6. Next Steps and Call for Action

The task force's current plan for the rest of the MSIS 2016 curriculum recommendation project is as follows:

- Public review and targeted feedback solicitation of the second deliverable: March 21, 2016 – April 21, 2016
- Extension and integration of the materials into a full curriculum document utilizing feedback from the second deliverable: March 21 – May 31, 2016
- Public review of the full curriculum document: June 1 – June 30, 2016
- Panels at ECIS June 12-15, 2016 (submitted) and PACIS June 27 – July 1, 2016
- Revision of the curriculum document July 1 – August 15, 2016 (including final face-to-face meeting in the context of AMCIS 2016, Aug 11-13, 2016; panel at AMCIS 2016 [submitted])
- Final public review period August 16 – August 31, 2016
- Submission of the document to AIS and ACM in Fall 2016

The task force invites both academic and practitioner members of the IS community to comment on this proposal. There are several ways to do that:

1. You can comment publicly on the msis2016.org website where this document will be available for comments.
2. You can send e-mail to the co-chairs of the MSIS 2016 committee (ekarsten@abo.fi and htopi@bentley.edu).
3. You can respond to a survey that the task force will make available by the end of March 2016.

Developing a model curriculum is always a community effort, and the MSIS 2016 will rely on your contributions to move from this draft to a final curriculum recommendation. Thank you very much in advance for your critically important contributions!

7. References

Gorgone, J T, G B Davis, J S Valacich, H Topi, D L Feinstein, and H E Longenecker. 2002. "IS 2002 Model Curriculum and Guidelines for Undergraduate Degree Programs in Information Systems." *Communications of the Association for Information Systems* 11 (1). http://aisel.aisnet.org/cais/vol11/iss1/1.

Gorgone, John T, Paul Gray, Edward A Stohr, Joseph S Valacich, and Rolf T Wigand. 2006. "MSIS 2006: Model Curriculum and Guidelines for Graduate Degree Programs in Information Systems." *Communications of the AIS* 17 (17): 1–58.

Gorgone, John, and Paul Gray. 2000. "MSIS 2000: Model Curriculum and Guidelines for Graduate Degree Programs in Information Systems." *Communications of the AIS* 3 (1es). Association for Information Systems: 1.

Hoffmann, Terrence. 1999. "The Meanings of Competency." *Journal of European Industrial Training* 23 (6): 275–86. doi:10.1108/03090599910284650.

Lockoff, J, B Wegewiis, K Durkin, R Wagenaar, J Gonzales, A K Isaacs, L F Dona dalle Rose, and M Gobbi. 2010. *A Tuning Guide to Formulating Degree Programme Profiles: Including Programme Competences and Programme Learning Outcomes, Tuning Educational Structures in Europe*. Edited by J Lockoff, B Wegewiis, K Durkin, R Wagenaar, J Gonzales, A K Isaacs, L F Dona dalle Rose, and M Gobbi. Nuffi c/ TUNING Association, Competences in Education and Recognition Project (CoRE). http://core-project.eu/documents/Tuning%20G%20Formulating%20Degree%20PR4.pdf.

Paquette, G. 2007. "An Ontology and a Software Framework for Competency Modeling and Management." *Journal of Educational Technology & Society* 10 (3): 1–21.

Topi, Heikki, Joseph S Valacich, Ryan T Wright, Kate Kaiser, Jay F Nunamaker, Janice C Sipior, and Gert Jan de Vreede. 2010. "IS 2010: Curriculum Guidelines for Undergraduate Degree Programs in Information Systems." *Communications of the Association for Information Systems* 26 (18). http://aisel.aisnet.org/cais/vol26/iss1/18/.

Appendix A: Executive Summary of Summer 2015 Deliverable

ACM and AIS established a joint task force responsible for developing MSIS 2016, a revised version of the master of science model curriculum in Information Systems (IS), in fall 2014 based on a comprehensive review and recommendation by a preliminary evaluation task force. The members of the joint task force are Sue Brown (University of Arizona; representing AIS), João Alvaro Carvalho (Universidade do Minho; AIS), Brian Donnellan (Maynooth University; ACM), Eija Karsten (Åbo Akademi University; AIS, co-chair), Jun Shen (University of Wollongong; ACM), Bernard Tan (National University of Singapore; AIS), Mark Thouin (University of Texas at Dallas; ACM), and Heikki Topi (Bentley University; ACM, co-chair). The task force started its work in January 2015, and it is planning to complete the MSIS 2016 revision by December 2016.

The MSIS 2016 curriculum recommendation will be a comprehensive revision built on the foundation of earlier MSIS curricula, specifically (Gorgone and Gray 2000) and (Gorgone et al. 2006). The key principles underlying this revision are as follows:

- The MSIS is a professional practice master's degree that always integrates computing with a specific domain of practice. An MSIS degree develops professional competencies that prepare the graduates for work as an IS professional. In addition, an MSIS degree can provide a foundational preparation for academic research.
- An MSIS degree requires as its foundation a completed undergraduate degree in IS or in another computing discipline or similar competencies achieve through other means.
- The students without necessary competencies in computing can gain a sufficient prerequisite competency level by taking appropriate bridge courses (pre-program leveling courses).
- An MSIS degree requires foundational studies in its domain of practice as a condition for entry to the program. For students without a sufficient background, bridge courses can be used to provide it.
- A student entering an MSIS program should have a minimum competency level in statistics that can be acquired through a typical university level course in statistics or analytics.
- The MSIS 2016 recommendation has no expectations regarding prior professional experience. It is, of course, possible and fully acceptable that individual schools or departments create MSIS programs targeted to experienced professionals that require a pre-specified level of professional experience.
- An MSIS degree provides the students with competencies in four areas, the relative emphasis of which varies depending on the program:
  o Domain of practice (such as business, health care, legal, government, K-12 education, higher education, etc.)
  o Computing/information technology
  o Management and organizational practices related to the structure and operation of computing/IT, and
  o Individual foundational competencies (such as written and oral communication, critical thinking, ethical analysis, teamwork, leadership, etc.)

- An MSIS degree typically involves no less than eleven months of full-time study and requires at least 30 semester hours (USA) or 60 ECTS credits (Europe).
- In addition to the MSIS, it is easy to envision a large number of different types of post-experience master's degrees in IS. Providing curriculum guidance for all those program types would be a qualitatively different effort from developing the MSIS as specified here. Thus, these degrees are not directly included in the scope of this project.

The MSIS 2016 will differ from MSIS 2006 in the following respects:

- MSIS 2016 specifically acknowledges that achieving a minimum level of MSIS competencies does not require professional experience. The document, however, also recognizes that it is possible and in many cases advisable to offer MSIS degree programs targeted to students with a higher level of experience. There are also other types of master's degrees in Information Systems (such as those focused on a single specialty), but MSIS 2016 does not directly provide curriculum guidance for those program types. Particularly the post-experience programs are by definition highly diverse and designed based on the needs of the local student population.
- The degree outcomes will be specified with competencies categorized into four areas: domain of practice, computing/IT, IS/IT management, and individual foundational competencies.
- MSIS 2016 recognizes explicitly that business is not the only domain of practice.
- MSIS 2016 provides support for a variety of national and regional curriculum models around the world.
- MSIS 2016 articulates the expected graduate competencies at a more detailed level than MSIS 2006 did and the proposed curriculum is specifically based on expected graduate competencies.
- MSIS 2016 recognizes the significant changes that have taken place in the program delivery environments, particularly in the form of MOOCs and other on-line programs.

This document includes a summary of the task force's work in documenting global master's programs in IS. This summary describes significant regional, national, and university differences between typical master's programs. The programs vary in terms of the characteristics of the students entering the program, the length of the program, the amount of required student work, and the degree structures. The most striking differences are in the (nominal) amount of student work required to complete the degree: at the low end, many programs require about 1350 hours, whereas the ones with the highest requirements may need 3200 hours. This is, of course, also reflected in the length of the program: some MS programs can be completed in a year whereas others may require two years of full-time study. These differences cannot be only explained by differences in the prerequisite degree type.

A significant amount of space in this document is dedicated to a discussion on qualification and competency frameworks, such as the European Qualifications Framework, the European e-Competence Framework (e-CF), the Skills Framework for the Information Age (SFIA), and Occupational Information Network (O*NET). Because the curriculum of MSIS 2016, as stated above, will be largely driven by target graduate competencies, it is essential

to define these competencies with support from well-defined frameworks. SFIA and e-CF are good candidates for being such a framework, but it is essential to introduce them carefully to the IS community because they have not been utilized in IS curriculum development work earlier. For example, the current version of e-CF introduces 39 competences categorized into five clusters: PLAN, BUILD, RUN, ENABLE, and MANAGE. In addition to the competence frameworks, it is essential to understand models of careers and career paths as a foundation for specifying the graduate competences.

At this stage [in Summer 2015], the task force provides only a brief description of one possible model that specifies expected MSIS graduate competencies. Its components have been chosen from the 39 e-CF competencies, which largely focus on the technical (computing/information technology) and IS management competency areas. In this analysis, competencies belonging to the PLAN, MANAGE, and ENABLE clusters were identified to be the most important for MSIS. The most important e-CF competencies were found to map well with the high-level IS competences identified in IS 2010.

The document concludes with a brief discussion regarding the possible characteristics of the MSIS 2016 curriculum itself and the next steps in the curriculum development process.

See msis2016.org for the full revised version of the task force's first deliverable.