University of Virginia, 2001 – 2005.

Robert F. Vandell Research Professor of Business Administration, The Darden School, University of Virginia, 1997-2001.

Associate Professor with tenure, The Darden School, University of Virginia, 1994 – 1998.

Assistant Professor, The Darden School, University of Virginia, 1988 – 1994.

RESEARCH AND PUBLICATIONS
Over his career Professor Parry has published in a number of leading management journals, including the *Journal of Marketing, Journal of Marketing Research, Marketing Science, Management Science, Academy of Management Journal, Journal of Operations Management, Journal of Product Innovation Management, IEEE Transactions on Engineering Management,* and *Journal of Business Venturing*. Since joining the Bloch School in August 2005 he has had 19 papers accepted for publication in refereed journals. Recent examples include:

Mark E. Parry, Qing Cao, and Michael Song, "Forecasting New Product Adoption with Probabilistic Neural Networks," *Journal of Product Innovation Management*, forthcoming.

Zibin Xu, Mark E. Parry, and Michael Song, "The Impact of Technology Transfer Office Age and Size on University Invention Disclosure," *IEEE Transactions on Engineering Management,* forthcoming.

Michael Song, Tony Di Benedetto, and Mark Parry, "The Impact of Formal Processes for Market Information Acquisition and Utilization on New Venture Performance" *Journal of International Marketing*, forthcoming.

Qing Cao, Mark E. Parry and Karyl Leggio, "The Three-Factor Model and Artificial Neural Networks: Predicting Stock Price Movement in China," *Annals of Operations Research*, forthcoming.

Tang Wang, Michael Song, and Mark E. Parry, "Do Market Information Processes Improve New Venture Performance?" *Journal of Business Venturing*, forthcoming

Mark E. Parry and Michael Song, "Market Information Acquisition, Utilization, and New Venture Performance," *Journal of Product Innovation Management*, forthcoming.

Mark E. Parry, Pilar Fernandez, José Antonio Varela, and Michael Song, "Cross-Functional Integration in Spanish Firms," *Journal of Product Innovation Management,* forthcoming

Michael Song, Tony Di Benedetto, and Mark E. Parry (2010), "Market Information and New Venture Performance: Differences between Established and Emerging Technology Standards," *IEEE Transactions on Engineering Management*, 57 (1), 22-38.

Lisa Z. Song, Michael Song, and Mark E. Parry (2010), "Perspectives on Economic Conditions, Entrepreneurship, First-Product Development, and New Venture Success," *Journal of Product Innovation Management*, 27 (1), 130-135.

Mark E. Parry, Michael Song, Petra C. de Weerd-Nederhof, Klaasjan Visscher (2009), "The Impact of NPD Strategy, Product Strategy, and NPD Processes on Perceived Cycle Time," *Journal of Product Innovation Management*, 26 (6), 627-639.

WORK WITH GRADUATE STUDENTS

While at the University of Virginia Professor Parry supervised the doctoral dissertation of Michael Song. He also wrote several papers with Michael Song while he was a doctoral student and an additional paper with another doctoral student, Kusum Ailwadi, and Paul Farris. UVA's doctoral program in marketing was discontinued in the mid-1990s. However, he supervised approximately case research projects conducted by MBA students.

Since coming to UMKC, Professor Parry has taught three courses in the interdisciplinary Ph.D. program. He has also written three papers with two doctoral students (Zibin Xu and Tang Wang). Two of those papers have been accepted for publication, and the third is currently being revised for *Marketing Science*.

CARLA PAVONE

Bloch School of Business Management & Public Administration • University of Missouri - Kansas City
5100 Rockhill Road, Kansas City, MO 64110 • 816-235-2313 • pavonec@umkc.edu

EDUCATION

Carlson School of Management, University of Minnesota. Ph.D. in Business Administration, 2010.
Harvard Business School, Harvard University. Master of Business Administration, 1982.
University of Pennsylvania. Bachelor of Arts (biology major, English minor), 1977.

PROFESSIONAL EXPERIENCE

Assistant Professor, Entrepreneurship and Innovation, Bloch School of Business and Public Administration, University of Missouri at Kansas City (2008-present)

Instructor, Management and Entrepreneurship, Carlson School of Management, University of Minnesota (2002-2008)

Various Vice President, Director & Manager-Level Positions, Ameriprise Financial (1985-2002)

Sales and Operations Manager, General Services Inc, Bala Cynwyd, Pennsylvania (1984-1985)

Publisher, Banbury Books, Radnor, PA (1983-1984)

Circulation Manager, American Express Publishing, New York, NY (1982-1983)

Various Editorial Positions, *House Plants & Porch Gardens* magazine, Villanova, PA (1977-1980)

RESEARCH, PUBLICATIONS, AND CONFERENCE PRESENTATIONS

My research focuses on entrepreneurship and strategic decision making. My dissertation, defended in October 2009 and titled "Opportunity *Re*-Evaluation: How Risk Dimensions Influence Venture Capitalist Post-Investment Decisions," examines how examines how shifting VC risk assessments affect the decision whether to reinvest in or exit from a portfolio company. I am currently working with members of my dissertation committee to convert the dissertation into 2-3 journal submissions.

Forbes, D. and Pavone, C., 2006. "Razorfish." *Entrepreneurship: Theory and Practice*, 30(4): 561-578. Reprinted in *Strategic Management: Concepts and Cases* by M.A. Carpenter and W.G. Sanders, 2007, Prentice Hall.

Banerjee, S., Bowie, N., and Pavone, C., 2006. "An ethical analysis of the trust relationship." *Handbook of Trust Research,* edited by R. Bachmann and A. Zaheer, Edward Elgar Publishing.
Song, M. and Pavone, C., "Venture risk and VC investment: The moderating role of lead founder leadership style."2009 Babson College Entrepreneurship Research Conference in Wellesley, MA.

Pavone, C., "The Effects of Risk Dimensions on Venture Capitalists' Follow-on Investment and Exit Decisions." 2008 Academy of Management annual conference in Anaheim, CA.

Pavone, C. and Villanueva, J., "Losing sight of the mission? Social enterprise decision trade-offs." 2007 Babson College Entrepreneurship Research Conference in Madrid, Spain.
Pavone, C. and Sapienza, H., "Deadline pressure, controllability, relevance and irreversibility: The effects of time and risk perception on venture capital portfolio decisions." 2007 University of Maryland Entrepreneurship Research Conference in College Park, MD.

Pavone, C., "Opportunity *re*-evaluation: How shifting risk perceptions affect venture capitalist post-investment decisions." 2006 Strategic Management Society annual conference in Vienna, Austria.

Pavone, C., "After due diligence: How venture capitalists' evolving risk perceptions influence their exit decisions." 2006 Babson College Entrepreneurship Research Conference in Bloomington, IN.

Villanueva, J. and Pavone, C., "The effect of entrepreneurial motives on survival and growth: A study of women microentrepreneurs." 2006 Babson College Entrepreneurship Research Conference in Bloomington, IN.

Pavone, C. and Banerjee, S. "No exit: Explaining the persistence of living dead firms." 2005 Academy of Management annual conference in Honolulu, HI.

Pavone, C., Autio, E., Hameri, A.-P., and Sapienza, H. "Contextual, transactional and relational influences on organizational learning." 2004 Academy of Management annual conference in Seattle, WA.

Work with Graduate Students

I have taught masters-level students since 2002. At the University of Minnesota MBA program, I taught Introduction to Entrepreneurship, Corporate Entrepreneurship, and Management of Innovation. Since joining UMKC in 2008, I have taught the MBA-level introductory entrepreneurship class.

LISA Z. SONG, PH.D.

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University of Missouri-Kansas City
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Kansas City, MO 64110-2499
Email: songl@umkc.edu

EDUCATION
Ph.D. Cornell University, Ithaca, New York, August 1987
M.S. Cornell University, Ithaca, New York, August 1985

PROFESSIONAL EXPERIENCE

Assistant Professor of Entrepreneurship and Innovation, Henry W. Bloch School of Business and Public Administration University of Missouri-Kansas City	Sept. 2007- present
Visiting Assistant professor, 1998-2000 The Eli Broad School of Business Michigan State University	
Co-founder, GlobalTech and Investment management	1999-2007
Consultant, Exxon Chemicals Consulting Project	1996-1997
Financial Analyst, Financial Strategy Analyst, Inc. Charlottesville, Virginia	1989-1990
Research Associate, Cornell University Ithaca, NY	1987-1988

WORK WITH DOCTORAL STUDENTS
Since joining the Bloch School IN 2007, Dr. Lisa Song has developed and taught three courses in the interdisciplinary Ph.D. program. She has also written three papers with three doctoral students (Tang Wang, Greg Storm, and Soheil Hooshangi). Two of those papers are under revision for *Entrepreneurship Theory and Practice*.

REFEREED JOURNAL PUBLICATIONS
Dr. Lisa Song has published in a number of leading academic journals, including the *Strategic Management Journal, Decision Sciences Journal, Journal of Product Innovation Management, IEEE Transactions on Engineering Management,* and *Journal of Economics and Finance*. Since coming to the Bloch School in August 2007, she has had 5 papers accepted for publication in

refereed journals and 10 refereed conference presentations/proceedings. Refereed journal publications include:

Song, Michael, Subin Im, Hans van der Bij, and Lisa Z. Song. "Does Strategic Planning Increase or Decrease the Number of New Product Development Projects and Firm Performance?" forthcoming, *Journal of Product Innovation Management*

Lisa Z. Song and Michael Song, "The Role of Information Technologies in Enhancing R&D–Marketing Integration: An Empirical Investigation," *Journal of Product Innovation Management (2010)*, 27: 382-401.

Lisa Z. Song, Michael Song, Mark E. Parry, "Perspective: Economic Conditions, Entrepreneurship, First-Product Development, and New Venture Success," *Journal of Product Innovation Management (2010),* 27: 130-135.

Lisa Z. Song, Michael Song, and C. Anthony Di Benedetto, "A Staged Service Innovation Model," *Decision Sciences Journal (2009),* 40(3): 571-599.

Lisa Z. Song, C. Anthony Di Benedetto, and Michael Song, "Competitive Advantages in the First Product of New Ventures," *IEEE Transactions on Engineering Management* (2009), 56(4): 1-15

C. Anthony Di Benedetto and Michael Song, and Lisa Z. Song, "The Strategic Advantage of New Product Pioneering: Perception of Senior Managers in China," *SCMS Journal of Indian Management (2006)*, 13 (2), 24-37

X. Michael Song, C. Anthony Di Benedetto, and Lisa Z. Song, "Pioneering Advantages in New Service Development: A Multi-Country Study of Managerial Perceptions," *Journal of Product Innovation Management (2000),* 17 (5), 378-392

X. Michael Song, C. Anthony Di Benedetto, and Yuzhen Lisa Zhao, "Pioneering Advantages in Manufacturing and Service Industries: Empirical Evidence from Nine Countries," *Strategic Management Journal (1999),* 20 (9), 811-836

X. Michael Song, C. Anthony Di Benedetto, and Yuzhen Lisa Zhao, "Managing R&D-Marketing Integration in the New Product Development Process," *Industrial Marketing Management (1996)* 25 (6), 545-553.

Ramon P. DeGennaro and Yuzhen Lisa Zhao, "Stock Returns and Volatility: Another Look," *Journal of Economics and Finance (1998)*, 22(1), 5-18

Ramon P. DeGennaro and Yuzhen Lisa Zhao, "Stock Returns and Volatility: Another Look," *Journal of Economics and Finance (1998)*, 22(1), 5-18

R. L Quaas, Yuzhen Zhao, and E. J. Polak , "Describing Interactions in Dystocia Scores with a Threshold Model," *Journal of Animal Science (1988),* 66, 396-399

MICHAEL SONG

Executive Director, Institute for Entrepreneurship and Innovation
Charles N. Kimball, MRI/Missouri Endowed Chair in Management of Technology and Innovation
Professor of Marketing
Senior Fellow in Entrepreneurship Research at the Ewing Marion Kauffman Foundation
217 Bloch School
University of Missouri-Kansas City
5100 Rockhill Road, Kansas City, MO 64110-2499
Office Phone: (816)235-5841; E-mail: songmi@umkc.edu

EDUCATION:

Ph.D. in Business Administration, University of Virginia, August 1991
Master of Business Administration, University of Virginia, May 1990
Master of Science, Cornell University, January 1986
Bachelor of Science, Jinan University, China, July 1983

PROFESSIONAL EXPERIENCE:

Executive Director, Institute for Entrepreneurship and Innovation 9/1/2004-present
Charles N. Kimball, MRI/Missouri Endowed Chair in Management
of Technology and Innovation & Professor of Marketing (with tenure),
University of Missouri-Kansas City

Michael L. & Myrna Darland Endowed Distinguished Chair in
Entrepreneurship & Professor of Marketing (with tenure) August 2000-September 2004
University of Washington, Seattle

Professor of Marketing September 1999-August 2000
Associate Professor of Marketing (with tenure since 1997) January 1996-August 1999
Michigan State University

Assistant Professor of Marketing August 1991-December 1995
The University of Tennessee/Knoxville

RESEARCH AND PUBLICATIONS:

Professor Song is associate editor or editorial board member of six leading academic journals. He has published over 90 referred journal articles in leading academic journals, including *Management Science, Strategic Management Journal, Academy of Management Journal,*

Journal of Marketing Research, *Marketing Science*, *Journal of Marketing,* the *Journal of the Academy of Marketing Science, Journal of International Business Studies, Journal of Operations Management, Journal of Product Innovation Management*, *Journal of Business Venturing, and IEEE Transactions on Engineering Management*. Selected examples include:

Song, Michael, Tang Wang, and Mark E. Parry (2010), "Do Market Information Processes Improve New Venture Performance?" *Journal of Business Venturing*, forthcoming.

Song, Michael, C. Anthony Di Benedetto, and Mark E. Parry (2010), "The Impact of Formal Processes for Market Information Acquisition and Utilization on the Performance of Chinese New Ventures," *International Journal of Research in Marketing,* 26 (4), 314-323.

Song, Lisa Z., C. Anthony Di Benedetto, Michael Song (2009), "A Staged Service Innovation Model," *Decision Sciences*, 40 (3), 571-599.

Read, Stuart, Nicholas Dew, Saras D. Sarasvathy, Michael Song, and Robert Wiltbank (2009), "Marketing Under Uncertainty: The Logic of an Effectual Approach," *Journal of Marketing*, 73 (3), 1-18.

Song, Michael and Mark Parry (2009), "The Desired Level of Market Orientation and Business Unit Performance," *Journal of Academy of Marketing Science*, 37 (2), 144-160.

Read, Stuart, Michael Song, and Willem Smit (2009), "A Meta-Analytic Review of Effectuation and Venture Performance," *Journal of Business Venturing*, 24 (6), 573–587.

Song, Michael and C. Anthony Di Benedetto (2008), "Supplier's Involvement and Success of Radical New Product Development in New Ventures," *Journal of Operations Management*, 26 (1), 1-22.

DeSarbo, Wayne S., C. Anthony Di Benedetto, Kamel Jedidi, and Michael Song (2006), "Identifying Sources of Heterogeneity for Empirically Deriving Strategic Types: A Constrained Finite-Mixture Structural-Equation Methodology," *Management Science*, 52 (6), 909-924.

Song, Michael, Cornelia Droge, Sangphet Hanvanich, and Roger Calantone (2005), "Marketing and Technology Resource Complementarity: An Analysis of Their Interaction Effect in Two Environmental Contexts," *Strategic Management Journal*, 26 (3), 259-276.

DeSarbo, Wayne S., C. Anthony Di Benedetto, Michael Song, and Indrajit Sinha (2005), "Revisiting the Miles and Snow Strategic Framework: Uncovering Interrelationships between Strategic Types, Capabilities, Environmental Uncertainty, and Firm performance," *Strategic Management Journal*, 26 (1), 47-74.

Song, Michael, Roger J. Calantone, and C. Anthony Di Benedetto (2002), "Competitive Forces and Strategic Choice Decisions: An Experimental Investigation in the United States and Japan," *Strategic Management Journal*, Vol. 23 (10), 969-978

WORK WITH GRADUATE STUDENTS:
Professor Song has served as chair or committee member of 10 doctoral dissertation committees. He has successfully worked and published more than 30 referred journal articles with doctoral students. He has developed and created two Ph.D. programs in entrepreneurship. He has developed and taught six doctoral seminars.

SUNNY LI SUN
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miaxis@gmail.com

Education

Ph.D., Organization, Strategy, and International Business, The University of Texas at Dallas, 2010
M. Phil., Marketing, The Chinese University of Hong Kong, 1997
B.A., Philosophy and Science & Technology Information Management, The Remin University of China, Beijing, China, 1993

Research and Publications

Sunny has published many papers in leading English-language journals such as the *Strategic Management Journal*, *Journal of World Business*, *Academy of Management Perspectives*, *Asia Pacific Journal of Management*, *Multinational Business Review,* and *Asian Case Research Journal*. Since joining the Bloch School in August 2010, he has had 3 papers accepted for publication in refereed journals. Recent examples include:

9. Sun, Sunny Li (2010). *Watching China from the United States' Balcony: Global Strategy after Economic Crisis*. Beijing: Science Press.

8. Sun, Sunny Li, Mike W. Peng, Bing Ren, and Daying Yan (2010). A comparative ownership advantage framework for cross-border M&As: The rise of Chinese and Indian MNEs. *Journal of World Business* (Conditionally Accepted).

7. Sun, Sunny Li, Xia Zhao, and Haibin Yang (2010). Executive compensation in Asia: A critical review and outlook. *Asia Pacific Journal of Management* (Accepted).

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Professional Experience

Partner, *Syno Capital Co.*, Hangzhou, China. 2002-2006, financial advisor on raising capital for entrepreneurs.

Founder, Executive Director, and CFO, *Miaxis Biometrics Inc.*, Hangzhou, China. 2000-2001, raised fund from Intel.

CFO and Executive Director, *Huitong Holdings Co. Ltd.* (listed in the Shenzhen Stock Exchange), Xinjiang, China. 1998-2000.

VP, Department of Merger and Acquisitions, *Guosen Securities Co.*(a top investment bank in China), Shenzhen, China. 1997-1998.

Coordinator, Dept. of Strategic Planning, *Neptune Pharmaceutical Co.*, Shenzhen, China, 1993-1995.

Services

Sunny keeps his bi-week column in *CEO&CIO China*, a leading magazine on entrepreneurship and innovation in China, enjoying a readership of more than 142,000 in addition to millions of online readers. He passionately engages in academic community activities, serving as a reviewer in leading journals such as the *Journal of International Business Studies*, *Journal of Business Research*, *Asia Pacific Journal of Management*, and *Journal of Management Development*, and at conferences of AOM, AIB, AAOM, SWAM, and IACMR.

Work with Graduate Students

Sunny is glad to share his research experience with students. During his four years of studies at UTD, he had 7 papers accepted in refereed journals; 17 papers accepted at leading academic conferences such as the Academic of Management, Academic of International Business, and Strategic Management Society (One of them was nominated for the SMS Best Conference Paper Award); 13 papers in Chinese journals; 1 Chinese book; and 10 case studies for *Global Strategy* and *Global Business* textbooks, and two dictionaries.

Sunny also likes to share his two research databases with students: corporate governance, social network and innovation of Chinese listed firms (2001-2006); Chinese entrepreneurs and venture capital network (2000-2010).