The Department of Engineering Professional Development at the University of Wisconsin – Madison (USA) employs a rigorous approach to the development of programs and services, including online professional master’s degrees. The objective of this work is to disseminate a meta-analysis of critical to quality (CTQ) program attributes derived from multiple strategic market assessments performed in the development of online Master of Engineering degree programs.

Through our market research and competency modeling of various workforce segments, we have identified a series of core competencies common to engineering professionals. These include effective communication, project management, change management, financial acumen, legal fluency, negotiating business agreements, ingenuity and innovation, information management, leadership of distributed teams, and proficiency in the digital environment. Together these competencies represent what are commonly referred to as the “soft skills” that are necessary to function effectively in most engineering organizations. Similarly, the application of engineering competencies often crosses traditional disciplinary lines in professional practice. Accommodating the realities and needs for cross-disciplinary content in the program curriculum is a common need often not present in traditional degree programs.

As a result, understanding these customer requirements has implications for curriculum and instructional design strategies and programmatic course offerings. This is significant because substantial investments of human and institutional capital are necessary to successfully develop and launch a professional degree program. Failing to meet consumer expectations in both content and delivery expectations will doom a program to failure. Similarly, understanding customer requirements helps guide marketing communication strategies and recruiting efforts.