A Case Study in Knowledge Management Education - Historical Challenges and Future Opportunities

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Abstract: In 2001 Kent State University established a graduate level program that granted a Master of Science degree in Information Architecture and Knowledge Management. The Knowledge Management concentration was a cornerstone of that degree program. The Knowledge Management concentration has sustained and thrived over the past ten years, though the path has not always been easy or clear. This case study describes the challenges encountered and the solutions developed over the past ten years. The case study discusses nineteen challenges and their solutions, in hopes that other institutions may benefit from Kent State University's lessons learned and successes. The case study highlights issues that arise as an academic program matures, including: curriculum development and design, administrative support and alignment, faculty credentials and credibility, and research support.

Keywords: knowledge management education, knowledge management curriculum, course design, experiential learning, student learning models, knowledge management faculty credentials

1. Historical context and evolution

In 2001 the Information Architecture and Knowledge Management Master's program was established at Kent State University. The program was originally conceived as a new and distinct program that focused broadly on information and knowledge, their use and architectures. The program was unique in that it was founded on recognition of the difference between knowledge and information. It was also different from other programs at that time in its intent to be non-sector specific, and to be cross-areas of practice.

The knowledge management concentration was designed around some basic assumptions about knowledge management as a professional discipline. These assumptions provided a good grounding for all aspects of an academic program. They provided stability in a dynamic and evolving professional discipline. Some of the fundamental assumptions include:

- Knowledge Management is interdisciplinary -- a strong academic program must draw upon expertise in many disciplines;
- Knowledge management is a profession of practice – students must learn practice, as well as the theory;
- Knowledge management is an emerging field – faculty with academic credentials in knowledge management are scarce;
- Knowledge management research is grounded in practice -- this has implications for the traditional faculty model;
- Collaboration between public sector, business and academia is critical to advancing the discipline;
- Knowledge is different from information;
- Knowledge is a universal concept which pertains to and touches everyone and all aspects of life.

The knowledge management program began in 2001 as an onsite, in person program located at the Kent State University campus in Kent Ohio. In 2007 the knowledge program transitioned to a fully-online program. Furthermore, in 2007, there was sufficient interest to warrant the creation of a second academic product – a Graduate Certificate in Knowledge Management. In 2012, the program has grown to close to 100 students, has a faculty of twelve full and part-time instructors, and is engaged in research with public and private organizations.

This case study discusses challenges faced and solutions implemented in five areas, including: (1) Curriculum Scope and Design; (2) Faculty Credentials and Recruitment; (3) Governance and Administration; (4) Learning Models and Delivery Channels; and (5) Student Models. The areas that have posed the most significant challenges are curriculum scope and design, faculty credentials and recruitment, and program governance. Fewer challenges have been encountered in learning models and delivery and student support due to the

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strong initial grounding. The goal in sharing these lessons learned and successes is to encourage other academic institutions beginning this journey or in progress. Knowledge management is a critical new profession in a 21st century knowledge society and knowledge economy. The more academic programs we have, the more educated professionals we have to offer.

2. Curriculum design and management

Curriculum design and delivery is challenging for several reasons. First, there is no established standard for knowledge management education upon which to design a curriculum. Second, the traditional semester-long academic curriculum model does not align well with the needs of a profession like knowledge management. Third, knowledge management professionals need to learn both technical and behavioral competencies to be successful in their career. Finally, knowledge management is a practical profession and the curriculum must support practice.

2.1 Challenge 1: No accepted scope and coverage description of the field

Because there is no widely accepted professional standard for knowledge management, we look to the published literature for guidance. The published literature provides a picture of graduate level knowledge management education programs and curricula from the late 1990s through 2008 (Abel and Oxbrow 1999; Abell, A., and Ward, S. 1999; Al-Hamadweh 2005; Al-Hawamdeh, 2005; Al-Hawamdeh, S*. et al* 2004; Argamon, S. et al. 2005; Bartczak, S. E. et al 2010; Becerra-Fernandez, I. and Gudi, A. 2008; Bontis, N. and Girardi, J. 2000; Bontis, N. *et al*. 2006; Brogan et al 2001; Chaudhry 2005; Chaudhry, A. S. and Higgins, S.E. 2001; Chaudhry, A. S. and Higgins, S.E. 2003; Chen et al 2005; Chua, A. Y. K. 2005; Cohen 2000; D'Arcy, S. 2000; Dunn and Hackney 2000; Erlach, C*. et al*.2000 ; Ferguson, S. and Hider, P. 2006; Gamal 2000; Hazeri and Martin 2006; Hazeri, A. 2006; Johannsen, K.G. 2007; Kenner and Fernandex 2011; Koenig 1999; Krivonos, P. *et al* 2005; Lai 2005; Lambe, P. 2006; Lamphun and Lee 2002; Lank, E. 2004; Lau, C. L. and Al-Hawamdeh, S. 2002; Loon, L. C. and Al-Hawamdeh, S. 2002; MacGillivray, A. 2003; Makkonen Siakas and Vaidza 2011; Malhotra, Y. 2003; Martin 1999; Martin et al 2006; Metcalfe, A. 2006; Morris 2001; Newman, B. D. 2002; Parycek, P. and Pircher, R. 2003; Pircher, R. 2003; Ponzi, L. J. and Koenig, M. 2002; Rehman and Chaudhry 2005; Rehman, S.U. and Sumait , H. 2010 ; Reynolds 2000; Ruth, S. *et al* 1999; Ruth, S. *et al* 2002; Saito et al 2004; Saito, A. 2007; Sarrafzadeh et al 2006; Shurville, S. J. *et al* 2005; Southon and Todd 2001; Srikantaiah, K. T 2004; Stankosky, M. A. 2005; Sutton, M. J. D. 2002 ; Sutton, M. J. D. 2007; Sutton, M. J. D. *et al* 2002; Sutton, M.J.D. 2007; Swanson and Hepner 2011; Theobald, J. 1998; Todd, R. J. and Southon, G. 2000; Todd, R. J. and Southon, G. 2001; Webb, J. 2002; Weidner, D. 2002; Wright Peachey Hemminger 2009) suggests that most graduate level programs offer courses in business intelligence, document and records management, knowledge economy and intellectual capital, organizational learning, and some aspect of data mining or semantics. Chaudhry and Higgins (2003) and Kgigongo-Bukenya and Kaddu (2011) suggest that curricula may be constructed around knowledge foundations, applications, strategies, processes and technologies.

The original Kent State curriculum designed in 2001 aligned with these models. However, feedback solicited in 2010 from employers, from students enrolled in and who had graduated from the program suggested the need for a curriculum revision and redirection. The review included extensive interviews with knowledge management thought leaders, critical reviews of successes and failures of current and past programs, conversations with past, present and potential students. We learned two things. First, we learned that business needs have changed and grown. This is because knowledge management is now an integral part of every sector of the economy – it permeates all types of organizations. In 2010 we find a rich set of knowledge professional roles and responsibilities. Some of these roles are strategic, some are aligned with business operations, some are specialized to particular areas of knowledge management, and some are general practice. Second, we heard that most current education programs are designed to train knowledge management directors or executives who may "talk about" but may not "do or practice" knowledge management.

In 2012 a substantially redesigned curriculum was approved and implemented. Today, the knowledge management curriculum is constructed around ten facets of knowledge management theory and practice. The ten facets (Figure 1) were identified through (1) a comprehensive review of the current and historical literature of knowledge management; (2) conversations with and lessons learned from other knowledge management educators and trainers, and (3) extensive consultations with business and organizations who hire knowledge professionals.

The ten facets include: (1) Intellectual Capital and Knowledge Economics; (2) Knowledge Technology; (3) Knowledge Strategy; (4) Knowledge Asset Management; (5) Collaboration and Communities; (6) Organizational Culture and Communications; (7) Organizational Learning; (8) Knowledge Operations; (9) Knowledge Architecture; and (10) Innovation. Each of the ten facets is supported by a limited number of traditional three-credit courses, by several short (1 or 2 credit) courses, and by workshops. A sampling of course topics offered in each of the facets is presented in Figure 2.

Forty-two credits are required to earn the Master of Science degree. Eight courses are core, including: Foundational Principles of Knowledge Management; Economics of Information; Foundations of Document and Records Management; Knowledge Assessment and Evaluation; Organizational Culture, Organizational Learning, Knowledge Organization Systems and Services, and Communities of Practice. The core courses provide students with a deep understanding of the facets. Students may then choose to focus on a particular facet of knowledge management, or design a generalist education.

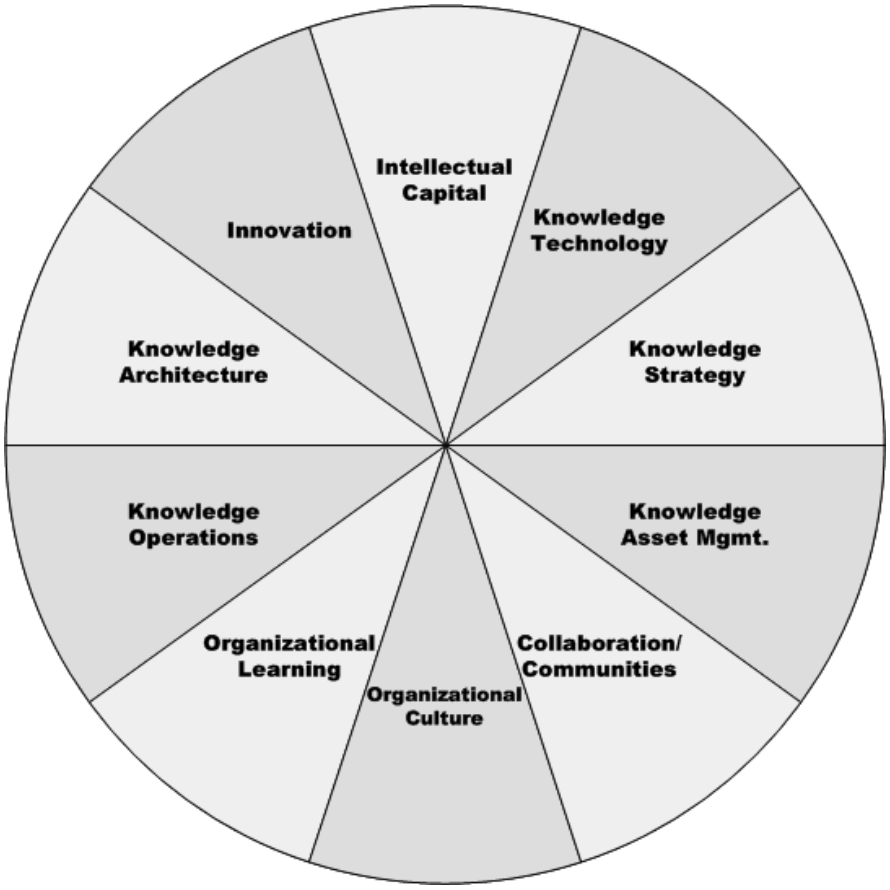

Figure 1: Ten facets of knowledge management

The curriculum is also designed to support students' professional career development. An important source of validation of the curriculum was the work of the Knowledge Management Education Forum (KMEF) (2012). The Knowledge Management Education Forum is an open community of individuals representing knowledge management professionals, faculty, and students who share a common interest in advancing the quality and accessibility of knowledge management education. KMEF was formed jointly by Kent State University and George Washington University with the goal of ensuring that knowledge management education address the knowledge management competencies students need to succeed in knowledge organizations across all sectors of the economy. In 2011, the KMEF formed two communities of practice to explore these needs: the Competencies Community of Practice, and the Roles and Functions Community of Practice. Working together, the two communities identified four categories of knowledge management roles (Table 1), including: (1) corporate level; (2) business embedded knowledge management roles; (3) specialized knowledge management roles; and (4) generalized knowledge worker roles. The Communities of Practice mapped these general categories to specific job titles to facilitate interpretation.

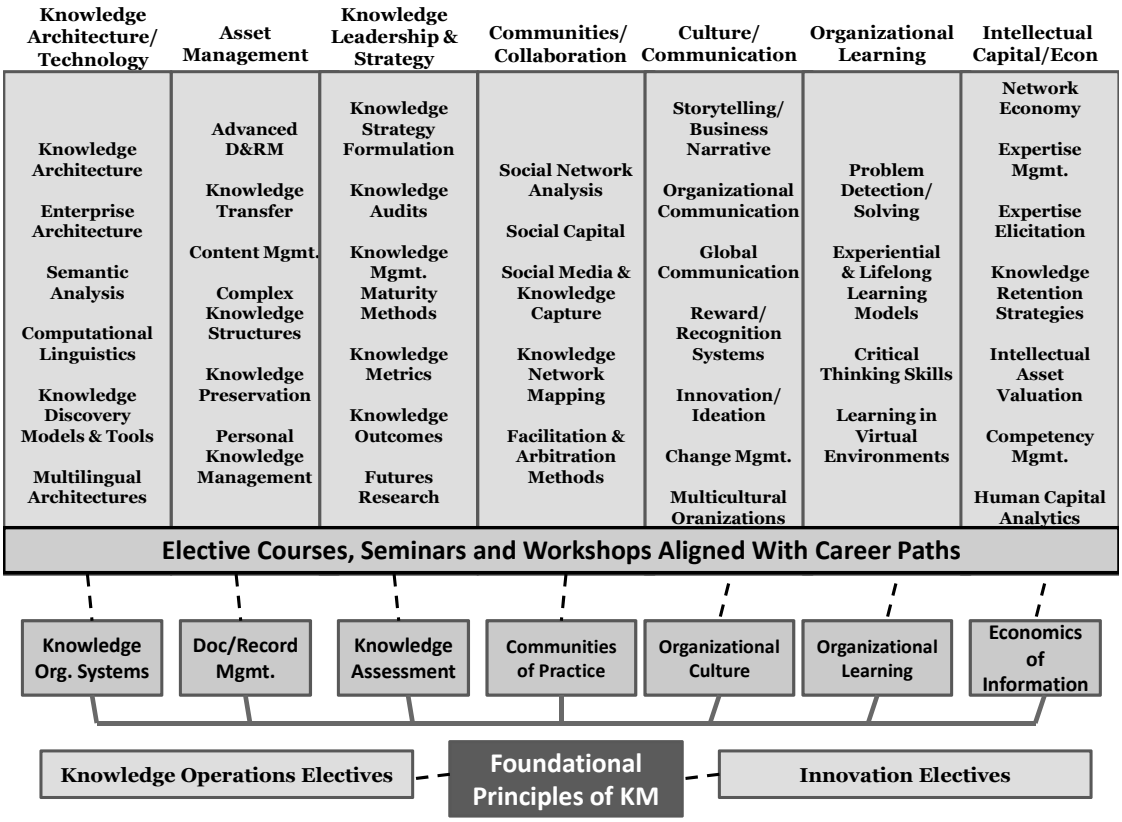

Figure 2: Curriculum support for 10 facets of knowledge management

Table 1: Knowledge management roles, job titles and competencies

Knowledge Management Roles	Sample Job Titles	Knowledge Management Competencies
Corporate and Executive Level Role	Chief Knowledge Officer (CKO) Chief Learning Officer (CLO) Chief Knowledge Strategist (CKS) Knowledge Management Director	Broad knowledge of all facets of knowledge management with particular focus on: Strategy and Leadership Intellectual Capital Communications and Culture Innovation Knowledge Assessment and Evaluation Innovation
Business Embedded or Aligned Role	Business Analyst Knowledge Analyst Knowledge Manger	Strong knowledge of business operations, a general knowledge of all facets of knowledge management, and deep knowledge of: Knowledge Operations Knowledge Architecture Knowledge Technologies
Specialized Knowledge Management Role	Knowledge Architect Learning Officer Content Manager Community Facilitator Cultural Information Officer Communications Specialist Business Process Designer Knowledge Economist Information Economist	Deep specialized knowledge of one of the facets of knowledge management: Knowledge Organization Systems Knowledge Asset Management Communities and Collaboration Organizational Learning Intellectual Capital and Knowledge Economy

Knowledge Management Roles	Sample Job Titles	Knowledge Management Competencies
Generalized Knowledge Work Role	Any and all roles in an organization	General awareness of all facets of knowledge management and strong knowledge-oriented behavioral competencies

It was important to Kent State University that the curriculum design and coverage address all four categories of knowledge management roles. A second review was conducted to ensure that there was a logical alignment between the courses and the competencies. Table 1 describes the alignment at a high level.

2.2 Challenge 2: Misalignment of traditional course design

Having updated the scope and coverage of the curriculum, our next challenge was to review the design and effectiveness of individual courses. We discovered that each instructor approached course design differently resulting in uneven treatment of theory and practice. There was also a significant amount of redundancy across courses. Furthermore, courses were not sufficiently rigorous to reflect a graduate level degree. As a result, students were not being introduced to the full body of professional knowledge or the extensive professional literature.

Starting in 2011, all new faculty began working from a single course design template. The template derives from good instructional design practices and includes such common elements as: (1) clearly defined learning outcomes; (2) extensive required and recommended readings reflecting a graduate level education and providing students with a strong introduction to the body of knowledge and published literature; (3) a variety of rigorous exercises designed to provide students with not only resource based but also experiential and situational learning opportunities; (4) built in discussion and engagement models among students; and (5) weekly feedback loops from students to instructor and instructor to student. As a result of working from a common template, faculty members now have a common basis for discussing course development across the curriculum. Course updates are shared across the faculty. The approach to course design is now rigorous but predictable for faculty. As a result, students have a common high quality learning experience across all courses.

2.3 Challenge 3: Shallow versus deep treatment of knowledge management subjects

In 2010, the message from business and industry was clear – students graduating from the program needed to be more than "book ready" and theory rich, they needed to be "work ready" and able to "do knowledge management." We also heard from students that there were not sufficient electives to build out a rich professional education. Addressing these concerns is not trivial challenges for a Master's program – how might we provide students with a rich practical learning experience within only forty-two credits? University administrations expect to see a very limited number of courses for Master's degrees. The more courses that are offered, the greater the chance that a course will not meet expected capacity and not achieve a breakeven point. The solution we devised was to provide a variety of learning options within each facet of the curriculum. Each facet of the curriculum is supported by a few traditional three-credit semester long courses. Short 1 and 2 credit courses enable them to build out their skills. And, finally workshops – both for and non-credit provide opportunities to learn about emerging or hot topics related to a facet. The curriculum for Intellectual Capital and Knowledge Economy is described in Table 2.

Table 2: Sample curriculum for intellectual capital and knowledge economy

Basic Course	Short Courses	Workshop
Economics of Information	Management of Knowledge Workers	Global Work Environment
Intellectual Capital Management	Talent Leadership	Intergenerational Workforce
The Knowledge Economy	Talent Management Strategy and Execution	Virtual Global Workforce
Expertise Elicitation	Mentoring and Coaching	High Performance Organizations
	Competency Modelling and Mapping	Information and Data Privacy
	Human Capital Analytics	
	Workforce Planning	
	Personal Knowledge Management	

2.4 Challenge 4: Curriculum for technical and behavioral competencies

The most effective knowledge management strategies are those that are well aligned with an organization's business goals and objectives. In order to succeed at knowledge management, knowledge professional must have not only strong technical skills – knowing how "to do" knowledge management, but they must have critical behavioral competencies. Education programs need to provide opportunities for students to learn these behavioral competencies. They need to learn how to make good business judgments, how to work in teams, how to exhibit leadership, and to create a knowledge organization by example rather than by dictate.

The solution to this challenge is an immersion in working with and learning from instructors and colleagues. The instructors who teach in the program have been selected in part because of the strong behavioral competencies they possess. Instructors teach by example, they teach through engagement in projects, and through personal feedback. In addition, the program values the early promotion of students into professional associations, conferences and engagements so they have further exposure to good behavioral competencies.

3. Learning models and delivery channels

Over the past decade we encountered four challenges related to learning models and delivery channels, including: (1) learning how to learn knowledge management; (2) learning anywhere and anytime; (3) the need for both formal and informal learning opportunities; and (4) the learning path that leads to knowledge management.

3.1 Challenge 5: Learning how to learn and unlearn

Thought leaders in knowledge management have two characteristics that set them apart – they have a wealth of experiences, in different economic sectors, different types of organizations, in different cultures, and through those experiences they have learned how to learn and unlearn. Another characteristic of the program's instructors is the willingness to learn from students, and continuous encouragement to students to come up with a new idea or a new perspective. Students are encouraged to challenge established knowledge – they learn to live McElroy's Knowledge Life Cycle as they go through each class. This model places a heavier burden on the instructors than a traditional teacher-student model. However, the results in terms of student accomplishments and innovation are noteworthy.

3.2 Challenge 6: Learning anywhere and any time

By definition, programs which are confined to a single physical location, which can draw upon faculty who live locally and can only deliver to students who live locally, may be more restricted in their content and the experiences than those which can draw faculty and students from around the globe. We have also found that many of our students are mid-career professionals who have been given knowledge management responsibilities within their organization. They need to come up to speed quickly without relocating.

In 2007, the program administrators understood that the future demand for knowledge management would be global and would come largely from within businesses and organizations. For this reason, the entire program was moved to an online degree. This means that all of the courses described in Figure 2 above are born and live digitally. The program administrators also understood that moving the program online meant creating a full electronic learning environment. There are four learning models in use today.

When the program transitioned from onsite to online, a new challenge surfaced. The challenge was the potential for isolated and heavy "resource-based learning." In other words, the potential for the online program to take on the format of a traditional "correspondence study course" similar to those used in the 1950s and 1960s. We have that found four general learning models provide strong support for the master's program (Figure 3). All four learning models are grounded in a strong course management system. The basic course management shell is designed into a full-service learning environment for each class. All courses have a common foundation which includes reading materials, discussions, assignments and interactions. The variations among the four models align with the most effective delivery method for the course subject. These variations focus primarily on how lectures are delivered, and how students interact with the instructor and with one another. Knowledge management is a multifaceted discipline which requires a rich set of teaching models.

Learning model 1 is grounded in asynchronous (pre-recorded) lectures which students absorb when it is convenient to them. Pre-recorded lectures may be narrated slide decks, digital videos, and interactive blackboard or design exercises. The pre-recorded lectures are punctuated with online student discussions which provide an opportunity for students to step back and internalize the lecture content before sharing their thoughts with other students. In addition, the pre-recorded lectures are captured as podcasts, which allow students to reinforce their learning experience while driving, jogging or doing other daily tasks. Because students learn from each other it is important for them to have an opportunity to build strong social relationships. Learning model 1 also provides weekly optional interactive sessions which give students opportunities to see and hear each other. This model works well when a course is made up of students who live in different time zones and in different countries, where scheduling a common time to meet interactively will by definition put some students at a disadvantage. It also works well for graduate students who are working professionals. It allows them to learn within a busy schedule. This model requires an additional effort from the instructor as all content must be prepared prior to launching the course.

Learning model 2 is designed around synchronous lectures. There are two instances when this model works well. It works well when the subject is best taught interactively – where students will expect to ask many questions, where the instructor cannot anticipate those questions, where the topic is exploratory and where learning thrives on brainstorming. In this case, the instructor may set a day and time when the majority of students can meet online, and record the session for those who cannot meet. For this model, both online interactive and asynchronous discussion rooms must be available to students. Because academic scheduling procedures generally recommend that a course be either synchronous with a scheduled date and time, or entirely asynchronous, this model requires multiple sections. This model requires administrative and technology support, but requires a lighter effort for the instructor.

There are some knowledge management courses which may benefit from in person delivery and direct in-class interaction and participation. For example, knowledge elicitation must be taught in a way that students can watch an instructor interview an expert, ask questions, then change places with the instructor and receive direct coaching. These types of courses must be taught in person. They will require multiple teaching sites where the student community is international. However, they should be digitally captured for later viewing. In this model, both synchronous and asynchronous conversations should be supported. To support this model, additional investments in technology support.

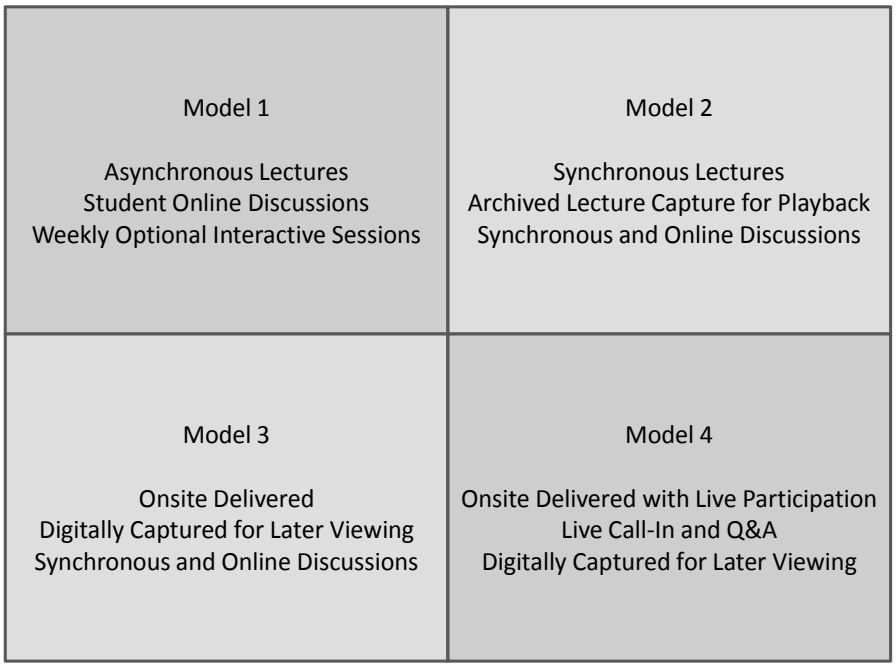

Figure 3: Four learning models supporting the master's program

Finally, learning model 4 expands upon Learning model 3 by supplementing live onsite delivery with live participation and call-in for remote students. As with the other three models, the course delivery is digitally

captured for later viewing. This model requires additional investments in administrative, technology and communication support. This model most closely resembles the traditional teaching model.

A frequent critique of online learning is the potential for isolation of students and the lack of opportunity for students and instructors to develop strong relationships. All four models have built in safeguards against isolation. First, all courses have optional class times set aside for interaction. Instructors and students, students and students, have several tools available to support interaction, including the course management system's electronic classroom, Skype, and WebEx. Second, instructors reach out to and interact with students in an advisor and mentoring capacity. Social networking across the student community is strongly encouraged and promoted.

3.3 Challenge 7: Formal and informal learning opportunities

Professional networking opportunities are among the values offered by a graduate degree program. This is challenging in an online program where students are scattered around the globe. We encourage students to participate in their local knowledge management communities, to represent the Kent State program in their actions, and to bring the value of those experiences back to their colleagues in the program.

In addition, by bringing in seasoned knowledge management experts to teach courses and lead workshops, our students have opportunities to build their professional networks. An important factor in selecting faculty is their interest in students and the promotion of student professional careers. This is not atypical of most part-time faculty models, but it is a foundational principle of the Kent State University program.

3.4 Challenge 8: Not just for graduate students

Another lesson we learned in our extensive conversations with business and industry was that knowledge management education is not just a program of graduate study. There must be pathways to graduate education programs from high school, from technical schools and colleges, and at the undergraduate level. Extending the educational model to lower level degrees is a major undertaking at any American university.

To address this challenge, the Kent State program partners with other institutions and professional associations to provide a wide range of learning opportunities. Workshops and continuing enrichment courses are open to students, non-students and community members. While graduate programs are important for the research and professionals they produce, our knowledge society will be built around knowledge workers. There must be a learning path for knowledge workers as well.

4. Faculty recruitment and credentials

This is an area of significant challenges, not all of which have been resolved. The first challenge pertains to faculty credentials given the fact that this is a relatively young field with few programs of advanced study in knowledge management. The second pertains to whether that faculty serve in tenured or non-tenured positions. Thirdly, is the full-time faculty model appropriate to knowledge management, or is it more important to leverage experts on a part-time basis? Dual appointments across academic departments and disciplines were also explored at one time. Finally, the faculty model has significant implications for academic and applied research opportunities.

4.1 Challenge 9: Faculty credentials

It is important to balance theory and practice in knowledge management education. One of the greatest challenges in creating a Master's program is finding faculty who have both a deep theoretical grounding in knowledge management, and relevant practical experience. In the early days of the Kent State University program, this was a major challenge simply because there were few institutions that offered an advanced degree in knowledge management. The University requires that instructors must have earned one degree higher than the students they are teaching. To teach in the knowledge management Master's program, that meant that all faculties must have earned a doctorate. There were few individuals with both practical experience and an earned doctorate in knowledge sciences.

Fulfilling the requirements for credentials and credibility was a major challenge in the early years. There are risks associated with moving beyond this balance in favor of either credentials or credibility. While knowledge

management practitioners bring credibility to the classroom, they frequently find it challenging to speak to broad theory rather than individual experiences. And, they may have no teaching experience. From an academic perspective, this may suggest that practitioners lack the appropriate credentials. Credentialed professionals may understand theory and have some teaching experience, but they are challenged to teach practice to the professionals who enter the program.

Knowledge management is a profession of practice. Students must learn the theory on which practice is grounded, but they must also learn practice. While it is possible to enrich learning through case studies, the most effective way to learn practice is from a seasoned practitioner. Learning from a practitioner transfer critical tacit knowledge that students need to succeed on the job. This speaks to the challenge of credibility. Is it possible for knowledge management faculty who lack practical experience to teach with credibility? Of course, the ideal situation is faculty who have both strong academic credentials and practical credibility.

These challenges were somewhat alleviated in 2010 when we broke knowledge management down into the ten facets. By breaking the field down into its components, it was much easier for find highly credentialed faculty with both practical and teaching experience. We were fortunate to find individuals who began their professional careers as subject matter experts in one of the ten facets, and who also had adjunct teaching experience. As a result, we have been able to set high standards for credentials, for credibility, and for teaching quality.

4.2 Challenge 10: Tenured versus non-tenured faculty model

The agenda for any tenure-track faculty member is research, publishing, and teaching. Consulting and engaging with business and industry is not highly rewarded for tenure track faculty. In addition, tenure track faculty members are encouraged to identify a single research focus, to delve into that area and develop expertise over time. Broad based interdisciplinary research – exactly what is needed in knowledge management – is not highly rewarded in tenure processes and decisions. It is clear that at the present time, the needs of the knowledge management field do not align well with the traditional tenure track model.

Faculty are key to advancing an emerging discipline such as knowledge management – through collaboration across disciplines, through experimentation, through continuous learning and unlearning, and by taking risks to move new ideas forward – and sometimes failing – but learning from failures. The traditional tenure track model benefits faculty members who take a safe and steady path by building upon previous research and incrementally advancing the current discipline. Tenure-track faculty positions may promote different goals and outcomes than what is currently needed to advance the field of knowledge management.

An additional challenge for tenure-track faculty pertains to communicating with the knowledge management community and publishing in peer-reviewed journals. In well-established fields, communication with peers involves publishing in high-impact peer-reviewed journals. In knowledge management, tenured and tenure-track faculty have a dual communication obligation. To have a practical impact, faculty must communicate research, development and new ideas to the knowledge management community through open-access journals, in peer-reviewed and open-access conferences, through trade journals, by contributing to organizational white papers, and through engagements with leading knowledge organizations. These activities, though, carry little weight in an academic sense. To have an academic impact, faculty must also publish in peer-reviewed journals in which have value to their home department, e.g. business administration, communication science, information science, engineering, education. This can translate to a double or triple level of effort for knowledge management faculty. This is not uncommon for faculty who are associated with transdisciplinary and emergent domains.

4.3 Challenge 11: Full Time versus part-time faculty

The traditional academic faculty model includes at least one full-time faculty member for each facet of the discipline. This model does not yet work for a knowledge management graduate degree program for simple economic reasons. While the demand for knowledge management credentials is growing, it is unlikely to be such as to justify ten full-time faculties. This would presume a student enrollment of 300 to 400 students. Should the enrollment reach those levels, the part-time expert faculty model will continue to be the preferred approach. At that level, an expansion of part-time faculty roles and responsibilities – specifically, to include advising and mentoring – would be requested.

Agility rather than rigidity is needed in a faculty model for knowledge management. Kent State University's solution to this challenge is to identify one tenure-track faculty member who coordinates administrative issues for the program, advises students, manages the curriculum and brings in faculty. All other faculty are internationally recognized experts in one or more of the facets. Kent State has the privilege of bringing these recognized experts onboard as part-time faculty. Because these are practicing professionals, they know the state of the field and make recommendations for new courses and workshops. They continuously update their course content to reflect the state of the profession.

4.4 Challenge 12: Borrowed faculty or dual appointments

In the early years of the program, the university explored borrowing faculty from other departments. This approach did not work and was abandoned for two reasons. The first reason was that faculty in other departments received no reward or recognition in their tenure decisions for teaching outside their home department. The second reason was that the courses had little or no knowledge management content – borrowed faculty were not able to translate their expertise to the new context. An approach which is being tried now is to collaborate with other faculty in developing new courses. This provides a common foundation from which to teach.

4.5 Challenge 13: Academic and applied research

Research in knowledge management is a relatively new effort at Kent State. While theoretical research is more highly valued for tenure decisions, its value to students and the academic program. The path that we see research following is rom practice to theory. Problems that need research are surfaced in the natural course of working with business and industry. This presents a risk for tenure-track faculty.

5. Student model

We encountered several challenges when designing an academic model to support students in knowledge management. The first challenge pertained to the common practice of building student communities around cohorts. The second challenge pertained to the age group of potential students – young professionals, mature or mid-career or retirees defining a second career. The third challenge pertained to segregating students by economic sector. And finally, while there was agreement that we wanted a multicultural and international student body, achieving that presented several challenges.

5.1 Challenge 14: Cohort or non-cohort model

The value of a cohort model is that students develop lasting networks and build strong professional relationships. We found that this same result can be achieved when instructors take the additional step to build relationships among students, and when course designs promote student interactions. We also have observed that students can build more extensive networks and peer relationships if the student community is strong and growing. A smaller peer community designed around a cohort model may lead to fewer relationships. We found that we had indirectly created a cohort model by offering the introductory course – Foundational Principles in Knowledge Management – only in the Fall semester. While students were applying for admission to the program year round, by default they could only begin their studies in the Fall Semester. In 2011, a course scheduling change was implemented and the Foundational Principles course is now offered year round. Student enrollment has significantly increased.

Another solution which we hope to put in place in the near future is a synthetic or virtual student lounge. The idea is to give students a virtual space in which to socialize and organize their own activities. Given the high rate of use of social media today, we believe that there are other ways to create professional relationships beyond the traditional physical cohort model.

5.2 Challenge 15: Non-traditional multigenerational community

The transition from an industrial economy to a knowledge economy touches everyone – all ages, all generations. Knowledge management theory and practice are important to succeeding in this new economy. As a result, the typical student community in a knowledge management program will be multigenerational. This presents a challenge to instructors and administrations alike. We need different recruitment strategies for young professionals, for mid-career professionals, and for retirees. Instructors need to establish a learning

environment which takes into account different values and expectations. And, most importantly, students must adapt to learning and collaborating across generations. While there are challenges, students who learn in this context are actually gaining behavioral competencies that will serve them well in their career. The learning environment is a microcosm of what they will encounter in business and industry.

5.3 Challenge 16: Segregate students by economic sectors

Knowledge management is practiced within an organization and aligned with its business goals and objectives. Preparing students to design and sustain knowledge-embedded business operations is an important aspect of knowledge management education. This means that students must have a strong knowledge of the business and the economic sector. We learn the intricacies of business operations and gain operational knowledge through work experience or through domain-specific education. Although knowledge management practices are embedded in and aligned with business operations, knowledge management competencies fundamentally transcend business operations. This understanding is important to knowledge management education programs.

We have encountered pressure to segregate students into classes which focus on a particular economic sector such as health, intelligence or finance. We have resisted these efforts based on the belief that students benefit from understanding knowledge management concepts in multiple contexts and from understanding their transcendent properties. A much richer learning experience results when military service officers, ministers, engineers, nurses, teachers, and business leaders discuss a concept from different viewpoints and share different perspectives. Isolating students by particular economic sectors will preclude opportunities to expand their thinking and to see their own domain challenges in a different light.

5.4 Challenge 17: Local or global student community

Knowledge management is a universal concept and a global practice. The knowledge economy is a global economy. New knowledge professionals must learn to work in a multicultural and global economy. Learning in a multicultural and global economy is another opportunity to build key behavioral competencies. Creating a multicultural student community brings challenges, though. A primary challenge is the perspective on online education programs held in many countries. The perception is that online degree programs resemble the correspondence course models of the 1950s and 1960s. Where online degree programs are not held in high esteem students will attend local programs, and miss the opportunity to engage internationally. While some countries provide financial support for students to study abroad, this practice is not widespread.

It is also important to be sensitive to cultural norms which may concern faculty-student relationships. For this reason, academic programs must ensure that the faculty, as well as students, has a multicultural representation.

Articulation agreements are another important tool that universities with knowledge management programs can use to create a global student community. Programs which offer courses year round will be better positioned to address differences in academic year schedules.

6. Governance and administration

Governance and administration surfaced only two challenges over the past decade. These challenges, while few, are significant, and speak to the fundamental aspects of support. The first challenge pertains to the academic home of the knowledge management program. The second challenge pertains to the governance model that applies to the program.

6.1 Challenge 18: Academic home of knowledge management

One challenge we encountered in updating the curriculum derived from the administrative location of the program. This is simply due to the fact that knowledge management is a multidisciplinary field, and most of the academic homes have a more traditional disciplinary focus. The literature suggests that knowledge management programs are generally housed within schools or colleges of business, communication or information, engineering and technology. Where a program is located within a college of engineering or technology, it may be challenging to justify courses in organizational culture, organizational learning or

knowledge economy. Where a program is located in a college of business, it may be challenging to justify courses in knowledge engineering and technology.

The home location may also influence admission requirements for students. We found this to be a challenge particularly for mid-career and senior professionals returning to school. Admission requirements may be designed for young professionals, and for students with a strong academic background in the field. Most students entering a knowledge management program will not have a strong academic grounding in knowledge management – simply because such programs do not exist at the undergraduate level. Experience and exposure are key admission requirements – these may not be valued by the home department. For this reason, we found it important to become more involved in the admission process – and to establish pertinent admission requirements to the knowledge management program.

6.2 Challenge 19: Administrative and governance model

Most academic departments and schools have internal governance models which have evolved from practice over time. When a knowledge management program is introduced to an established school or department, the existing governance models will apply. These models may or may not serve the management of the knowledge management program well. We encountered two challenges. The first was in representation of external advisory board members. Given the fact that the departmental focus was different than knowledge management, this introduced the potential for advice that was not in line with the direction of industry and business. The second pertained to the overall approval process for new courses, faculty and initiatives. While this presented some initial challenges in terms of slowing down the rate at which the program could respond to business and industry demands, it ultimately provided strong quality control. It further provided opportunities to communicate with faculty about the focus and purpose of knowledge management.

7. Observations and recommendations

Although knowledge management and science has been a topic in the public discourse for sixty years now, it is just coming of age as an academic discipline. This case study presents several challenges that universities and colleges may encounter when establishing and managing an academic program. Each of the challenges may play out in a different way across academia. All of the challenges can be met effectively – none is insurmountable. Knowledge management is among those new disciplines that operate at the border of existing disciplines. Because of its close alignment with business and industry, it presents challenges to some of the traditional academic models. As an emerging discipline it also presents challenges to traditional models of governance, faculty recruitment and retention, and student recruitment and support. For guidance, we recommend that knowledge management program administrators and faculty should look to and partner with otherv cross-disciplinary academic models. Knowledge management has the potential to design new academic models which will serve well the knowledge society of the 21st century.

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