Quality Approaches in Education

Vol. 8, No. 1  •  March 2017

IN THIS ISSUE:

Note From the Editor
Elizabeth A. Cudney

Hoshin Kanri X-Matrix: Organizational Management Tool Successfully Implemented in an Engineering Leadership Development Program
Bruce D. DeRuntz, Rhonda K. Kowalchuk, Joseph D. Narusis, and John W. Nicklow

Improving Quality in Academic Units: The Important Role of Senior Surveys
Thomas W. Gainey

Hospitality Programs of Distinction That Meet the Demand of a Growing Industry
Iris W. Gersh

Addressing the Supplier to Consumer Disconnect in MBA Curriculum
Cassandra C. Elrod, Sarah M. Stanley, Elizabeth A. Cudney, and Cui Zou

The Journal That Connects Quality and Education

Quality Approaches in Education (ISSN 2471-1462) is a peer-reviewed publication that is published by ASQ’s Education Division, the Global Voice of Quality, and networks on quality in education. The purpose of the journal is to engage the education community in a discussion of significant topics related to improving quality and identifying best practices in education and workforce development; and expanding the literature specific to quality in education topics.

Quality Approaches in Education grants permission to requestors desiring to cite content and/or make copies of articles provided that the journal is cited; for example, Source: Quality Approaches in Education, Year, Vol. 8, (No. 1), http://asq.org/edu/quality-information/journals/

Questions about this publication should be directed to ASQ’s Education Division, Dr. Elizabeth A. Cudney, QAEJournal@gmail.com. Publication of any article should not be deemed as an endorsement by ASQ or the ASQ Education Division.
Note From the Editor

Elizabeth A. Cudney

A key task for educators is preparing students to meet ever-changing industry needs and technological advances while empowering them to become independent learners.

This issue highlights the intersection of industry and academia through innovative approaches and best practices to prepare students to meet the competencies and expectations for various industries and careers.

This issue is comprised of four articles that illustrate the breadth of quality applications to prepare students for the workforce. The first article, by Bruce DeRuntz, Rhonda Kowalchuk, Joseph Narusis, and John Nicklow, addresses the application of the Hoshin Kanri X-matrix to the management of a large-scale leadership development program to improve the efficacy and motivation of program participants. By engaging students in this approach, they are able to understand their responsibility within an organization and improve leadership, organizational management, and communication skills. The next article by Thomas Gainey analyzes the role of senior surveys in driving decisions for continuous improvement and advancing the quality of an academic unit. In particular, assessment and accreditation, student progression, student career success, and faculty motivation are addressed. The third article by Iris Gersh provides a methodology for curriculum assessment in hospitality management programs by benchmarking highly rated programs and conducting surveys and interviews of industry and academic professionals. The research highlights the need for academics and industry professionals to work together to determine the skill set and experiential activities necessary for students to achieve success in industry. The final article by Cassandra Elrod, Sarah Stanley, Elizabeth Cudney, and Cui Zou discusses a similar disconnect between industry and academia. Through an extensive survey of industry practitioners in all aspects of supply chain management, the research assesses the differences in perceptions and expectations of professionals, which provides a means for improving an MBA curriculum.

These articles illustrate how quality approaches can be used in all facets of education to enhance curriculum and better prepare students for the critical skills needed in industry upon graduation while also improving student learning and engagement.

Elizabeth Cudney, Ph.D. is an associate professor in the Engineering Management and Systems Engineering Department at Missouri University of Science and Technology. In 2014, Cudney was elected an ASEM Fellow. In 2013, Cudney was elected as an ASQ Fellow. She was inducted into the ASQ International Academy for Quality in 2010. She received the 2008 ASQ A.V. Feigenbaum Medal and the 2006 SME Outstanding Young Manufacturing Engineering Award. Cudney has published six books and more than 60 journal papers. She holds eight ASQ certifications, which include ASQ Certified Quality Engineer, Manager of Quality/Operational Excellence, and Certified Six Sigma Black Belt, amongst others. Contact her at cudney@mst.edu.
Education Division’s
Advancing the STEM Agenda Book

A collection of conference papers from the 2011 Advancing the STEM Agenda Conference. Available through ASQ Quality Press.

This publication is full of collaborative models, best practices, and advice for teachers, higher education faculty, and human resources personnel on improving the student retention (and thereby increasing the supply of STEM workers). Ideas that will work for both STEM and non-STEM fields are presented. The introduction maps out the current landscape of STEM education and compares the United States to other countries. The last chapter is the conference chairs’ summary of what was learned from the conference and working with 36 authors to develop this book. This effort is part of a grassroots effort among educators to help more students be successful in STEM majors and careers.

“Veenstra, Padró, and Furst-Bowe provide a huge contribution to the field of STEM education. We all know the statistics and of the huge need in the area of STEM students and education, but what has been missing are application and success stories backed by research and modeling. The editors have successfully contributed to our need by focusing on collaborative models, building the K-12 pipeline, showing what works at the collegiate level, connecting across gender issues, and illustrating workforce and innovative ideas.”

John J. Jasinski, Ph.D.
President, Northwest Missouri State University

“Advancing the STEM Agenda provides a broad set of current perspectives that will contribute in many ways to advancing the understanding and enhancement of education in science, education, and engineering. This work is packed with insights from experienced educators from K-12, regional, and research university perspectives and bridges the transition from education to workplace.”

John Dew, Ed.D.
Senior Vice Chancellor, Troy University
Hoshin Kanri X-Matrix: Organizational Management Tool Successfully Implemented in an Engineering Leadership Development Program

Bruce D. DeRuntz, Rhonda K. Kowalchuk, Joseph D. Narusis, and John W. Nicklow

Abstract

The Hoshin Kanri X-matrix has been used in quality management systems in engineering to improve the efficiency of manufacturing and business processes. The X-matrix was adapted from this field and used to effectively manage a large-scale leadership development program. In this unique application, the X-matrix was applied to improve the efficacy as well as the motivation of leadership development program participants. The implications of integrating the X-matrix into a technical leadership development program are many as it becomes a motivational tool that helps participants relate their efforts to become a leader and its impact on their chosen student organization. It also expands participants’ understanding of their responsibilities to the larger organization as well as leadership communication abilities. Finally, it develops their skills in using a valuable organizational management tool that can be applied throughout their professional careers.

Keywords

Leadership, Project Management, Strategic Management, Quality Tools, Change Management

Strategic Planning and Motivation

The use of Hoshin Kanri, a Japanese style of strategic planning or policy deployment, has increased in recent years (Docherty, 2013). The term “Hoshin Kanri” was first coined by a Japanese organization, Bridgestone Tire Company, in 1965. Hoshin literally translates to shining metal and Kanri literally translates to management. These words help to describe their system as a “vision compass” used to keep everyone working on the same objectives in the same direction (Docherty, 2013). Hoshin Kanri is a method of strategic management that focuses on a few key goals for success. The process also aligns organizational activities to these goals and utilizes two-way input from all employees when creating an organizational plan. Finally, key metrics are used to measure progress toward set objectives. The Hoshin Kanri process allows organizations to focus on continuous improvement, which provides the ability to adapt to change.

Hoshin Kanri is just one of many strategic planning methods. The works of Juran (1964), Ansoff (1969), Mintzberg (1994), and Porter (1996), respectively discuss other similar methods relating to incremental process change, design/planning approach, non-formalized strategic planning, and linking strategy with operations to create sustainable competitive advantages. Conversely, more traditional planning structures such as strategic-assumption analysis and dialectic inquiry, issue-based planning, and formal strategic planning can be seen by some as naive, unnecessarily bureaucratic, short-term, and inflexible (Lee & Dale, 1998).

More current strategic planning programs, such as Process Excellence, Lean Six Sigma, and Business Excellence, tend to train and use exemplary employees to implement new programs to improve efficiency. In this process, top management makes decisions that are then, in turn, passed down through the organization. As a result, the middle managers...
of these projects tend to feel uninvolved and less committed to these new programs due to their lack of input in the process. In order to have successful strategic planning, leaders need to be properly motivated, something that tends to be lacking in the aforementioned traditional models. Specifically, leaders have to believe that programs will reward and benefit them personally, will be more efficient than alternate approaches, and the cost of not implementing the new program will outweigh the cost of not performing normal business activities (Docherty, 2013).

Hoshin Kanri addresses leadership and employee motivation by combining the Deming “Plan, Do, Check, Act” (PDCA) cycle with a management-by-objectives strategy (Docherty, 2013). Most importantly, Hoshin Kanri also uses a two-way input system. In this system, all company objectives and their implications are discussed at every level in the organization. This allows ideas from the top to flow down through the organization, and ideas from the bottom to flow up to the top of the organization. This input system helps to improve commitment of all employees to the program and organization. This process is known as “catchball” and helps to ensure that organizational plans and goals are both realistic and feasible at all levels (Docherty, 2013).

**Hoshin Kanri Process**

Hoshin Kanri has also been defined as “a system of management in which the annual policy set by a company is passed down through the organization and implemented across all departments and functions” (Kondo, 1997, p. 242) and as a “target-means deployment” (Watson, 1991). Yet these definitions fail to address the feedback and PDCA cycle that is crucial to successful Hoshin Kanri implementation. A more complete definition of the Hoshin Kanri process can be found in the work of Eureka and Ryan (1990):

“Deploy and share the direction, goals, and approaches of corporate management from top management to employees, and for each unit of the organization to conduct work according to the plan. Then, evaluate, investigate and feedback the results, or go through the cycle of PDCA continuously and attempt to continuously improve the performance of the organization.” (p. 154)

Unlike other strategies, Hoshin Kanri has received less attention from researchers despite its use by many well-known organizations during the 1990s, such as Hewlett-Packard (Whitting, 1990); NEC Japan (Smith, 1994); Procter and Gamble (Zairi, 1994); Xerox (Leo, 1996); as well as Toyota, Bank of America, and Danaher (Docherty, 2013). Throughout the past 10 years, more organizations have begun to implement the Hoshin Kanri approach due its profitability in other companies and the need to cut costs in difficult financial times. Since 2010, more than 50 new organizations, including Pfizer and Bayer, began to adopt this style of strategic planning (Docherty, 2013).

Based on the observations of Japanese companies (Dale, 1990), Hoshin Kanri starts with a presidents’ meeting to determine a management policy plan. In this meeting, the presidents create a new plan to improve the organization based on the assessment of the previous year. This first stage is known as the Plan step in the PDCA cycle. The Check phase is also implemented at this stage when comparing the company’s actual status to previous projections. This plan is then debated at each level of the organization until a consensus is reached, also known as catchball. The new plan is carefully implemented during the next six to eight weeks. This is known as the Do stage of the cycle. During this time, all actions are carefully recorded (Check phase) and corrected if necessary (Act phase). But most importantly, these results are publically placed through the workplace in order to show employees the fruits of their efforts and the organization’s progress. Evaluating new policies and implementing future policies as part of the PDCA cycle continuously occurs depending on the needs of an organization and various employees.

This process has also been described by Akao (1991). Dr. Yoji Akao developed the X-matrix based on the Hoshin Kanri strategic planning process. First, the organizational mission and vision determined by upper management is known as the “what” of the X-matrix. The “how” is then negotiated between upper and middle management. Middle management then negotiates with implementation teams on how progress toward the “what” will be measured. Next, implementation teams receive the power to schedule and manage day-to-day activities. Finally, upper management reviews the progress made by the implementation teams.

Policy deployment helps provide a transition between the Plan and Do stages of the PCDA cycle. When studying this cycle at Harris Semiconductor (USA), Robinson (1994) stated the process “embraces the concept of empowerment as a balance between alignment of activities to the goals and the freedom people have to take action. The ultimate purpose of this process is to empower people to make meaningful improvements.” (p. 9)

The X-matrix is a main tool in Hoshin Kanri policy deployment. The X-matrix presents an immense amount of information in a concise and easily understandable way once employees are shown how to use it. This tool makes it clear to employees what they need to accomplish and how it relates to the organization’s overall vision and goals as well as their personal goals. The X-matrix also shows how the performance measures will be tracked and who is responsible for implementing programs and activities.
Leadership Development Program

The Leadership Development Program (LDP) was created in 2006 in the College of Engineering at Southern Illinois University (SIU) Carbondale with the support from Advanced Technology Services (ATS) and later, the National Science Foundation. The need for engineering and technology graduates with strong leadership skills is becoming more recognized and supported by industry (Gordon, 2012). Members of the LDP are primarily community college transfer students seeking a bachelor’s of science degree in an engineering or technology discipline. The LDP is a rigorous two-year training program that teaches students character, interpersonal skills, team-building, and leadership skills. LDP participants have expressed an interest in developing technical leadership skills and were selected for the scholarship and training program through a competitive process that examined their leadership achievements. Twenty-five students have participated in the LDP since fall 2010. In 2013, the group had 12 members. The students represent a cross-section of two technology and five engineering majors in the College of Engineering.

The Hoshin Kanri X-matrix was adapted from quality management systems used in engineering to effectively manage a large-scale leadership program, teach students how to use this important tool, quantitatively demonstrate the efficacy and impact of a leadership development program, and improve graduation rates among participants. The X-matrix has already been shown to improve retention rates among engineering students (Veenstra, 2008). Unlike previous mostly system-based applications, the X-matrix was also used as a motivational tool. The X-matrix offers a visual plan for how participants’ seemingly unrelated hard work all translates into achieving their shared vision. Use of a vision to motivate the actions of others was already a strong theme of the LDP through Kouzes and Posner’s Leadership Challenge Model (Kouzes & Posner, 2006).

Motivating Students

This article describes the fundamental process of using and constructing an X-matrix, and then explains how it is applied to achieve success in the LDP. Use of the X-matrix has several beneficial outcomes for LDP participants as it becomes a motivational tool that helps them relate their efforts to become a leader and its impact on their chosen student organization. Secondly, it advances their understanding regarding their responsibility to the larger organization, and it develops leadership communication abilities. Finally, the matrix helps cultivate participants’ skills in using a valuable organizational management tool that can be applied throughout their professional careers. The X-matrix achieves the first two outcomes by motivating students and relating relevant experience from participating in student organizations to the larger vision of the LDP.

When developing the LDP, the director recognized that it was difficult to motivate students to participate in the time-intensive program without a shared vision or goal. Many traditional college students are just learning how to manage their time and new lives. The X-matrix shows and measures how each activity in the program helps them reach the shared vision and improve their leadership skills as part of the LDP. This tool acts as a powerful motivator for participants. The X-matrix also provides needed guidance and feedback for students as they begin to better understand leadership and compare its actual practice to their preconceived notions. Beyond providing motivation and vision for each activity in the LDP, the X-matrix also teaches participants how to properly lead and manage an organization or project. Engineering and leadership education tends to be greatly improved when students apply their technical skills and knowledge to complicated real-life scenarios, such as participation in internships and student organizations (Cress, Astin, Zimmerman-Oster, & Burkhardt, 2001; Dugan & Komives, 2007; Lozano-Nieto, 1998).

Applying the X-Matrix to Leadership Development

This section of the article addresses the final two outcomes associated with using the engineering management tool. Many organizations create a vision and mission statement every one to five years to remind its members of the organization’s purpose, direction, and values. In pursuit of the vision and mission, organizational leaders create strategic objectives in response to current economic and technological environments. Leaders then pass these objectives down through the organization as each division does its part to help reach the strategic goals. The use of this tool in the LDP helps leaders communicate and relate their vision to all activities. It also gives LDP participants the practice needed to successfully apply the X-matrix to organizations in their future careers.

Many organizations struggle to connect strategic goals to tactical execution in pursuit of the strategic plan and vision. The Hoshin Kanri X-matrix offers groups a methodical, visual, logical, and quantitative system to organize and assess immense strategic initiatives. Large organizations can also use it to plan projects that align with their vision and mission statements. It can be difficult for large groups to keep sight of its vision as it organizes the variety of actions needed to successfully orchestrate a large group, such as the LDP. The X-matrix breaks down the vision into incrementally smaller tasks and then assigns these...
items to specific people or resources, similar to how project plans use a work breakdown structure. Microsoft Excel is typically used to record and compute all relevant data and activities in pursuit of attaining the organization’s vision.

It is important to use SMART goals when instituting key strategic objectives. SMART is an acronym for goals that are Specific, Measurable, Assignable, Realistic, and Time-specific. If the SMART format is not used, it becomes extremely difficult, if not impossible, to complete the following steps of the X-matrix. For example, if goals are not measurable or assignable, steps four and five of the matrix could not be completed.

Constructing the X-matrix: (see Figure 1)
1. Use the SMART goal strategy to determine key strategic objectives (Doran, 1981).
2. Create main initiatives to accomplish the key strategic objectives.
3. Develop tactical actions to execute the main initiatives.
4. Identify or create the key metrics used to assess tactical actions.
5. Identify the resource who will have responsibility for the tactical actions.

The X-matrix is a powerful tool due to its ability to concisely organize all of an organization’s activities into a simple visual display. Individuals can start in any section and follow how activities are related at all hierarchies of the organization. All members of the organization can see how each activity specifically relates to the organization’s vision and mission. This makes it easier for leaders to communicate this vision and motivate members to work in the same direction.

**Applying the X-Matrix to the Leadership Development Program**

Finally, the authors discuss how the X-matrix was implemented in the LDP in order to improve engineering leadership and exhibit the efficacy of the program. In the following sections, each step of constructing the X-matrix as part of the LDP is explained. Due to the size of the LDP X-matrix graph, not all of the main initiatives, tactical actions, key metrics, and resources are shown in Figure 2. A complete copy of the X-matrix can be found in the Appendix of DeRuntz, Kowalchuk, and Nicklow (2014).

The first step in creating the LDP’s X-matrix was to alter and/or reinforce the vision and mission of the LDP for current students participating in the program. In this step, participants decide and discuss why they are involved in the LDP and where they want to go together as members of the group. This allows all participants to get on the same page and create buy-in among the members. Participants are much more likely to have a commitment to the program if there is buy-in and they have a say in its direction. The LDP’s vision and mission statements have been developed throughout the past seven years.

Vision statement: To become the premier university program that develops the United States of America’s future technical leaders.

Mission statement: Through teamwork, we push harder, faster, and further than anyone thought possible, achieving world-class results.

**Key Strategic Objectives**

Key strategic objectives are then created to reflect the LDP’s proficiency in achieving its vision and mission. If needed, students have the ability to adjust key objectives, but currently the participants feel the established objectives, as illustrated in Table 1, are still timely and relevant.

**Main Initiatives**

Main initiatives are also known as programs or top-level improvement priorities. Multiple main initiatives are used to achieve larger key strategic objectives. In relation to the LDP, main initiatives are the programs needed to meet the key objectives in Table 1.

Due to space limitations, this article focuses on the key strategic objective of leadership and follows it through the entire X-matrix process. The main initiatives for leadership are as follows:

- Leading Registered Student Organizations (RSO)
- Indirect leadership training
- Leading projects
- Leadership training
- Team training
The next step in the process creates separate tactical actions to achieve each main initiative. Main initiatives are comparable to programs, where tactical actions are comparable to projects within those programs. Specific projects for each program are reported in this section of the LDP X-matrix. The following is a partial list of the tactical actions that are linked to the main initiative of leading RSOs.

- Society of Automotive Engineers (SAE) Baja car
- American Society of Mechanical Engineers (ASME) concrete canoe
- ASME steel bridge
- Association of Technology, Management and Applied Engineering (ATMAE) robot
- Leadership Development Program
- Engineering Student Council

### Table 1: Key Strategic Objectives With SMART Description

<table>
<thead>
<tr>
<th>Key Objective</th>
<th>SMART Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduation rate</td>
<td>Achieve 100% graduation rate of all LDP transfer students within 2.5 years.</td>
</tr>
<tr>
<td>Leadership</td>
<td>Achieve a minimum individual score of 27 out of 30 on Student Leadership Practices Inventory.</td>
</tr>
<tr>
<td>Social responsibility</td>
<td>Conduct a minimum of four service team projects per academic year.</td>
</tr>
<tr>
<td>Impact</td>
<td>Have a measurable positive impact on our stakeholders, SIUC, Carbondale community, ATS, and the student body.</td>
</tr>
<tr>
<td>Recruitment</td>
<td>Increase the number of applicants from 30 to 40.</td>
</tr>
<tr>
<td>Health</td>
<td>Have 90% of the team within the normal BMI range or its equivalent.</td>
</tr>
</tbody>
</table>

### Tactical Actions

The next step in the process creates separate tactical actions to achieve each main initiative. Main initiatives are comparable to programs, where tactical actions are comparable to projects within those programs. Specific projects for each program are reported in this section of the LDP X-matrix. The following is a partial list of the tactical actions that are linked to the main initiative of leading RSOs.

- Society of Automotive Engineers (SAE) Baja car
- American Society of Mechanical Engineers (ASME) concrete canoe
- ASME steel bridge
- Association of Technology, Management and Applied Engineering (ATMAE) robot
- Leadership Development Program
- Engineering Student Council
Key Metrics

The fourth step in creating the X-matrix requires the use of key metrics to quantitatively evaluate each of the tactical actions (e.g., projects). In the current LDP X-matrix, the key metrics assess each project’s success. Specifically, each participating team member in the project rates the project leader’s performance using an evaluation questionnaire. The assessment questionnaires use a standard set of questions. But, if required, the questionnaires can be adapted to better assess certain projects. In the 2010-11 academic year, a six-point scale with the following labels was used: (5) Perfect, (4) Almost perfect, (3) Some improvements needed, (2) Many improvements needed, (1) Failed but completed, and (0) Failed and did not complete. The response scale was then changed to include 11 points to increase response variability and acquire more accurate information from participants. The following standard rating scale was used for most assessments after the first year to maintain consistent metrics.

Questionnaire rating scale:
10. Perfect
9. Almost perfect
8. Few improvements needed
7. Some improvements needed
6. Above average
5. Average
4. Below average
3. Many improvements needed
2. Very many improvements needed
1. Failed but completed
0. Failed and did not complete

The academic evaluation used a different, more construct-specific, six-point scale for the first two years of the project (2010-11 and 2011-12): (5) No worries—Class is going good with no major problems, (4) Could be doing better—Class is going ok but your understanding is not where you would like it to be, (3) Concerned—Class understanding and grades are low, (2) In trouble—Falling far behind in course work and need serious help, (1) Panicked—Class is going poorly and failure is a possibility, and (0) Failure—Failing or having to withdraw from a class due to performance.

Project team membership varied (e.g., raters) between 15-50 members; both in terms of group affiliation and attendance at the time data was collected. Data was originally gathered by showing the group each evaluation question and asking them for their individual rating. A median score for each question was then derived from their personal responses. Recognizing the potential for peer-induced bias by publicly revealing the ratings; evaluation questionnaire sheets (see Table 2) are now distributed anonymously to collect individual team member scores. All team member scores are then averaged to create a composite score for each area of the evaluation, such as leadership or preparation. The scores from each section are then averaged to create a total composite for the project. This composite is then the number recorded in the key metrics section of the X-matrix. When taking input from a large number of students to evaluate projects and leaders, it helps to create a less subjective and more complete assessment.

Table 2 shows how the key metric associated with the ASCE steel bridge competition from the 2013-14 school year was recorded. Value was assessed to have a perfect score of 10 since the team was able to learn valuable skills that will benefit them now and in the future. Quality had the lowest rating in this evaluation with a score of eight (e.g., Few improvements needed), indicating that the team felt the quality of the work was close to what they expected, yet they still could have done better.

<table>
<thead>
<tr>
<th>Area</th>
<th>Definition</th>
<th>Assessment Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timely</td>
<td>Were all meetings attended (on time) by members or proxy?</td>
<td>9</td>
</tr>
<tr>
<td>Engagement</td>
<td>Did the members engage others?</td>
<td>9</td>
</tr>
<tr>
<td>Value</td>
<td>Were the lessons worthwhile?</td>
<td>10</td>
</tr>
<tr>
<td>Preparation</td>
<td>Were the members prepared for the meetings?</td>
<td>9</td>
</tr>
<tr>
<td>Leadership</td>
<td>How well was the Engineering Student Council (ESC) influenced by our members?</td>
<td>10</td>
</tr>
<tr>
<td>Quality</td>
<td>Did we exceed the quality of work expected?</td>
<td>8</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>9.17</td>
</tr>
</tbody>
</table>

Efficacy of the Leadership Development Program

In order to measure the overall efficacy of the LDP, the means from each key metric were first aligned with their corresponding key objectives to create cumulative means. Then the cumulative means for each key objective were averaged to create an overall
mean for each year. The overall mean represents the LDP’s progress in achieving its mission and vision. The decision to change from a six-point scale to an 11-point scale was done to increase response variability to provide a more valid and accurate assessment of the efficacy of the LDP throughout the years.

The progressive improvement of the overall means across the years of implementation indicates a general increase in the efficacy of the program. Prior to implementing the X-matrix, the assessment of the program’s students was highly subjective. Use of cumulative evaluation of a project team leader by the team members greatly improved the assessment of the program. This type of evaluation is more objective and provides more accurate results. The program director also instructed all raters to be critical and objective when assessing leaders in order to prevent biased and/or inflated assessment ratings.

The key metrics (e.g., rating scale and evaluation items) can be easily modified and adapted to quantitatively evaluate any tactical actions (e.g., projects) when using the X-matrix to evaluate the efficacy of a program. We chose to examine an overall mean rating across key objectives throughout the years of implementation to judge the effectiveness of the LDP. However, examining mean ratings for each key objective throughout the years may be an alternate way of evaluating efficacy.

Conclusion

The Hoshin Kanri X-matrix for strategic planning is an incredibly powerful tool for organizing, communicating, and executing the mission, vision, goals, and strategic actions of a large organizational initiative. There are many benefits of integrating the X-matrix into a technical leadership development program as it becomes a motivational tool that helps participants relate their efforts to become a leader and its impact on their chosen student organization. It also develops participants’ understanding of their responsibility to the larger organization and expands leadership communication abilities. Finally, the X-matrix helps develop skills in using a valuable organizational management tool that can be applied throughout a professional career.

In the future, LDP students can apply the successful practices of the X-matrix to other student organizations, ranging from student project teams to the undergraduate student government. Not only do students benefit from learning such a valuable organizational tool, but they also genuinely appreciate the enhanced communication and planning it brings to their organizations. Additionally, the authors plan to implement the X-matrix in the creation of a university-wide leadership development center. By using the X-matrix, the students, their organizations, and the leadership center will be able to effectively evaluate and achieve their stated goals.

Acknowledgement

This material is based upon work supported by the National Science Foundation under Grant No. DUE 0966274 and Advanced Technology Services. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation.

References:


Bruce D. DeRuntz, Ph.D. is a professor in the College of Engineering at Southern Illinois University (SIU) Carbondale where he teaches classes on project management, leadership, and advanced leadership in the MBA program. He consults with universities and companies on their leadership development of human resources for Six Sigma and project management teams. He is the director of SIU’s Leadership Development Program and the former editor of the ASQ’s Quality Management Forum. He is an ASQ Fellow and is an ASQ certified Six Sigma Black Belt, Quality Engineer, and Manager of Quality and Organizational Excellence. Contact DeRuntz via email at bruce@siu.edu.

Rhonda K. Kowalchuk, Ph.D. is an associate professor of quantitative methods at Southern Illinois University (SIU) Carbondale. Before joining SIU in 2004 she worked at the University of Wisconsin Milwaukee. Her research interest focuses on the performance of statistical procedures when applied to data that do not satisfy the assumptions underlying these procedures. Kowalchuk teaches classes in applied statistics, experimental design, survey methods, and program evaluation. Other research-related activities involve working as a statistical consultant. Her email address is rkowal@siu.edu.

Joseph D. Narusis, M.A. is a doctoral candidate in the Applied Psychology Program and instructor for Organizational Psychology at Southern Illinois University (SIU) Carbondale. He joined SIU in 2013, and has since worked as a teaching assistant for various psychology courses and as a research assistant for both the Leadership Development Program and university housing. His research interests focus on the impact of culture and virtual tools on leadership styles and groups. His email address is narusis@siu.edu.

John W. Nicklow, Ph.D. serves as the president of the University of New Orleans (UNO). He previously served as provost and vice president for academic affairs at UNO and as provost and vice chancellor for academic affairs at Southern Illinois University Carbondale. His research interests are focused on STEM education and on environmental and water resources systems optimization. He is a registered professional engineer, a certified professional hydrologist, a Fellow of the American Society of Civil Engineers, and a Diplomate of the American Academy of Water Resources Engineers. Contact Nicklow at jnicklow@uno.edu.
Improving Quality in Academic Units: The Important Role of Senior Surveys

Thomas W. Gainey

Abstract
Given the many demands placed upon academic units, it is essential to develop tools that can be effectively used to continually improve quality and unit performance. The senior exit survey may represent one such tool. This article explains how data from a senior exit survey has been used successfully to improve quality in areas such as assessment and accreditation, student progression, student career success, and faculty motivation.

Keywords
Educational Quality, Best Practices, Assessment/Surveys, Continuous Improvement

Introduction
Increasingly, department chairs are under intense pressure to continually improve the efficiency and quality of their academic units in an environment of limited resources and declining budgets (Massy, Wilger, & Colbeck, 1994). Indeed, the job of a department chair is often described as one of the toughest and most indispensable positions in academia (Jones & Holdaway, 1996; Olson, 2008). Chairs must balance the conflicting demands of faculty and administration (Gmelch & Burns, 1994), make certain that the strategic initiatives of the university are properly implemented (Bennett, 1990), and continually improve the quality of the educational experience for students (Lucas, 2000).

To create quality academic programs in today’s environment, chairs are expected to lead efforts in assessment and accreditation, make certain that students are progressing in a timely manner, develop programs that make students more viable in the job market, and maintain high levels of morale among faculty in the face of limited raises and expanded responsibilities. Further, they are called on to manage these various systems in a fast-paced environment where technological advances and data often drive decisions. Given the many demands placed upon academic chairs, it is essential that they develop quality tools that can provide timely, relevant feedback. The senior exit survey may represent one such tool.

The Potential of Senior Exit Surveys
Society increasingly depends on data to drive important decisions. Indeed, with advances in technology, individuals are able to monitor electronic dashboards that provide real-time analyses, allowing them to make decisions that reflect the latest movements in the data (Allio, 2012). In fact, the ability to identify issues and react quickly often gives organizations a competitive advantage in many different industries.

Even academia, which has traditionally been relatively immune from external changes in business and the economy, is now under increased scrutiny by governing agencies to embrace this movement toward data-driven decision making (Macon State, 2012). In fact, in some states, funding is based on formulas that take into account performance-based metrics, such as the progression, retention, and graduation rates of its member schools (Labi, 2015). Administrators are moving quickly to find ways to actively monitor their performance and to take more aggressive approaches to improve these numbers. Some are providing more remedial instruction, creating innovative student centers, and implementing
more advanced student-tracking software. These administrators understand that future budget levels will be dependent on their student advancement numbers and that many decisions of governing officials will now be driven by these formulas. No doubt, one could easily argue that academia can now be included in this growing list of data-driven industries as well.

Department chairs will also need to become more adept at using data to make decisions and continually improve the quality of their programs. This may be especially true in areas such as assessment and accreditation where academic departments are scrutinized closely by external auditors (Eaton, 2012). Yet, relying more on data to assess goals and drive decisions seems to make some in academia uncomfortable (Dunn, Airola, & Garrison, 2013). As Hogg and Hogg (1995) note, “Faculty tend to feel threatened when change enters their world.” Additionally, especially in regard to assessment, departmental leaders may feel they will lose control over how they perform their jobs or believe that their efforts in collecting and analyzing data is simply a costly, time-consuming process that ultimately results in few significant changes (Walvoord, 2010). Indeed, some academic leaders may feel that increasing their reliance on data to make decisions may restrict the ability to create an environment that fosters creativity and academic freedom. In some cases, experience in setting measurable goals, collecting and analyzing data, and then taking corrective action may be quite limited. However, given that reviewers often ask to speak directly to administrators at different levels during accreditation site visits (Kelderman, 2014), becoming proficient at demonstrating how data is used within departments to both document performance and drive changes is becoming increasingly important at the chair level. For academic chairs who may be hesitant to get started with goal-based models, quality initiatives, and data-driven decisions, using senior exit surveys may serve as a rather simple and effective way to begin.

**Description of the Senior Exit Survey**

The senior exit survey discussed in this article is provided in Appendix A. This instrument was initially developed through a team effort by faculty members who identified major areas of potential improvement within the department and then wrote specific questions related to those areas. To help establish the validity of the survey, a task group of accomplished students was formed to complete the survey and then provide feedback on the instrument.

It is important to note that this survey was modified three times throughout the past decade to reflect changes in departmental responsibilities. For instance, in 2006, all academic advising was conducted within the department. Therefore, there was a particular interest in the quality of the advising experience and how this function could be improved. Today, there is an independent Career Success Center in the college and all advising is performed outside of the department. Thus, questions associated with advising were eliminated and replaced with items related to program assessment. It is important to view the senior survey as an adaptable tool that can be modified, based on changing conditions, to provide important feedback in areas where quality is most important and continuous improvement is necessary.

When initially developing the survey, faculty believed it was important to keep it relatively short to encourage participation. While graduating seniors were in the best position to provide relevant feedback, there was a realization that these students were also very busy during their final semester with senior projects, internships, and the job search process. Thus, a survey was developed that allowed students to simply check boxes on most questions. In testing the survey with the student task group, it was determined that students could easily complete the survey in less than ten minutes.

In practice, senior exit surveys are distributed approximately four weeks before the end of the final semester. The surveys are hand-delivered by faculty to individual students before class. A note attached to the survey explains the importance of the students’ participation and also instructs them to deliver the completed survey to the departmental administrative assistant. While students can provide their name and address, it is not required. Currently, just under 75% of graduating seniors complete and return the survey.

Once received, the data from the survey is input into a spreadsheet and descriptive statistics for each question are computed. Additionally, the department chair reviews all written comments on each survey. In general, approximately 35% of the students provide written comments on the final page. The results of the survey are then shared with faculty in the departmental newsletter and discussed in departmental meetings.

**Improving the Quality of Programs**

While many chairs recognize the importance of conducting exit surveys with graduating seniors, one might argue that a majority of chairs do not widely communicate this information to important stakeholders, take corrective action based on the content, or use the data to drive important decisions. However, the senior exit survey can potentially lead to significant improvements (Hamilton, Smith, Heady, & Carson, 1997; Nelson & Kelly, 1997). After all, in most cases, the respondents have a unique perspective into the way a department operates. Students are, in fact, the primary customers who academic departments...
serve. In this article, it is argued that the senior exit survey can be a particularly effective tool in continuously improving quality in areas such as program assessment and accreditation, student progression, student career success, and faculty motivation.

**Assessment and Accreditation**

Institutions must increasingly prove to accrediting agencies and other external stakeholders that students are learning a certain body of knowledge and that programs are relevant to the university’s mission. The assessment may be more degree-specific for certain specialized or professional programs, such as the Commission on Collegiate Nursing Education (CCNE) for nursing schools. On the other hand, it may be more unit- or program-specific for regional accrediting agencies such as the Southern Association of Colleges and Schools. At a minimum, most academic units must develop learning goals for each degree, certificate, or program of study; establish a direct and indirect measure of how well students are achieving the goals; and schedule a forum to discuss the data and identify action items (Walvoord, 2010).

For individuals, such as department chairs, who manage assessment issues on a regular basis, the process can be very time-consuming and require significant resources. Fortunately, information from various course assignments, projects, and examinations provide data for many of the direct measures of program learning outcomes. However, when it comes to more overarching, department-related goals or acceptable indirect measures of programs, chairs often struggle to find an efficient and effective way to manage these processes. The senior exit survey provides one source that can be particularly useful in working with these issues.

Many argue that student satisfaction levels should receive an elevated priority in higher education (Astin & Antonio, 2012). Thus, departments typically have unit-specific goals that relate in some manner to student satisfaction. Based on student responses, Table 1 shows the percentage of graduating seniors who awarded the highest possible ranking in four separate dimensions of satisfaction throughout the past four academic years. These measures are important in providing a broad view of student perspectives, in allowing comparisons to be made from year-to-year, and in initiating discussions for corrective action in areas where satisfaction levels are low. For example, “Availability of Faculty” is an area where improvement is clearly needed. Based on discussions with faculty, it was noted that the current system of sitting in offices waiting for students during office hours may be somewhat outdated. Faculty noted that students now communicate primarily through e-mail or by using tools available in online-learning platforms. Faculty further noted that students expect answers quickly and will not be satisfied if they do not get timely responses. Thus, faculty are now allowed to spend up to half of their office hours online, providing much greater flexibility. Additionally, several faculty now note on their syllabi that every effort will be made to provide a response within 24 hours. These actions demonstrate to students a commitment to availability and to provide prompt feedback. Based on the latest results, the percentage of students who gave the highest marks in the area of faculty availability increased from 45.6% to 52.8%. Progress is being made toward a goal of 75%.

The senior exit survey is also used to provide an indirect measure of the learning outcomes in each program (Walvoord, 2012). These outcomes are simply listed on the survey and graduating seniors are asked how well the goals were met. One limitation of this approach is that it provides only a very broad indication of how well the program is performing on a particular goal. Yet, as with the general satisfaction measures, it does permit department leaders to identify troubling trends and respond accordingly.

**Student Progression**

Offering courses on a schedule that allows students to progress through a program of study in an acceptable time frame is becoming critical for two primary reasons. First, legislators are increasingly using outcome-based funding models to ensure that there is an acceptable culture of student progression (Labi, 2015). Simply, if progression and graduation rates

| Table 1: Percentage of Top Rankings on Student Satisfaction Dimensions (95% Confidence Intervals) |
|-----------------|----------------|----------------|----------------|----------------|
| **2012-13**     | **2013-14**    | **2014-15**    | **2015-16**    |
| (n=105)         | (n=107)        | (n=79)         | (n=123)        |
| **Satisfaction**| **66.7%**      | **73.8%**      | **73.4%**      | **69.9%**      |
| with degree     | (57.7% – 75.7%)| (65.5% – 82.2%)| (63.7% – 83.2%)| (61.8% – 78.0%)|
| **Quality**     | **58.1%**      | **60.7%**      | **63.3%**      | **61.8%**      |
| of instruction  | (48.7% – 67.5%)| (51.5% – 70.0%)| (52.7% – 73.9%)| (53.2% – 70.4%)|
| **Availability**| **45.7%**      | **42.1%**      | **45.6%**      | **52.8%**      |
| of faculty      | (36.2% – 55.2%)| (32.7% – 51.4%)| (34.6% – 56.6%)| (44.0% – 61.7%)|
| **Recommend**   | **66.7%**      | **67.3%**      | **70.9%**      | **69.1%**      |
| to friend       | (57.7% – 75.7%)| (58.4% – 76.2%)| (60.9% – 80.9%)| (60.9% – 77.3%)|
begin to fall, so do budget allocations. Second, with more educational options available through online programs, departments must ensure that student satisfaction levels remain high. As Barnett (1992) notes, the overall student experience should be a primary consideration of quality in higher education. If courses are not available when students need them, they will be less satisfied with their program of study, will take longer to graduate, or may pursue other alternatives that better fit their schedules. To improve student progression, department administrators can use senior exit surveys to get a more detailed view of student perspectives and to continually improve the scheduling process.

Historically, scheduling classes was a rather mundane process. Chairs used a previous schedule and made only minor adjustments that were typically due to changes in departmental personnel, but seldom were they required to make significant modifications to course offerings. This can be primarily attributed to the fact that courses were delivered only in a face-to-face format and that the student demographics remained relatively constant. Within the past decade, however, wide-spread acceptance of online learning (Allen & Seaman, 2011) and the increase in the number of nontraditional students (Dauer & Absher, 2015) has dramatically changed this process. Department leaders must now decide if courses should be face-to-face, hybrid, or completely online. They also need to determine which mix of these formats will most effectively serve a majority of the students. Furthermore, as noted earlier, having schedules that meet the needs of students is critical to the timely progression through a program of study.

Senior exit surveys can ask students about the days/times of the week that they prefer to take classes, and changes can be made to schedules in response to this feedback. When this goal was initially measured five years ago, 63% of the respondents reported no problems with course availability. Based on this response, department faculty suggested that a goal of 70% satisfaction with course availability would provide a challenging, but realistic target. Despite taking corrective action in the past five years based on day/time preferences, achieving this goal continues to be a struggle. For example, in 2015-16, only 68.9% responded that they did not encounter difficulties.

Recently, greater attention has been focused on online courses as an approach to provide increased satisfaction with course availability and offer the additional flexibility that students need to progress through their programs of study on time. Faculty debate this topic as there is a realization that progression rates are closely scrutinized. However, there is also a strong desire to add online courses in a systematic manner that does not negatively impact the rigor of major courses and that a “proper” balance of online and face-to-face courses are offered to students. Table 2 presents student perspectives on how this balance is being achieved.

Table 2 shows that only 63.6% of seniors believe that a proper balance of online and face-to-face classes is offered. As with course availability, the goal is to reach 70%. There is a keen awareness that students have a tough time balancing the competing time demands of work, family, and school (Dill & Henley, 1998). Through written comments on the senior exit survey, many students working full time have noted that an online program would help them immensely with work/life balance. Thus, two years ago, a process was initiated to design an online program and provide training for faculty who were less comfortable with online learning platforms. As a result of this process, a new “e-Flex” program is currently being delivered for the first time. Clearly, the data and written comments from the senior exit survey are driving this process.

**Student Career Success**

Quality in higher education is often measured by students’ performance in the job market (Chaubey & Krivacek, 2016). Unfortunately, the employment market for college graduates has been difficult throughout the past decade (Kennedy, 2013). Department chairs must take a much more active role in preparing students and implement new programs to help make graduating seniors more attractive to perspective employers. Senior exit surveys can be particularly useful in providing feedback from graduating seniors who are engaged in the job search process on the types of programs that human resource recruiters find desirable.

<table>
<thead>
<tr>
<th></th>
<th>2012-13 (n=105)</th>
<th>2013-14 (n=105)</th>
<th>2014-15 (n=79)</th>
<th>2015-16 (n=118)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Balance is about right</strong></td>
<td>58.1% (48.7% – 67.5%)</td>
<td>64.8% (55.6% – 73.9%)</td>
<td>69.6% (59.5% – 79.8%)</td>
<td>63.6% (54.9% – 72.2%)</td>
</tr>
<tr>
<td><strong>More face-to-face courses needed</strong></td>
<td>11.4% (5.3% – 17.5%)</td>
<td>9.5% (3.9% – 15.1%)</td>
<td>8.9% (2.6% – 15.1%)</td>
<td>12.7% (6.7% – 18.7%)</td>
</tr>
<tr>
<td><strong>More online courses needed</strong></td>
<td>30.5% (21.7% – 39.3%)</td>
<td>25.7% (17.4% – 34.1%)</td>
<td>21.5% (12.5% – 30.6%)</td>
<td>23.7% (16.1% – 31.3%)</td>
</tr>
</tbody>
</table>

Table 2: Online Versus Face-to-Face Course Offerings (95% Confidence Intervals)
Early indications are that this change has generated significant interest. Additionally, faculty recently partnered with three local organizations to increase internship opportunities for students.

Again, it is the data from senior exit surveys that allow assessment of these efforts and that drive many of the new initiatives associated with the “Plus 1” program. While total student involvement has increased in the past four years, the goal of 60% participation has not yet been achieved. The results from the senior exit survey do, however, keep faculty focused on continually making progress toward this important goal.

### Faculty Feedback and Recognition

The positive impact on motivation from both feedback and recognition has been empirically established for many years (Hackman & Oldham, 1976; Maslow, 1954). Recognition is often considered an important element in establishing quality improvement programs (Flynn, Schroeder, & Sakakibara, 1994). Individuals in the workplace want to know that they are respected and valued by the individuals they serve. Professors are no exception. By their very nature, many professors are high achievers, and they greatly appreciate when their hard work is recognized and rewarded. However, department chairs often face an uphill battle when it comes to maintaining high levels of morale among their faculty members.

In the current economy, where raises are limited or nonexistent, motivation levels have been even lower than normal. At many institutions, individuals have not received a raise in several years, and, in fact, have significantly less disposable income due to increases in health care premiums. Indeed, chairs are constantly looking for avenues to positively impact their department members and increase morale. The senior survey may represent one such opportunity.

For example, the survey in Appendix A asks seniors which teacher had the most positive impact on them during their studies. Students have an opportunity to recognize faculty members who have played an important part in their lives. A thank you letter, that includes the name of the student, can then be sent by the department chair to the individual faculty members. During the most recent semester, 14 of 18 faculty members were named by at least one student. For faculty who are recognized by multiple students, the letters serve as compelling evidence in both annual

<table>
<thead>
<tr>
<th>Table 3: “Plus 1” Participation Rates (95% Confidence Intervals)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Certificate programs</strong></td>
</tr>
<tr>
<td>13.7% n=102 (7.0% – 20.4%)</td>
</tr>
<tr>
<td><strong>Study-abroad programs</strong></td>
</tr>
<tr>
<td>10.6% n=104 (4.7% – 16.5%)</td>
</tr>
<tr>
<td><strong>Internships</strong></td>
</tr>
<tr>
<td>15.4% n=104 (8.5% – 22.3%)</td>
</tr>
<tr>
<td><strong>Total participation</strong></td>
</tr>
</tbody>
</table>

Based on written comments on the senior exit survey, three particular areas of interest were identified: certificate and study-abroad programs as well as internships. Thus, throughout the past four years, the senior exit survey has helped determine the extent to which students are participating in one of these three programs, and the data has been used to drive departmental actions to increase the visibility of these programs and encourage more active participation. This initiative has been labeled the “Plus 1” program.

Table 3 provides survey data from the four previous academic years. Based on participation rates during the first year of data collection in 2012-13 (39.7%), faculty set a relatively aggressive goal that at least 60% of students would either complete a certification program, participate in a study-abroad trip, or work in an internship before graduation.

Certificate programs were the first area of focus. A campaign was initiated to better inform students about departmental certificate programs by establishing an information center directly outside department offices and by partnering with the academic advisors in the Student Success Center. After only one year, impressive results began to emerge. Additionally, funding was recently secured for Management Information Systems (MIS) majors to earn professionally recognized certifications (e.g., A+, Security+, and Net+). In fact, this year, roughly 50% of the MIS seniors are expected to take at least one discipline-specific certification test. This should lead to a significant increase in the participation results in the next academic year.

As with the certificate programs, efforts are underway to increase student participation in study-abroad programs and internships as well. In partnership with another academic department on campus, an opportunity was created for students to earn three additional hours in the study-abroad program.
evaluations and in promotion and tenure dossiers. Additionally, faculty who are regularly recognized by students can use the letters to apply for annual teaching awards that provide a $1,000 stipend. But even for faculty members who may receive only occasional recognition, the letter serves as a reminder of the personal impact that they can have in students’ lives and how they can personally improve quality within the department.

**Conclusion**

The purpose of this article is to share how the senior exit survey has been used to help drive decisions and improve quality in some important areas within one academic department. However, it should be noted, that the survey presented in this study does have limitations. First, some items allow areas to be examined with only a broad perspective. More detailed information is sometimes needed to initiate specific actions. Second, perceptions on the survey are from students who are ready to graduate. It would be helpful to have more real-time data from current students upon which to base decisions. Third, this article describes how the survey has become a useful tool in one department. The extent to which the same survey would be beneficial in other contexts is unclear.

Quality in higher education has been termed a “highly contested concept” (Tam, 2001) and a “relative concept” (Harvey & Green, 1993). Simply, there are a variety of stakeholders and each has a unique view of quality, influenced by his or her own experiences and interests (Tam, 2001). As Chaubey and Krivacek (2016) note, quality in higher education is in the “eye of the beholder.” The senior exit survey can be instrumental in helping drive some important changes and in improving the quality of academic programs. However, an important next step is to include additional stakeholders. For example, reporting the complete results in a department newsletter and then sharing the newsletter with alumni would be a positive step. Additionally, asking an Alumni Advisory Board to examine the survey and make recommendations would also be useful in incorporating a very important stakeholder’s perspective.

Because quality is perceived very differently by various stakeholders (Burrons & Harvey, 1992), public scrutiny regarding the contribution of higher education to both society and the economy is prompting top university administrators to focus more intently on quality initiatives to increase performance, accountability, and transparency (Hazelkorn, 2015). Likewise, it is critical that department chairs become more involved in measuring the quality of their own programs and in identifying opportunities for improvement. In this article, it is proposed that the senior exit survey is one tool to drive new initiatives and engage in continual improvement.

**References:**


Appendix A

Department of Management
B.B.A. in Management Program
Senior Exit Survey

In an effort to better meet the needs of our students, we are asking our graduating seniors to complete the following survey. The survey should only take about 5-10 minutes to complete.

Overall Satisfaction

1. In retrospect, how satisfied are you with your decision to earn a B.B.A. in Management from the Richards College of Business?
   □ Very Satisfied □ Satisfied □ Dissatisfied □ Very Dissatisfied

2. How would you rate the quality of instruction provided to you by faculty in the Department of Management?
   □ Excellent □ Good □ Average □ Poor

3. To what extent were the faculty available to you outside of class?
   □ Frequently □ Regularly □ Rarely □ Never

4. How likely is it that you would recommend our program to a friend?
   □ Very Likely □ Likely □ Unlikely □ Very Unlikely

5. Which teacher in the Department of Management had the most positive impact on you during your studies at UWG?
Your Career Preparation

6. Have you attained any certifications at UWG?
   □ Yes (Please describe:)
   □ No

7. Did you complete an internship/co-op at UWG?
   □ Yes (Please describe:)
   □ No

8. Did you participate in a study-abroad program?
   □ Yes (Where did you go?)
   □ No

9. Immediately upon graduation, I plan to
   □ Work in an established company that is NOT owned by my family. (Go To Question 10)
   □ Open up my own business. (Go To Question 13)
   □ Work in a business owned by my family. (Go To Question 13)
   □ Pursue a graduate degree in Business Administration. (e.g., MBA) (Go to Question 13)
   □ Pursue a graduate degree in Law. (Go to Question 13)
   □ Other: (Please describe:)

10. How many interviews have you had thus far with potential employers? ________________

11. How many job offers have you received? ________________

12. Have you accepted a job offer?
   □ Yes    □ No

Course Scheduling

13. During what time of the day do you prefer to take classes?
   □ Morning (8:00 a.m. – 12:00 noon)    □ Afternoon (12:00 p.m. – 5:30 p.m.)    □ Evening (5:30 p.m. – 9:00 p.m.)
   □ No Preference

14. During which days do you prefer to take classes? (Please select all that apply)
   □ Monday/Wednesday    □ Tuesday/Thursday    □ Monday/Wednesday/Friday    □ Friday only    □ No Preference

15. In terms of online courses in the Management Department:
   □ The balance of online courses and face-to-face courses is about right.
   □ More face-to-face courses should be scheduled.
   □ More online courses should be scheduled.
16. In terms of course “rigor”:
   □ Online courses are easier. □ Face-to-face courses are easier.
   □ The difficulty of online and face-to-face courses is about the same.

17. Did you have any problems with the availability of classes in your major?
   □ No
   □ Yes (Briefly describe problem(s): ____________________________________________)

Program Assessment
In order to maintain our regional accreditation at UWG, we must assess our performance in each major area of study. Your responses to the learning outcomes below are instrumental in helping us complete required reports. Based on your experience in our program, simply select the response that best describes your evaluation in how we met the learning goals listed below.

18. Management majors will be able to explain the role of entrepreneurs in managing businesses.
   □ Strongly Agree □ Agree □ Neutral □ Disagree □ Strongly Disagree

19. Management majors will be able to identify basic principles associated with leadership.
   □ Strongly Agree □ Agree □ Neutral □ Disagree □ Strongly Disagree

20. Management majors will be able to examine and analyze basic employment-related data.
   □ Strongly Agree □ Agree □ Neutral □ Disagree □ Strongly Disagree

21. Management majors will demonstrate a more comprehensive knowledge of management concepts and principles as compared to non-management B.B.A. majors as a whole.
   □ Strongly Agree □ Agree □ Neutral □ Disagree □ Strongly Disagree

Conclusion
If there is anything else you would like to share with us, please use the space below to do so.

In about a year, we would like to send you a brief follow-up survey to find out how your career is progressing. This information will allow us to further develop and refine our program for future graduates. Please provide your name, number, and a permanent address so that we can contact you.

Name: ______________________________________________________________________________
Address: _____________________________________________________________________________
_________________________________________________________________________________
Phone number: _________________________________________________________________________
E-mail: ______________________________________________________________________________

If you would like to have a more formal exit interview with the Department Chairmen to discuss issues not covered in this survey, please let the Office Coordinator know and an appointment will be scheduled.

Thank you for allowing us to play a role in preparing you for your future career.
Hospitality Programs of Distinction That Meet the Demand of a Growing Industry

Iris W. Gersh

Abstract

Unprecedented growth for the hospitality industry is expected in the next decade with a resultant need for highly trained professionals. Hospitality management educators and practitioners consider competencies pertaining to interpersonal skills, human relations, and leadership as the most important skill set for students pursuing a degree in hospitality management. Preparing top hospitality professionals to meet growing demands will require synergy between academic programs and the hospitality industry. This study assesses core hospitality management courses, specializations, competency-based curriculum, internship requirements, study abroad opportunities, and other curricula requirements at highly ranked hospitality management programs in the United States. The curriculum assessment indicated that the highly ranked programs required students to complete courses with these competencies embedded within the required curricula. Experiential activities, including internship requirements and study abroad seminars, were also requirements at the highly ranked programs. An active advisory board, which interacted regularly with faculty, staff, and students in areas such as mentoring, recruiting, and advising sustained synergy between academic programs and the hospitality industry. By assessing these best practices, this study provides a framework whereby educators can create hospitality programs of distinction by modeling these practices to prepare hospitality professionals for the future.

Keywords

Best Practices, Benchmarking, Human Resources, Leadership

Introduction

According to the National Restaurant Association’s (NRA) 2015 Restaurant Industry Forecast, restaurant and food service sales were estimated at $709 billion, an increase of 3.8% from 2014 (National Restaurant Association, 2014). The restaurant industry was expected to employ approximately 14 million people in 2016, and it remains the nation’s second largest private-sector employer (NRA, 2014). In the past 16 years, the industry surpassed the total U.S. job growth and remains one of the economy’s leaders in job creation. It is estimated that within the next year, restaurants will add 1.7 million new positions (NRA, 2014).

According to the Travel and Tourism Research Association’s Marketing Outlook Forum, Restaurant-Industry Outlook, restaurant-industry sales were forecasted to reach $783 billion in 2016, an increase of 5% compared to 2015. When adjusted for inflation, restaurant-industry sales were expected to advance 2.1% in 2016. The restaurant industry’s share of the food dollar in 1955 was 25%. In comparison, by October 2016, restaurant sales were at 47% of the food dollar.

According to the U.S. Census Bureau, baby boomers (persons born between 1946 and 1964) constitute a greater percentage of the population than any other age group (Oatman, 2014). Because the individuals in this age group are now between 52 and 70 years old, they are at a time in their lives when disposable income is likely at its highest. According to the U.S. Census Bureau, 35% of the total baby boomer population...
have a total household income of $100,000 or more and also control 70% of all disposable income. This group typically spends more than any other demographic on dining away from home, hotel stays, transportation, entertainment, and other hospitality-related services. According to the Domestic Travel Market Report, published by the U.S. Travel Association, the highest travel volume in the United States (241 million trips) is from baby boomer households. According to the U.S. Census Bureau, 49% of baby boomers spent between $1,000 and $5,000 for their vacations in 2014.

According to the U.S. Bureau of Labor Statistics, in the past 70 years, female participation in labor-force activities increased considerably. Immediately after WWII, less than one-third of women were in the labor force. However, between the 1960s and the 1980s, women were entering the labor force at a rapid rate, reaching the peak with a rate of 60% in 1999. There has also been a significant increase in the number of women receiving a college degree as well as female’s earnings as a proportion of men’s earnings. Specifically, among women ages 25 to 64 in the labor force, the proportion with a college degree more than tripled from 1970 to 2014, increasing from 11.2% to 40%. In 1979, women’s earnings compared to men also increased considerably. Women working full time in 1979 earned 62% of what men earned; in 2014, women’s earnings were 83% of men’s earnings (U.S. Bureau of Labor Statistics, 2015).

This demographic shift also bodes well for the hospitality industry because increases in discretionary income positively impact discretionary spending. It is anticipated that the continued current and expected shift in demographics of the North American population, including the number of women working, two-income families, and aging of the baby boomers will continue to impact the demand for hospitality services positively.

Unprecedented growth is estimated in the industry in the next decade, with a resultant need for highly trained professionals. According to Smith Travel Research (STR), 2015 was a very strong year as indicated by the following results. For the second quarter of 2015, occupancy was up by 1.6% to 69.1%; the average daily rate (ADR) rose 4.8% to $120.60; and revenue per available room increased 6.5% to $83.37. STR indicated that in year-over-year results, U.S. occupancy reached record levels for the quarter as well as for the first half, reaching 65.2% for the first six months of 2015. For the first half of 2015, ADR growth (4.8%) was the highest since 2008. STR projected that 2016 would continue to increase by an estimated 5% in ADR, 5.8% revenue per available room growth, and 0.8% in occupancy (STR, 2015).

This growth requires synergy between the academic programs and hospitality industry needs. While only a handful of hospitality programs existed several decades ago, it is estimated that there are more than 300 professional hospitality undergraduate programs in the United States (ICHRIE, 2014). With this relatively new shift in industry, there is a greater demand on hospitality management programs to ensure that students are taught the required skill set and receive exposure to the experiential activities necessary to service the relatively new demand generators of the 21st century. It is imperative that the professional hospitality programs offer students a cutting-edge curriculum that is highly competitive in order to match the demands of industry.

Therefore, the goal of this research is to develop a curriculum for a four-year bachelor’s degree program in hospitality management that includes the core competencies suggested by industry practitioners and educators that mirrors the existing core curriculum content areas found in the five highly ranked bachelor degree programs in hospitality management. The purpose of this study is to identify and assess the hospitality management curriculum of highly ranked programs as well as to recommend core/specialization hospitality courses, internships, and experiential requirements/activities that can provide a model whereby educators can create hospitality programs of distinction.

**Competency Domains in the Literature**

As early as 1955, in the *Harvard Business Review* article, “Skills of an Effective Administrator,” Robert Katz discussed his method for selecting and developing administrators. His approach was not based on what good executives are (their innate traits and characteristics), but on what they do (the kinds of skills which they exhibit in carrying out their jobs effectively). A skill implies an ability that can be developed, not necessarily one that is inborn, and is manifested in performance, not merely in potential. According to Katz (1955), effective administration rests on three basic developable skills: technical, human, and conceptual skills with identifiable traits that are key to understanding administrative processes.

The theoretical framework guiding this study was based on the competency domain model initially developed by Katz (1955) and then enhanced by Sandwith (1993). This expanded model includes five areas, or domains, of managerial competency: conceptual-creative (cognitive skills needed for the job), leadership (ability to turn ideas into productive action), interpersonal (skills for effective interaction with others), administrative (personnel and financial management of the business), and technical (knowledge and skills essential to producing the product or service).

Research by Tas (1988) looked specifically at general manager trainee competencies from a hotel industry perspective.
The purpose of his study was to identify the most important competencies for hotel general manager trainees (Tas, 1988). Tas distributed a survey to 229 hotel managers listed in the American Hotel and Motel Association's 1982 *Hotel and Motel Red Book* as having 400 or more rooms. The survey consisted of 36 competencies that the general managers were asked to rate on a scale of 1 (unimportant) to 5 (essential) (Tas, 1988). Of the 229 general managers who were sent surveys, 75 responded. The respondents’ ratings were averaged for each competency. Those competencies with an average rating of 4.50 or higher were considered essential, competencies with an average rating from 3.50 to 4.49 were deemed considerably important, and competencies with an average rating from 2.50 to 3.49 were considered moderately important (Tas, 1988).

Six competencies were determined as essential for hotel general manager trainees, including managing guest problems, professional and ethical standards, professional appearance and poise, effective oral and written communication skills, positive customer relations, and positive working relationships. The 18 competencies that were deemed to be of considerable importance included the management process of planning, organizing, leading, and controlling. The remainder were connected with financial management, law, food sanitation and safety, room reservations, and maintenance of guest room standards.

Drawing on Tas’s (1988) research, Okeiyi, Finley, and Postel (1994) conducted a study that involved practitioners, educators, and students to determine importance ratings for food and beverage competency statements. The surveys were sent to randomly selected human resource directors and managers of 40 food-service operations in 11 cities across the United States. To target educators and students, they sent questionnaires to 200 U.S. colleges and universities that offer four-year baccalaureate degrees in hospitality management. There were 200 questionnaires mailed to educators at 10 institutions to survey students who were enrolled in food and beverage management programs. A 5-point scale ranging from 1 (not important) to 5 (very important) was used for all three surveys. Drawing from the competency statements in Tas’s (1988) survey, the researchers asked respondents to rate 35 competency statements regarding the level of importance for entry-level managers of food and beverage operations. The results indicated that there was strong agreement between industry practitioners, hospitality educators, and students on the importance of most competencies expected for hospitality graduates entering the workforce. All three groups agreed that human relations and managerial skills were most important, whereas technical skills such as alcoholic beverage preparation, sales control, banquet management, menu merchandising, menu design, and table-side cooking were less important (Okeiyi, Finley, & Postel, 1994).

Of the 10 competency statements determined by Okeiyi et al. (1994), industry practitioner responses indicated that the five highest-rated competency statements (average rating of 4.40 to 4.50) were human relations, customer relations, motivation principles, leadership skills, and team building. According to Sandwith’s domain, the skills identified that fall under the leadership and interpersonal domain categories are as follows: positive customer relations (leadership), motivation principles (leadership), and human relations (interpersonal). The common thread between the three studies (Okeiyi et al., 1994; Sandwith, 1993; Tas, 1988) is that the highest mean scores were under the interpersonal and leadership competencies.

It is interesting to note that there was a strong agreement among industry practitioners, hospitality educators, and students regarding the importance of most of the competencies expected for hospitality graduates entering the workforce. Specifically, the area perceived as most important was human relations, followed by leadership, customer relations, professional conduct, and communication. The only variance occurred in relation to food and beverage technical skills. The skills in this area that were rated low by industry practitioners and high by educators and students included food and beverage technical skills (Okeiyi et al., 1994). A common thread identified in the review of the competency studies completed in the last three decades is the strong agreement between industry practitioners and hospitality educators that the most important competencies expected of hospitality students are in the areas of interpersonal and human relation skills as well as leadership.

In the next section, an assessment of the curricula from the five highly ranked hospitality management programs in the United States is presented. The curriculum assessment reviewed the following three areas: the processes and criteria applied for selecting the highly ranked hospitality programs, identification of the management courses embedded within the curriculum of each program, and the rationale for the placement of the courses within the theoretical framework.

**Curriculum Assessment Methodology**

Identifying the five highly ranked bachelor degree hospitality management programs required a two-step process. Initially, the researcher worked with a consulting team to identify exceptional programs in the hospitality management industry. The consulting team consisted of two deans of hospitality management programs with 30 years of experience and 10 faculty members with an average of 20 years of experience in the hospitality industry. Using this method, 10 bachelor degree programs in hospitality management were identified as “highly ranked” programs. Once identified, the researcher and consulting team
assessed each program based on a comparison of college-ranking criteria, which included reputation/peer assessments, graduation placement, retention rates, and faculty resources. Based on the criteria used in this study, five of the 10 recommended programs were eliminated.

To aid in the selection of the top programs in the United States, a literature search was conducted to find peer-reviewed journals that rank colleges, but none were found that rank colleges for hospitality management and/or culinary arts degree programs. It was discovered, however, that Best Colleges - The U.S. News & World Report (USNWR), though not a peer-reviewed publication, has published college rankings since 1983. Researchers noted that prestigious peer-reviewed journals, including the American Journal of Education and Interprofessional Education Collaborative (IPEC) have employed and critiqued the criteria used in this ranking system. These reviews have impacted student behavior and the organizational field of higher education. Bastedo and Bowman (2010) found that published college rankings have a significant impact on future peer assessments, independent of changes in organizational quality and performance, and even of prior peer assessments of reputation. Their study confirmed empirically how USNWR rankings influence the organizational field of higher education (Bastedo & Bowman, 2010).

Supporting this, another study conducted by Griffith and Rask (2004) found that school choice is responsive to changes in institutional rank. It was also noted that college administrators pay attention to USNWR rankings because they have been found to be an important factor impacting the perception of higher education providers as well as student and community responses to these institutions. Results from the Griffith and Rask study indicated that there is a benefit to a positive change in a school’s USNWR rank. While the components and methodology behind the USNWR rankings have changed throughout the years, the rankings have existed since the 1980s. The USNWR is a weighted combination of seven main groups of measures; however, the reputation component of the rank is still one of the most important (Griffith & Rask, 2004). These findings support the use of college rankings as a method of identifying the highly ranked institutions and programs of higher education.

Because peer-reviewed journals that rank colleges for hospitality management and/or culinary arts degree programs do not exist, the consulting team assessed the Griffith and Rask as well as the USNWR criteria and determined that for the purposes of this study only four out of the seven measurement groups were appropriate. These measures included: reputation/peer assessments, graduation placement, retention rates, and faculty resources. The supporting rationale for selecting these measurement groups is discussed next.

**Reputation/peer assessments.** Hospitality management is a newly emerging field, and curriculum is currently in the embryonic stages; therefore, peer assessments and academic reputations play a pivotal role in the selection process. A consulting team aided the researcher in identifying the leading hospitality management programs in the United States.

**Graduation placement.** If hospitality/food-service/restaurant industry professionals hire, train, and retain college graduates, they do so based on the reputation of the institution, familiarity with the qualifications of graduates, and perhaps due to a professional connection with the institution, such as serving as a member on the advisory board and/or participating in internship/externship programs.

**Retention rates.** One of the key indicators of the success of a bachelor’s degree program is its retention rate. All of the highly ranked hospitality management programs had retention rates of at least 90%.

**Faculty resources.** The percentage of faculty with advanced degrees and who are full-time may be indicative of the level of commitment that an institution has to its faculty and students (Griffith & Rask, 2007).

Based on the criteria used in this study, five of the 10 recommended programs were eliminated due to lower retention and/or graduation placement scores.

The second part of the curriculum assessment identified the management core curricula at the five highly ranked programs in hospitality management. The researcher then analyzed the course objectives and learning outcomes and determined the appropriate placement of each course within the theoretical framework competency domain (administrative, leadership, conceptual, interpersonal, technical).

**Research Methodology**

This study employed a qualitative analysis using telephone interviews and reviews of documents as the data collection processes. According to Creswell (2003), the advantages of researcher interviews by phone is that participants can provide historical information, and it allows the researcher to “control” the line of questioning. An advantage of the qualitative researcher collecting documents is that written evidence saves the time and expense of transcription (Creswell, 2003). The data-collection process included reviewing the course descriptions within the course catalogs and on the websites of the five highest-ranked schools to identify course objectives and/or learning outcomes for each of the core curricula management classes in the top programs. After reviewing the information, the researcher contacted...
the deans of each institution by telephone to further clarify questions and obtain additional information, as needed.

The final step in this process was to determine whether the schools had embedded the courses deemed essential by industry practitioners and educators within their curricula. The process to connect competencies deemed essential to the courses included: reviewing the course descriptions within the course catalogs and on the schools’ websites to identify course objectives and/or learning outcomes for each of the programs. Once the course objectives and learning outcomes were assessed, the researcher analyzed the commonalities and differences in the learning outcomes contained within the course descriptions for each program. Next, the researcher developed a course description for each core hospitality management class that encompassed the spectrum of detail reflecting the course objectives for each program.

**Proposed Curriculum Model**

To illustrate the process applied and the rationale employed for connecting the course descriptions to the conceptual domains, this section includes three areas. First, is a summary of each competency domain from Sandwith’s theoretical framework to support the rationale for placement of the course description to the competency domain. Next, are the course descriptions for each management course followed by the competency domain connected to each course description. Finally, this section contains the recommended types of courses within each competency domain found at highly ranked hospitality management programs. Table 1 provides a description of each competency domain as outlined by Tas, LaBrecque, and Clayton (1996).

The conceptual domain is defined as the cognitive skills needed for the job and includes items such as assisting in the development and execution of business and marketing plans as well as supporting operational and strategic planning and budgeting activities.

Based on the analysis, the following course descriptions were developed. The recommended curriculum for a four-year bachelor’s degree program in hospitality management, which includes the core competencies suggested by industry practitioners and educators that mirrors the existing core curriculum content areas in the five highly ranked programs, is detailed in Table 2.

**Strategic Management/Senior Capstone/Simulation.** The focus of this course is on the integration of previous coursework including accounting, marketing, finance, and the relationship with industry as well as the competitive environment. Students are supported in their creation of analytical tools so that they develop critical-thinking and decision-making processes for a deeper understanding of how to analyze the industry, the competitive environment, and engage in operational and strategic planning and thereby develop solutions. Simulation is a senior-level capstone course that presents computer-based simulation and applications programs into management theory so that students may engage in operational and strategic planning and then recommend solutions to complex business problems. Students

---

### Table 1: Sandwith's Competency Domain Model

<table>
<thead>
<tr>
<th>Domain</th>
<th>Domain Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conceptual-creative</td>
<td>Cognitive skills needed for the job</td>
</tr>
<tr>
<td>Leadership</td>
<td>Ability to turn ideas into productive action</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>Skills for effective interaction with others</td>
</tr>
<tr>
<td>Administrative</td>
<td>Personnel and financial management of the business</td>
</tr>
<tr>
<td>Technical</td>
<td>Knowledge and skills essential to producing the product or service</td>
</tr>
</tbody>
</table>

### Table 2: Recommended Hospitality Management Bachelor’s Degree Core Curriculum

<table>
<thead>
<tr>
<th>Conceptual</th>
<th>Leadership</th>
<th>Interpersonal</th>
<th>Administrative</th>
<th>Technical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Management (Capstone)</td>
<td>Introduction to Hospitality Management</td>
<td>Legal/Law in the Hospitality Industry</td>
<td>Financial Accounting or Accounting I</td>
<td>Internship</td>
</tr>
<tr>
<td>Food and Beverage Management</td>
<td>Lodging Operations and Revenue Management</td>
<td>Management Communication</td>
<td>Managerial Accounting or Accounting II</td>
<td>Food Production</td>
</tr>
<tr>
<td>Hospitality Sales and Marketing</td>
<td>Human Resources Management</td>
<td>Organizational Behavior and Interpersonal Skills</td>
<td>Hospitality Financial Management</td>
<td>International Seminar</td>
</tr>
<tr>
<td>Introduction to Travel and Tourism</td>
<td>Leadership, Diversity, and Ethics</td>
<td>Hospitality Management Information Systems</td>
<td>Statistics for Hospitality</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Facilities Management</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

asq.org/edu
work in teams and operate a hotel while making decisions in
real time and analyzing results from marketing and operational
reports. Students develop a strategic three-year business plan
through analysis of the competitive environment over a simul-
tated period of three years.

**Food and Beverage Management.** Students are exposed to a
variety of food and beverage concepts including menu creation,
cost control, and how to develop and standardize recipes, as well
as planning and forecasting. The final project integrates the skill
sets acquired throughout the semester into developing a business
plan for a restaurant or food-service concept.

**Hospitability Sales and Marketing/Hospitality Strategic
Marketing.** This course explores basic marketing principles of
service marketing and its application to the hospitality industry,
including the analysis and interpretation of demographics and
market trends, marketing mix, pricing, product/service mix, posi-
tioning, branding, distribution, and market segmentation. The
course culminates with the creation of a modified marketing plan.

**Introduction to Travel and Tourism.** The emphasis of this
course is on the role of tourism in the global economy and the
social and environmental dimensions of tourism. Special topics
pertaining to tourism including tourism-distribution processes,
tourism organizations, domestic versus international tourism,
modes of transportation, ecotourism, and sustainable tourism
development are explored. Corporate travel management, meet-
ings, and incentive travel are also discussed.

**Leadership Competency Domain**

The leadership domain is defined as the ability to turn ideas
into productive action and includes items such as developing
positive employee relations, understanding the leadership role,
and creating a vision with team members.

**Introduction to Hospitality Management.** In the first half of
the semester, students engage in a variety of professional activities
in preparation for their internships. These activities include writing
resumes and cover letters; identifying professional areas of interest;
networking and interviewing skills; and practicing conflict resolu-
tion, stress reduction, and time management skills. In the second
half of the semester, students are introduced to management theo-
rists, concepts, and management principles as they relate to the
hospitality industry. Students gain a deeper understanding of the
role of operating departments and how activities are coordinated
between departments to achieve operating efficiency. Students
also are introduced to other segments/careers in the hospitality
industry, including food service, event management, recreation,
and sports management, as well as travel and tourism.

**Lodging Operations and Revenue Management.** The
lodging operations portion of the course is designed to introduce
students to the operational mechanics of how the front office and
housekeeping departments within the hotel operate. Emphasis
is placed on reservation processing, revenue management, night
audit, and housekeeping through a computerized property-
management system.

Strategies and techniques of revenue management as they
relate to the hospitality industry are discussed. Students examine
various concepts including forecasting, overbooking, room-rate
pricing, and past, present, and future demand as it relates to accu-
rate forecasting for rate maximization. Students partake in weekly
computer lab sessions focusing on hotel analytics utilizing STR
data to assess and analyze a hotel’s competitive market position
including: ADR, occupancy, and market segmentation analysis
and projections; and estimate the impact of future demand and
supply. At the conclusion of the course, students are required to
take an industry certification exam.

**Human Resources Management.** Human Resources
Management provides students with a framework for develop-
ing positive employee relations and understanding the leader’s
role within the company culture. This course incorporates legal
and operational considerations in recruiting, selecting, hiring,
training, compensating, developing, motivating, coaching and
counseling, disciplining, retaining employees, and terminating
employees. The course presents the policies and procedures that
impact the Human Resources function, including legislation,
compliance, economics, and demographics.

**Leadership, Diversity, and Ethics.** Students explore leader-
ship, diversity, and ethics in addition to the moral implication
of decision making and the subsequent impact on staff morale
and team spirit. Students examine the role of the leader, discuss
various leadership styles, and develop their own leadership style
in addition to exploring the many ethical and moral challenges
facing leaders. The basic principles of ethics are discussed as are
the leader’s moral obligations, including the difference between
right and wrong, with a focus on the importance of developing
an ethical mindset when managing a multicultural workforce.

**Facilities Management.** The role of the hospitality manager
in maintaining a facility and its building systems is introduced
with special emphasis placed on fire safety, preventative main-
tenance, energy conservation, and renovation projects. The
manager’s role regarding health and safety, asset protection,
engineering utility systems, conservation systems, and “green”
initiatives are the key components discussed in this course.

**Interpersonal Competency Domain**

The interpersonal domain is defined as possessing the skills
needed for effective interaction with others and includes items
such as the ability to communicate effectively, manage guest
problems, and demonstrate professionalism and employ ethical standards in the work environment.

**Legal/Law in the Hospitality Industry.** Legal/law in the hospitality industry introduces the student to the laws, rules, and regulations pertaining to the lodging and food-service industry. The course focuses on risk management and asset protection. It introduces the student to potential liability due to negligence arising from the innkeeper-guest relationship in addition to liability from the sale of food and alcoholic beverages.

**Management Communication.** Students taking this course learn a framework for understanding the importance of effective communication skills. With these skills they can demonstrate positive employee and customer relations to manage employee and guest problems effectively in a professional manner while applying ethical standards in a diverse work environment. Students are given the skill set to practice appropriate business etiquette electronically, in writing, and in oral presentations.

**Organizational Behavior and Interpersonal Skills.** This course explores how to manage people in a professional and ethical manner in the workplace. Students also gain knowledge in the practical tools for managing conflict, problem solving, team building, leading, coaching and counseling, motivating, and accomplishing personal and organizational goals. The course also explores those factors that influence decision making in groups and the impact of psychological and sociological theories on human behavior.

The skills needed to communicate effectively in small and large groups, both written and orally, are examined. Students develop human-relation skills so that they can demonstrate professionalism in the workplace, apply ethical standards, and interact with employees and guests with understanding and sensitivity.

**Hospitality Management Information Systems.** This course enables students to study the current computer software applications used in hospitality organizations, including information technology specific to hospitality accounting, finance, property management, and marketing.

**Administrative Competency Domain**

The administrative domain is defined as the personnel and financial management of the business and includes items such as the ability to understand the human resource function, analyze financial and statistical reports for decision-making purposes, and the ability to balance the administrative functions with operational requirements.

**Financial Accounting/Accounting I.** This course presents basic accounting principles, including an introduction to transaction analysis, the balance sheet, income statement, and cash-flow analysis. Students also are introduced to accounting methods for receivables, inventories, capital stock, and financial ratios.

**Managerial Accounting/Accounting II.** Students analyze financial statements, assess operational performance, prepare financial statements and budgets, and gain a deeper working knowledge of how to use accounting information for management decision making.

**Hospitality Financial Management.** In this class, students explore the application of quantitative tools for sound financial investment decision making and focus on owners of hospitality assets and equity investors. Specifically, the students’ understanding of the strategic role of real estate in the hospitality industry is developed. Topics range from the fundamentals of hotel and restaurant financing, valuation of assets, and hotel and restaurant financing to an overview of management contracts and franchise agreements in the hospitality industry.

**Statistics for Hospitality.** This is an introductory statistics course geared for students in the hospitality industry. Excel is used as the statistical software, and topics include basic statistics, such as data collection, hypothesis testing, problem solving, simple and linear regression, and probability.

**Hospitality and Tourism Research Methods.** This course provides an introduction to the principles and methods of researching, assessing, and critiquing scholarly research and analyzing data specific to the hospitality industry. Quantitative and qualitative research studies are discussed and students are required to design a comprehensive research proposal.

**Technical Competency Domain**

The technical competency domain is defined as having the knowledge and skills essential to producing the product or service. This domain covers items such as possessing the technical skill set in all kitchen areas including a basic knowledge of equipment functioning and maintenance as well as practicing effective menu management.

**Internship.** The internship experience(s) are designed to give students practical training and experience in hotels, restaurants, and/or any area in the hospitality industry that the student may consider for a long-term career. Students have the option to remain with one employer or experience different aspects of the industry as they explore various opportunities. In the final internship, students should be in a position that is an area of interest as they prepare to transition from academia to a full-time career.

**Food Production.** The main focus of this course is basic food production and preparation skills required in menu design, kitchen sanitation, and safety. Students create and cost menus, standardize and prepare recipes, and acquire the ability to recognize properly prepared foods by preparing, tasting, and evaluating them. As a final project, students utilize the skill sets acquired from the course and prepare an internal banquet for 150 guests.
International Seminar. An integrated program of learning is conducted in foreign environments for hospitality management majors. Students travel to a European destination and spend approximately 10 days studying the culture as it pertains to hospitality and tourism development, human resources, sales and marketing, food and beverage, and service. Students travel by bus to historical hospitality destinations, meet with key tourism professionals in the country, and spend evening time to reflect on the learning initiatives presented by faculty.

Recommendations

It is recommended that bachelor-degree-level hospitality management programs use the courses and experiential requirements identified at highly ranked hospitality management programs as a model to improve their ranking. Utilizing the results of this study as a foundation for improving current courses and designing new curricula will ensure that students are exposed to courses, competencies, and experiences that have a proven track record for impacting ranking scores in the higher education arena.

It is recommended that all schools consider instituting an advisory board comprised of members from industry, alumni, and influential hospitality professionals to stay abreast of industry’s changing needs. Board members can also confirm that the curriculum is updated such that graduates have exposure to the competencies and knowledge base to ensure their success in the industry. It is the familiarity with what employers require of graduates and the connection to skills needed in the workplace that will play a pivotal role for institutional researchers and academia in the foreseeable future (Paulson, 2001). Faculty should solicit industry input to build a solid curriculum that connects industry and educator needs to ensure that entry-level managers are industry-ready with the skill set and knowledge base for a leadership position in the hospitality industry.

The hospitality management programs with the highest ranking also required students to complete the greatest number of internship hours. The hands-on practical training requirement ranges from 800 to 1,200 hours at the highest-ranked schools and is an integral component of these hospitality management programs. To achieve success in this industry, it is imperative that students can graciously and professionally serve both internal and external customers. For this reason, it is vital that students receive this exposure throughout their academic career to ensure that they have the innate and acquired skill set to serve customers.

Although many of the hospitality programs offer students an opportunity to study abroad, a limited number of the hospitality management programs have a required international seminar. A mandatory requirement, to be completed in the student’s senior year, is to travel to a hospitality destination, with their peers, for approximately 7 to 10 days. Integrating a curriculum that incorporates competencies deemed essential by hospitality educators and practitioners and mirrors competencies and courses at highly ranked programs, combined with meaningful experiential experiences, will positively impact the ranking of a hospitality management program.

Conclusion

Given the rapid growth in the demand for hospitality services, preparing top professionals to meet growing demands will require succinct synergy between academic programs and the hospitality industry. Modeling core hospitality management courses, specializations, competency-based curriculum, internship requirements, study abroad opportunities, and other curricula requirements found in highly ranked hospitality management programs in the United States will enable educators to provide students with the needed competencies to achieve success in entry-level managerial positions in this industry.

Because the focal point of this study was to identify specific curricula requirements at the top programs, it provides a working tool for hospitality directors, deans, and educators in post-secondary education. Further, by understanding practitioners’ perceptions of the hierarchy of competency levels, educators can appropriately prepare students with the required knowledge and training needed to match education with the professional needs of the industry. Therefore, the results of this study can be used to develop or redesign hospitality management curriculum. Concurrently, by designing a model of the curricula requirements of the highly ranked programs, more hospitality programs can use these findings to achieve a level of distinction and academic rigor unsurpassed in the industry.

Based on the findings of this curriculum assessment, there are several recommendations for future research. An in-depth assessment that involves a survey of students upon completion of the coursework may indicate whether the competencies/learning outcomes were actually embedded within the hospitality management programs at the five highly ranked bachelor degree programs in hospitality management. Concurrently, conducting a study that contains a detailed analysis of the syllabi and course objectives supplemented by interviews with the faculty would further shed light on whether the pedagogical and evaluative processes used for each course resulted in the learning outcomes detailed in the course syllabi.

References:


Iris W. Gersh, Ed.D. is the director of the satellite campus of the International School of Hospitality and Tourism Management at Fairleigh Dickinson University in New Jersey. Prior to joining the university in 2001, Gersh spent 20 years in the hospitality industry in management/consulting capacities in the areas of quality assurance, property operations, multiproperty operations, asset management, and consulting. She has earned Marriott Quality Assurance Certification, National Food Protection Certification, and Fire Safety Director Certification. She received several awards from the Marriott Corporation, including Manager of the Quarter, Region of the Year, and is a four-time winner of the Bill Tiefell Award for exemplary customer service. Contact Gersh at gersh@fdu.edu.
Addressing the Supplier to Consumer Disconnect in MBA Curriculum

Cassandra C. Elrod, Sarah M. Stanley, Elizabeth A. Cudney, and Cui Zou

Abstract

The area of supply chain management includes all organizational aspects from raw materials to the end user. Throughout the years, quality management has emerged as an integral part of supply chain management. Quality management ultimately impacts the supply chain from several angles and affects the overall function of the supply chain by reducing costs, as well as by improving the product or service produced so that marketing efforts can be more successful. In general terms, when the marketing effort is successful in promoting a quality product, this has a positive impact on consumer behavior. Oftentimes a satisfied consumer is a repeat consumer. This complex relationship is typically covered in several courses of an MBA program, yet not always in an interconnected fashion.

To better prepare students for careers in supply chain management, this study focuses on professionals who are working in industrial organizations within the supply chain to explore their understanding and insights regarding quality management topics. Questions that centered on familiarity with quality management tools, their organizations’ quality assurance programs, as well as suppliers’ quality measures were explored. Perceptions of how quality is defined by consumers and industry professionals were also investigated to examine similarities and differences in definition. Further, the research employed text mining tools to analyze consumer and industry professionals’ perceptions toward quality and offered a panoramic view from supplier to consumer. Overall, the findings show that quality management tools and assurance programs are progressing; however, quality management professionals who participated in this study were unaware of suppliers’ quality procedures and the implementation of many useful quality tools that may improve the overall supply chain. These findings were utilized to provide recommendations for topics in MBA courses related to supply chain management to better prepare students to meet industry and consumer expectations.

Keywords

Quality Management, Supply Chain Management, Higher Education, MBA

Introduction

Currently, fewer and fewer businesses compete with each other in the way of brand versus brand or store versus store. Instead, individual businesses compete with each other as supply chains rather than as solely independent entities (Lambert and Cooper, 2000). A supply chain is an integrated process in which different business entities, such as suppliers, manufacturers, wholesalers, and merchants, collaborate with each other to purchase raw materials, convert the raw materials into final products, and distribute the final products to stores while focusing on quality (Beamon, 1998; Cudney and Elrod, 2011).

Supply chain management (SCM) is the management of various relationships along the supply chain. SCM strives for excellence throughout all business processes and signifies a novel method to manage and integrate the different entities and their relationships of the supply chain (Lambert and Cooper, 2000). As it is an integral part of most organizations, SCM is also a key focus area in many educational programs, and MBA programs are no exception. As a supplier, business schools seek out quality recognition through external
certification, such as the Association to Advance Collegiate Schools of Business (AACSB) accreditation, which requires documentation of continuous improvement. As educators, however, MBA programs prepare students for a variety of careers including those in quality management and SCM. To prepare students for these careers, this research sought to better understand the differences in how quality is perceived and defined by consumers as well as professionals, in the field of quality.

Tan (2001) summarized three different types of SCM definitions: original, narrow, and broad. The original definition of SCM focuses on the efficient physical distribution of final products from the producers to the customers, aiming at using information to cut inventories (Christopher, Magrill, & Wills, 1998). The narrow definition of SCM is the integration of the different functional parts inside an organization to make the goods flow smoothly and effectively from immediate strategic suppliers to the end users via manufacturing and distribution chains (Houlihan, 1987; 1988). Research in this area normally emphasizes taking advantage of the immediate supplier’s capability and technology to enhance the quality, efficiency, and competitive advantage of companies, particularly during the product design phase by involving suppliers’ input (Tan, 2001). While the narrow definition of SCM only studies strategically important suppliers in the value chain, the broader definition addresses the entire supply process through the value chain (Tan, 2001). When all strategic organizations “integrate” with each other and act as a single unified unit in the value chain, performance can be boosted throughout the supply chain (Tan, 2001). From an academic standpoint, the definitions are often clear to students; however, the students rarely have direct access to experience the different types of SCM practices.

Further, these definitions of SCM are evolving to indicate the complexity of these integrated systems, which also reflects the impact of quality in SCM. Jones and Riley (1985) refer to SCM as “an integrative approach to dealing with the planning and control of the materials flow from suppliers to end-users.” Tan, Handfield, and Krause (1998) define SCM as “materials/supply management from the supply of basic raw materials to final product (and possible recycling and re-use).” SCM focuses on how firms utilize their suppliers’ processes, technology, and capability to enhance competitive advantage. It is a management philosophy that extends traditional intra-enterprise activities by bringing trading partners together with the common goal of optimization and efficiency.” Fawcett, Ellram, & Ogden (2014) propose “a Supply Chain Roadmap process model is introduced as a guiding framework for designing and implementing integrated supply chains to enable managers to participate in the vision and implementation of world-class supply chain networks.” By achieving an integrated supply chain, firms can gain superior organizational performance by utilizing the resources and knowledge of their suppliers and customers (Rai, Patnayakuni, & Seth, 2006; Schnetzler and Schönsleben, 2007; Tippins and Sohi, 2003). Therefore, it is necessary for students to also understand how strategic planning and operations management impact SCM, which further adds to the complexity of teaching SCM concepts.

Overall, the supply chain involves managing a product or service delivery from raw materials to the end user, or customer. Many factors impact this chain including, but not limited to suppliers, logistics, processes, consumers, and technology. Quality management has, and continues to be, a critical part of consumer loyalty and impacts purchasing decisions. Therefore, this research intended to discover the use of quality tools in industry as well as compare and contrast the perceptions of the definition of quality between industry and consumers. To adequately do this, it is necessary to take a broader view of SCM and look at the various aspects of the consumer in the supply chain to determine the relevant concepts necessary for an education in SCM in order to prepare MBA students to meet industry needs.

Quality and Supply Chain Overview

To illustrate the impact of quality in the supply chain, it is useful to first discuss the evolution of quality management to understand its history. Quality management has experienced different phases such as quality inspection, quality control, quality assurance, and total quality management (TQM) (Garvin, 1988).

Quality inspection existed as early as in ancient China, Greece, and Egypt. During the Middle Ages craftsmen had complete control over the quality process and were proud to provide high quality products (Juran, 1995; Feigenbaum, 1983). However, when the industrial revolution started, mass production became dominant in many organizations. World War I further drove mass production and required even higher quality and on-time delivery. To achieve those goals, not only were the finished goods inspected carefully, but also the raw materials and goods in the process were sampled (Juran, 1995). With the widening focus on quality, people realized that it was much more efficient to find and eliminate the root causes of errors than to simply inspect for defects and correct them. Accordingly, the need for control quality emerged (Yong and Wilkinson, 2002). Thus, Shewhart (1931) developed the process control chart, which marked the beginning of statistical quality control (SQC). Another key element of SQC was Dodge and Romig’s sampling technique, which avoided time-consuming 100% inspection (Yong and Wilkinson, 2002). However, these mathematical and statistical tools were not widely used until
the beginning of World War II. During the quality control era, management was not as actively involved in the implementation of sampling techniques as were the shop-floor workers and engineers (Yong and Wilkinson, 2002).

Quality management was initially based on detection and fire-fighting activities, while the quality assurance (QA) era focused on preventing defects. Consumers joined in auditing and assessing suppliers’ quality without consensus standards. In an effort to make QA more efficient, British Standard – BS 5750 was introduced and adopted by British industries in 1979, which served as “a structure of QA bodies with mutual acceptance of approvals to avoid multiple assessments” (Warner, 1977). Later, the International Organization for Standardization (ISO) initiated ISO 9000, which replaced BS 5750 and became the new standard for industry.

Apart from standards, quality costs also drew attention from organizations. Before the 1950s, in general, people believed that it must cost more to improve quality. However, Juran challenged this point by dividing quality costs into unavoidable and avoidable costs (Juran, 1951). Feigenbaum advanced Juran’s cost of quality (COQ) concept by developing total quality control (TQC), which addresses the importance of cooperation among all divisions and control throughout every step (Feigenbaum, 1983).

During the QA era, reliability engineering and the principal of zero defects were also developed and adopted widely in the United States. While reliability engineering focused on adapting the laws of probability to predict equipment stress (Garvin, 1987), the zero-defects philosophy centered on changing the organizational culture with respect to quality (Garvin, 1988). The QA era recognized quality prevention as more important than pure inspection and control. Both quality management tools and cross functional teamwork were needed to identify and eliminate root causes of failures and defects (Dale, 1999).

TQM was originally developed in United States; however, it gained wide and successful application in Japanese manufacturing industries. Considered as the secret to Japanese business success, TQM was subsequently adopted in the West (Pollitt and Bouckaert, 1995), where it permeated the U.S. manufacturing industry, then commercial service areas, and finally public services (Dahlgaard-Park, 2011).

Quality management has evolved into new topics of research such as lean and sustainable production (Cudney and Elrod, 2010). This research looks at how quality is perceived by individuals in industry who deal with quality on a daily basis. It was designed to better understand where industry practice is with regard to quality in SCM. By understanding the current practices, academia can tailor educational programs to meet industry needs.

Marketing, Consumer Behavior, and Supply Chain

Marketing and SCM have been linked in a variety of ways for decades. In higher education, the two departments are often housed together. For example, Rutgers University, a leading business school, hosts the department of Supply Chain Management and Marketing Science. In practice, there are also many areas of overlap between SCM and marketing. Previous research suggests that different perspectives help to illustrate these overlaps, such as inter-functional integration, process integration, and business concepts (Jüttner, Martin, & Godsell, 2010).

One perspective used to quantify the overlap between marketing and SCM is the inter-functional perspective (Jüttner, Martin, & Godsell, 2010). Much like the combining of academic departments in business schools to achieve efficiency, it has been shown that the coordination of marketing and supply chain departments in traditional businesses often result in improved customer-service-related performance (Ellinger, Daugherty, & Keller, 2000). This perceived relationship between marketing and manufacturing goes back to the late 1970s when Shapiro wrote an essay discussing the benefits of managing the integration in these two areas to resolve the conflict that often arose from turf wars (Shapiro, 1977).

The process integration perspective examines the intercept of marketing and supply chain as it relates to the consumer perspective. In this way, individual business processes that cannot be wholly qualified as supply chain or marketing may exist in the overlap. For instance, an overlap may occur where marketing specifications, customer service, and quality expectations are directly impacted by supply chain issues such as manufacturing, operations management, and logistics. This perspective examines the value chain, the role of SCM, and its impact on consumer value (Jüttner, Martin, & Godsell, 2010; Bagchi and Skjoett-Larsen, 2005; Singh, Sohani, & Marmat, 2013).

The last perspective analyzing the overlap between supply chain and marketing is the direct analysis of new business concepts that seem to have sprung up as a way to integrate the two functional areas more effectively (Jüttner, Martin, & Godsell, 2010; Jüttner, Godsell, & Christopher, 2006). New business models such as quick response (Christopher, 2000; Mo, 2015), agile SCM (Yusuf, Sarhadi, & Gunasekaran, 1999; Routroy and Shankar, 2015), and demand chain management (Santos and D’Antone, 2014; Park, Shintaku, & Hong, 2015) have improved company efficiency and the ability to respond to market demands. In any case, many of these perspectives hinge on the idea of quality and how it relates to both marketing and SCM.
Additionally, marketers have historically realized the impact of quality on their business model. Working to improve quality is essential in marketing prestige products and is often used as a differentiation tool, but can also be appropriate for firms striving to be the low-cost leader (Phillips, Chang, & Buzzell, 1983; Cannon and Homburg, 2001). Therefore, in almost all business models, attention to quality management is important. Interestingly, however, most marketing literature measures perceived quality, which is “defined as the consumer’s judgment about a product’s overall excellence or superiority” (Tsiontsou, 2006). Thus, it is not the same as objective quality that can be measured or controlled by quality tools. Further, while tangible changes can impact quality, research suggests that making distinct changes in objective product quality would not directly impact consumers’ perceived quality for up to six years (Mitra and Gold, 2006). This can be attributed to the notion that perceived quality is similar to an attitude in the way it is formed (Gotlieb, Grewal, & Brown, 1994) and has a multitude of predictor variables in addition to objective quality such as price, image, brand name, and advertising (Jacoby, Olson, & Haddock, 1971; Kirmani and Zeithaml, 1993).

Marketers do know, however, that perceived quality is critical to business success as well, which is why the topic is typically discussed tangentially throughout marketing courses. Quality has been shown to impact stock price (Aaker and Jacobson, 1994), purchase intentions (Carman, 1990; Boulding, Kalra, Staelin, & Zeithaml, 1993), value, and risk (Sweeney, Soutar, & Johnson, 1999). In addition to product quality, service quality in marketing has been extensively studied and linked to satisfaction, value, and intent to purchase (Taylor and Baker, 1994; Cronin, Brady, & Hult, 2000). Moreover, service quality has been associated with other positive consumer behavior such as referrals, word-of-mouth marketing, and willingness to pay a price premium for quality service, increased expenditures, and increased loyalty behaviors (Zeithaml, Berry, & Parasuraman, 1996).

Research Methodology

In order to gain an understanding of the current status of quality applications in SCM, a survey was created to collect data relevant to quality techniques/practices implemented in organizations and the success rates for organizations in industry that practice quality techniques. The survey was also employed to provide insight and possible relationships in the suppliers’ role in quality in the supply chain. Industrial professionals’ perceptions of the definition of quality were also gathered. The combination of this information enables educators to determine the needs for MBA graduates seeking careers in SCM.

The survey was distributed through LinkedIn and Mechanical Turk using Qualtrics to individuals working in the quality management area of industry. The survey was restricted such that individuals could complete the survey only once to prevent redundant responses. A second survey was also distributed through Mechanical Turk using Qualtrics to collect data regarding consumers’ perception of quality. This enabled the researchers to compare and contrast the benefits of using quality management in SCM, the knowledge of quality tools by industry professionals in their supply chain, and then look at the similarities and differences in the perceptions of quality from industry professionals and consumers in the marketplace at the end of the supply chain. Ultimately, this study aims to analyze the similarities and differences to improve MBA education so that students are mindful of these disconnects and can ultimately be more aware of the limitations currently faced by professionals in the supply chain field.

Industry Professional Focus

Responses were received from 65 industry professionals representing a wide range of industries. The majority of the responses came from the manufacturing sector (17%), followed by the computer hardware/software/internet industry (15%) and retail/wholesale (9%). Additional responses were received from the following industries: accounting, aerospace/aviation/automotive, agriculture, bio-tech, construction, consulting, education, engineering, entertainment/recreation, government, healthcare, manufacturing, media/publishing, pharmaceuticals, research, real estate, and professional services.

The respondents were asked to provide their individual functional work areas to ensure their familiarity with quality techniques in their industry. Operations/production was the majority response (18%), followed by engineering (14%). The remaining primary functional work areas included account management, administrative, clerical, design, consulting, customer support, education, executive management, finance, human resources, information technology, merchandising, purchasing, research and development, and sales. These functional areas are typically quite familiar with quality techniques throughout the supply chain. Respondents were also requested to supply their occupational title. Manager/assistant manager represented the majority of responses (27%), followed by staff (20%). Other titles of respondents included CEO/president, vice president, small business owner, administrative support, developer, supervisor, and educator.

In order to ensure a representative sample, the respondents were also asked to report their length of time working with quality techniques. Twenty-five percent of the respondent population...
spent one to two years working with quality techniques, and another 25% of the respondent population spent three to five years working with quality techniques. In addition, 17% of the respondents had six to 10 years and 13% spent more than 20 years working with quality techniques. The familiarity with quality techniques of the respondent population is therefore established, and the remaining questions can be used regarding the success and failure of quality techniques and how they impact the supply chain.

The respondents were asked to indicate what percentage of their organization’s business was outsourced. These results are shown in Table 1. The majority indicated that up to 25% of their business is outsourced. Table 2 indicates the percent of products/services that come from an organization’s supply base. It is a bit concerning that the largest number of respondents indicated that they did not know how much of their products come from a supplier outside of their organization. One possible explanation is the compartmentalization of a large company, meaning that employees may not have knowledge of the entire firm but only team- or segment-specific information related to quality. The next most common response was 26-50% of supply coming from a base outside of the organization, which is quite substantial.

In order to reduce cost throughout a supply chain that contains many cause-and-effect relationships, actions throughout the chain must be taken to reduce the total cost. Introducing quality techniques can aid this process by actions such as reducing the amount of defects in the production process or increasing consumer satisfaction when a higher quality product/service is produced. As shown in Table 3, the majority of the respondents (30%) questioned indicated that they were unaware if their suppliers use quality techniques. However, 23% of respondents indicated that 51-75% of their suppliers use quality techniques. When suppliers did use quality techniques, it was interesting to learn the benefits that organizations realized by using these suppliers. As shown in Figure 1, the largest benefit seen (27% of respondents) was “significant quality increase,” followed by “significant time saving benefits” (26%). Twenty-one percent of respondents indicated that their organization had seen “significant financial benefits.”

Table 1: Percentage of Business Outsourced by Organization

<table>
<thead>
<tr>
<th>Percentage of Organization’s Business Outsourced</th>
<th>Number of Respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>15</td>
<td>23%</td>
</tr>
<tr>
<td>1-25%</td>
<td>31</td>
<td>48%</td>
</tr>
<tr>
<td>26-50%</td>
<td>7</td>
<td>11%</td>
</tr>
<tr>
<td>51-75%</td>
<td>3</td>
<td>5%</td>
</tr>
<tr>
<td>76-100%</td>
<td>2</td>
<td>3%</td>
</tr>
<tr>
<td>I don’t know</td>
<td>6</td>
<td>9%</td>
</tr>
</tbody>
</table>

Table 2: Percent of Products/Services That Come From Organization’s Supply Base

<table>
<thead>
<tr>
<th>Percentage of Organization’s Products/Services That Come From Supply Base</th>
<th>Number of Respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>4</td>
<td>6%</td>
</tr>
<tr>
<td>1-25%</td>
<td>10</td>
<td>16%</td>
</tr>
<tr>
<td>26-50%</td>
<td>13</td>
<td>20%</td>
</tr>
<tr>
<td>51-75%</td>
<td>12</td>
<td>19%</td>
</tr>
<tr>
<td>76-100%</td>
<td>11</td>
<td>17%</td>
</tr>
<tr>
<td>I don’t know</td>
<td>14</td>
<td>22%</td>
</tr>
</tbody>
</table>

Table 3: Percent of Suppliers That Have Used Quality Techniques

<table>
<thead>
<tr>
<th>Percentage of Suppliers That Use Quality Techniques</th>
<th>Number of Respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>2</td>
<td>3%</td>
</tr>
<tr>
<td>1-25%</td>
<td>10</td>
<td>16%</td>
</tr>
<tr>
<td>26-50%</td>
<td>8</td>
<td>13%</td>
</tr>
<tr>
<td>51-75%</td>
<td>15</td>
<td>23%</td>
</tr>
<tr>
<td>76-100%</td>
<td>10</td>
<td>16%</td>
</tr>
<tr>
<td>I don’t know</td>
<td>19</td>
<td>30%</td>
</tr>
</tbody>
</table>

Figure 1: Benefits Experienced by Suppliers Using Quality Techniques
Often, as a means to improve the supply chain process, organizations will offer training to suppliers. The respondents in this study were asked to list the training that their organizations provide to suppliers. Figure 2 shows that the most common techniques offered via training are flowcharts, check sheets, and cause-and-effect diagrams. Approximately 3% indicated “other;” these responses were “lean and six sigma,” “quality program development,” and “n/a.” Respondents were also asked what types of quality techniques they have paid for via consultants to assist their suppliers. Almost 40% indicated that no such consultant training was provided to suppliers.

Finally, the respondents were asked for insight on methods their organization had used to encourage their suppliers to implement quality techniques. The majority of responses (33%) noted the use of “split quality programs savings,” followed closely by 31% who “dictated prices to suppliers.” The remaining population used approaches such as “bonus process implementation,” and a few respondents were unsure.

**Consumer/Industry Professional Quality Perceptions**

Because consumers’ behavior is an integral piece of SCM, their perceptions of quality and how they align with the perceptions of professionals working in industry are important to explore.

Therefore, in addition to the survey administered to industry professionals to explore the consumer side of quality perceptions, a second survey was conducted to ask consumer participants to define the definition of quality in five words or less. Consumer participant demographics are as follows. The largest group of respondents were consumers from the age of 25-34 (49%). Further, 50% of the respondents were employed full time and 11% were self-employed. Of the consumer respondents, 42% held a bachelor’s degree, 25% finished some college, and 14% had earned an associate’s degree.

Text mining for frequency of response was performed using Voyant Tools 2.0 to unveil the most common perceptions of quality when asked to define quality in five words or less. Figure 3 outlines the results from quality industry professionals. Notably some of the most recurring terms were “meeting,” “customer,” “expectations,” “good,” “service,” and “performance.” Figure 4 outlines the same process of text mining with the results obtained from consumers. The most frequent terms used in consumers’ perceptions of quality are “well-made,” “good,” “durable,” “long,” and “last.” The most frequent terms used by industry professionals and by consumers are somewhat different, thereby highlighting a difference in perceptions within the supply chain.

Finally, to explore the overall supply chain (industry professionals and consumers), Figure 5 was created to represent the overall frequency of words used in the respondents’ definitions of quality in five words or less. The most often-used terms were “well-made,” “long-lasting,” “good,” “durable,” and “product.”
Discussion

This study suggests that while research in quality tools has come a long way, industry is not always keeping pace. While some respondents have worked with their suppliers to assure quality training programs are in place and even providing incentives for such work, others are not aware of suppliers’ quality assurance programs and do not appear to track them. This may be related to several factors, such as the size of the organization, type of industry, or length of time or quality of the partnership arrangement with the supplier. Therefore, it is necessary to provide these topics as part of the MBA curriculum so that students preparing for careers in these areas are better suited to do so. Using the survey feedback, an outline of where the quality and SCM topics fit within an MBA curriculum has been proposed, as shown in Table 4.

Key for an MBA curriculum, accredited through AACSB, is faculty-driven continuous improvement – keeping current with the market, industry expectations, and rising to improve the curriculum to prepare the next era of management professionals. Courses in Marketing and International Marketing should address areas such as customer focus and satisfaction, marketing research and survey design, as well as topics on regional trade agreements, local content laws, and other effects of globalization on the value chain. Other courses key in an MBA curriculum, including Supply Chain Management or Operations Management, should address customer relationship management, value analysis, quality function deployment, continuous improvement, customer expectations, negotiations, lean principles, six sigma, TQM, and many other topics pertinent to the managing the supply chain. One other key supply chain course in an MBA program is Strategy or Strategic Management. This course is usually taken at the end of the MBA program and brings together many topics such as accounting, finance, marketing, and operations. It should address understanding how the company/client/industry wishes to compete in the marketplace to provide a product or service to consumers. Ultimately, the goal of the MBA program is to better prepare the workforce to be more educated in all areas of business, keeping in mind that SCM is the backbone of most business processes.

Conclusions

In the study, the sample consisted of respondents who self-selected as working in a job related to the quality management area in their respective companies, and yet many claimed to not know the answers to seemingly basic questions regarding the percentage of outsourcing, use of quality management tools, and training for suppliers. This may be an artifact of this sample, or it may be indicative of a much larger problem related to a lack of knowledge regarding a company’s commitment to quality improvement among its employees. Again, this can be addressed in education settings to better prepare
the future management workforce to ask the right questions in their roles in industry.

Quality assurance tools require that all employees are on the same page to work effectively, and yet this does not appear to be the case in this study. A follow-up study would be appropriate to better understand the individual respondent, in terms of his or her role in the company and the respondent’s personal understanding of quality as it relates to his or her job or organization. Another area of future work might prove useful is to track post-MBA graduates into the workforce to monitor their daily decisions, information, and overall understanding of the supply chain, including quality tools, in their organization.

It is interesting to note the difference in perceived definitions of quality between industry professionals and consumers. It is also worthy of mention that even though many of the industry respondents did not know what quality programs or tools their organizations or their supplier used, they still have a solid concept of the typical definitions used within the manufacturing realm. Also, consumers seemed interested in quality being associated with a long-lasting, durable, well-made product. Overall, the main terminology that industry professionals and consumers seemed to agree on was “well-made.” If the education setting can teach future or existing employees to give particular interest to the marriage of what consumers desire and what their organization is providing, perhaps the entire role of industry, how organizations compete in the marketplace, how organizations attract consumers, and how they make money could become more efficient.

In the bigger picture, it is critical that supply chain and quality management professionals are aware of potential disconnects between the numerous links in a supply chain in their perceptions and expectations of the relationship. As this study has noted, there is often a disconnect between what suppliers and consumers expect from a product or service. Education providers, such as MBA programs, which prepare professionals for careers in industry, have the opportunity to evaluate curriculum to address these areas of potential disconnect and train these professionals to ask the appropriate questions necessary to reduce the disconnect. Courses such as Supply Chain Management, Operations Management, Marketing, International Marketing, and Strategy should evaluate their topics to ensure the areas of consumer to supplier expectations are addressed.

References:


Cassandra C. Elrod, Ph.D., is an associate professor in the Department of Business and Information Technology at Missouri University of Science and Technology. Her research has been accepted and published in journals such as the Quality Management Journal and International Journal of Quality and Reliability Management. Her current area of research includes continuous improvement, quality management, supply chain management, project management, and education topics. Elrod is a member of the Association for Information Systems. She can be reached at cassa@mst.edu.

Sarah M. Stanley, Ph.D., is currently an assistant professor in the Department of Business & Information Technology at Missouri University of Science & Technology. Prior to joining the university, she worked at the University of Wisconsin-Oshkosh. Stanley has done research in a variety of marketing topics such as branding, perceived quality, business education, and advertising effectiveness. She has published articles in journals such as Psychology & Marketing, the International Journal of Research in Marketing, and the Journal of Marketing Theory and Practice. She can be reached at stanleysm@mst.edu.

Elizabeth A. Cudney, Ph.D., is an associate professor in the Engineering Management and Systems Engineering Department at Missouri University of Science and Technology. In 2014, Cudney was elected as an ASEM Fellow. In 2013, she was elected as an ASQ Fellow. In 2010, Cudney was inducted into the International Academy for Quality. She received the 2008 ASQ A.V. Feigenbaum Medal and the 2006 SME Outstanding Young Manufacturing Engineering Award. She has published six books and 60 journal papers. Cudney is an ASQ Certified Quality Engineer, Manager of Quality/Operational Excellence, and Certified Six Sigma Black Belt. She is a member of the ASEE, ASEM, ASQ, IISE, and the Japan Quality Engineering Society (JQES). She can be reached at cudney@mst.edu.

Cui Zou, MBA, is a student support specialist in the Business and Information Technology Department at Missouri University of Science and Technology. Zou worked in the manufacturing industry in China for several years, mainly in purchasing and production planning areas. She can be reached at tracyzou@mst.edu.

Beginning in 2013, the Quality Approaches in Education editors will announce an annual best paper award to the author(s) of a paper published in Quality Approaches in Education. The award will be announced in January of each year for the best paper from the issues of the previous year and will be based on the largest single contribution made to the development or application of quality approaches in education. There is no nomination form for this award.

Visit our website at asq.org/edu/quality-information/journals/today!
Call For Papers

The American Society for Quality’s Education Division publishes the online, double-blind, peer-reviewed journal Quality Approaches in Education. The editorial team actively encourages authors to submit papers for upcoming issues.

The purpose of this journal is to engage the education community in a discussion of significant topics related to improving quality and identifying best practices in education and workforce development; and expanding the literature specific to quality in education topics. With the increased emphasis on quality improvement in education, Quality Approaches in Education engenders a conversation focusing on this topic, supported by manuscripts from the international education community of faculty, researchers, and administrators from different disciplines and professions. Quality Approaches in Education welcomes submissions of manuscripts from higher education, K-12, and workforce development. The journal also welcomes manuscripts from the student services arena, institutional research, professional development, continuing education, business affairs, and other aspects of education related to quality improvement. We encourage evidence-based analysis using quality approach-driven improvement of education.

The following types of articles fit the purview of Quality Approaches in Education:

• Case studies on how to improve quality in a college, school system, or workforce development program using evidence-based analysis, continuous improvement approaches, especially related to improving student retention and degree completion.

• Research articles reporting on survey findings such as a national survey on students’ attitudes toward confidence, success, social networking, student engagement, access and affordability, etc.

• Case studies or research articles addressing issues such as the role of faculty, administrators, and trainers in quality systems.

• Case studies or research studies focusing on the role of quality in accreditation.

• Case studies demonstrating best practices and systems thinking in education using the Baldrige Education Criteria for Performance Excellence, Lean Six Sigma or other national quality models, standards from the Council for the Advancement of Standards in Higher Education (CAS), or national frameworks and protocols, including preparing K-16 teachers for teaching in the 21st century learning environment.

• Case studies or research studies on scholarship of teaching and approaches to improve teaching, enhancing and supporting student learning, learning outcomes assessment best practices, and best practices for using technology in the classroom.

• Case studies or research studies on how student service units and intervention programs impact the quality of student experience and student learning.

• Case studies or research studies specific to collaboration with industry on STEM education through internships, co-ops, and capstone experiences for providing experiential and deep learning experiences and preparing students for STEM careers.

• Research studies on how education practices impact the quality of student life and student success for different student populations, including underrepresented groups, first generation in college students, and students from low-income families.

• Case studies that highlight the emerging improvement science for education and the continuous improvement cycle.

• Significant conceptual articles discussing theories, models, and/or best practices related to quality in higher education, K-12, and workforce development.

NOTE: We may dedicate an issue to a special topic to highlight areas of high interest in the field of education.

Articles generally should contain between 3,500 and 5,000 words and can include up to six charts, tables, diagrams, illustrations, or photos of high resolution. For details, please check the “Author Guidelines” at: http://asq.org/edu/quality-information/journals/

Please send your submissions to:
Dr. Elizabeth Cudney at QAEJournal@gmail.com
Quality Approaches in Education is a double-blind, peer-reviewed journal that is published online by the Education Division of the American Society for Quality (ASQ). The purpose of this journal is to engage the education community in a discussion of significant topics related to improving quality and identifying best practices in education as well as expanding the literature specific to quality in education topics. We will only consider articles that have not been published previously and currently are not under consideration for publication elsewhere.

General Information

Articles in Quality Approaches in Education generally should contain between 3,500 and 5,000 words and can include up to six charts, tables, diagrams, photos, or other illustrations. See the “Submission Format” section for more detail.

The following types of articles fit the purview of Quality Approaches in Education:

- Case studies on how to improve quality in a college, school system, or workforce development program using evidence-based analysis and continuous improvement approaches, especially related to improving student retention and degree completion.
- Research articles reporting on survey findings such as a national survey on students’ attitudes toward confidence, success, social networking, student engagement, access and affordability, etc.
- Case studies or research articles addressing issues such as the role of faculty, administrators, and trainers in quality systems.
- Case studies or research studies focusing on the role of quality in accreditation.
- Case studies demonstrating best practices and systems thinking in education using the Baldrige Education Criteria for Performance Excellence, Lean Six Sigma or other national quality models, standards from the Council for the Advancement of Standards in Higher Education (CAS), or national frameworks and protocols, including preparing K-16 teachers for teaching in the 21st century learning environment.
- Case studies or research studies on scholarship of teaching and approaches to improve teaching, enhancing and supporting student learning, learning outcomes assessment best practices, and best practices for using technology in the classroom.
- Case studies or research studies on how student service units and intervention programs impact the quality of student experience and student learning.
- Case studies or research studies specific to collaboration with industry on STEM education through internships, co-ops, and capstone experiences for providing experiential and deep learning experiences and preparing students for STEM careers.
- Research studies on how education practices impact the quality of student life and student success for different student populations, including underrepresented groups, first generation in college students, and students from low-income families.
- Case studies that highlight the emerging improvement science for education and the continuous improvement cycle.
- Significant conceptual articles discussing theories, models, and/or best practices related to quality in higher education, K-12, and workforce development.
Manuscript Review Process

We log all article submissions into a database and delete all references to you. These “blinded” versions then go to the editorial review team for comments and recommendations. Both author(s) and reviewers remain anonymous in this process. The review process takes approximately three months during which time the reviewers advise the editor regarding the manuscript’s suitability for the audience and/or make suggestions for improving the manuscript. Reviewers consider the following attributes:

1. Contribution to knowledge: Does the article present innovative or original ideas, concepts, or results that make a significant contribution to knowledge in the field of quality in education?

2. Significance to practitioners: Do the reported results have practical significance? Are they presented clearly in a fashion that will be understood and meaningful to the readers?

3. Conceptual rigor: Is the conceptual basis of the article (literature review, logical reasoning, hypothesis development, etc.) adequate?

4. Methodological rigor: Is the research methodology (research design, qualitative or quantitative, methods, survey methodology, limitations, etc.) appropriate and applied correctly? For a conceptual paper, is the framework appropriate and applied correctly?

5. Conclusions and recommendations: When appropriate, are the conclusions and recommendations for further research insightful, logical, and consistent with the research results?

6. Readability and clarity: Is the article well organized and presented in a clear and readable fashion? Is the article written in English and in a grammatically acceptable manner?

7. Figures and tables: When submitted, are the figures and/or tables used appropriately to enhance the ability of the article to summarize information and to communicate methods, results, and conclusions?

8. Organization and style: Is the content of the article logically organized? Are technical materials (survey scales, extensive calculations, etc.) placed appropriately? Is the title representative of the article’s content?

9. Attributions: Are the sources cited properly using APA style? Are attributions indicated properly in the reference list?

You should use these attributes as a checklist when reviewing your manuscript prior to submission; this will improve its likelihood of acceptance.

Review Process Outcomes

There are three possible outcomes of the review process:

- Accept with standard editorial revisions. In this case, the content of the article is accepted without requiring any changes by you. As always, however, we reserve the right to edit the article for style.

- Accept with author revisions. An article in this category is suitable for publication, but first requires changes by you, such as editing it to fit our length requirements or providing more detail for a section. We provide specific feedback from our reviewers to guide the revision process.

- Decline to publish. Occasionally articles are submitted that do not fit our editorial scope. We may provide you with suggestions for modifying the article to make it more appropriate to our publication.

Please note that after articles are edited for publication, we return them to you to approve the technical content. A response may be required within 48 hours or the article may be held over for a subsequent issue.

Articles that appear to be advertising or do not fit the general topics addressed by Quality Approaches in Education will be rejected without receiving peer reviews.
1. Articles should emphasize application and implications of what is being presented, whether conceptual or research-based.
   - Use the early paragraphs to summarize the significance of the research.
   - Make the opening interesting; use the opening and/or background to answer the “so what?” question.
   - Spell out the practical implications for those involved in education.
2. Detailed technical description of the research methods or conceptual/theoretical framework is important, but not necessarily of interest to everyone. The description should enhance the narrative or be critical to the understanding of the article’s material.
3. Throughout the article, keep sentence structure and word choice clear and direct.
4. Avoid acronyms and jargon that are industry- or organization-specific. Try not to use variable names and other abbreviations that are specific to the research. Restrict the use of acronyms to those that most readers recognize. When acronyms are used, spell them out the first time they are used and indicate the acronym in parentheses.
5. Occasionally, our reviewers and readers view articles that include reference to the author(s) proprietary products or methods as a form of advertising. Although we encourage you to share personally developed theories and application approaches, we ask that you refrain from using our publication as a marketing tool. Please take great care when including information of this nature in your article.
6. If the article cites cost savings, cost avoidance, or cost-benefit ratios, or provides the results of statistical evaluations, include an explanation of the method of calculation, along with any underlying assumptions and/or analysis considerations.
7. Access to any survey discussed in the manuscript is important for our review and must be included with the manuscript. Depending on the length of the survey, we may include the entire survey with the article.
8. When submitting an article that is based on qualitative methodology, please be sure to describe the research questions, the information that is the basis of the data analysis, and report the developing themes. Also remember to include text analysis as part of data analysis. Please include the protocols in a separate Word document; review of the protocols will be important in our technical review. Consider including the protocols in the methodology section of the manuscript, if they can be presented concisely.
9. Our staff does not have the means to compile references or verify usage permissions; therefore, it is important for you to provide all that information with your article, including written letters of authorization when appropriate. Plagiarism is a rapidly growing crime—particularly due to the use of information from the Internet. Please help yourself, and us, to maintain professional integrity by investing the time necessary to verify your sources and to obtain and document all necessary permissions. Information on our requirements for documenting references, along with specific examples, is included at the end of these guidelines.
Submission Format

1. We accept only electronic submissions in Microsoft Word format. The first page should be a title page with the title, names of the authors, and their affiliations. The second page should be the start of the proposed article with the title and abstract (150 words maximum) at the top of the page. There should be no reference to the author(s) or affiliation in the text that follows. Instead of the name of a university for a case study, the text should state “the University”. The margins should be one inch all around on 8½ x 11 pages with Word’s one-column format, left-justified. The title and section titles should be 14-point bold Calibri font. The text font should use 11-point Calibri font and a line spacing of 1.5 is preferred.
Section headings should be 12-point bold Calibri and left justified. Typical section names are: Abstract, Introduction, Background, Literature Review, Methodology, Results, Discussion, Suggestions for Best Practices, Summary or Conclusions, Recommendations, Future Work/Research, Acknowledgments, and References. The actual headings will depend on the focus of the manuscript. There may be two additional levels of sub-headings. The first set of subheadings would be left-justified with the first letter of each word capitalized and in bold, 12-point Calibri. The second level of sub-headings would be the same but in italics.

2. If you are familiar with the APA formatting, we prefer the APA format, but will accept a well-formatted manuscript following these already mentioned guidelines.

3. The manuscript should be between 3,500 and 5,000 words including the abstract, tables, and references. It should include no more than six tables or figures. If you feel strongly that more tables or figures are needed to support the manuscript, we ask that you submit the additional tables or figures and provide an explanation for including them.

4. Tables should be included at the end of the article and must be in Microsoft Word. Each table must be referenced in the article and labeled and centered on a separate line, such as <Insert Table 1 About Here> with the caption for Table 1 on the next line, such as Table 1: Graduation Rate by Major. Do not embed .jpg, .tif, .gif, or tables in other similar formats in your article.

5. Drawings, graphs, and other illustrations should be sent in an email as separate .jpg files with 300dpi; each item should be included in a separate file. All drawings and other illustrations must be referenced in the article, and must be labeled and centered on a separate line, such as <Insert Figure 1 About Here> with the caption for Figure 1 on the next line: “Figure 1: Pareto Analysis of Student Participation in Department Activities.”

6. We can use photos if they enhance the article’s content. If you choose to submit a photo with your article, it must be a high-resolution .jpg or (at least 300 dpi and at least 4” by 6” in size). Photos should be sent in separate files and referenced in the article. Photos should be accompanied by a complete caption, including a left-to-right listing of people appearing in the photo, when applicable. Do not include any text with the photo file. All persons in the photo must have given permission to have their photo published in Quality Approaches in Education.

7. Also submit a separate high-resolution electronic photo (at least 300 dpi) for each author. Author photos should be at least 1” by 2”. Author photos should have a plain background, and the author should be facing toward the camera. Please include a separate Word document with a 75- to 100-word biography for each of the authors, mentioning the place of employment, as well as contact information.
**Author Guidelines**

**Citations and References**

*Quality Approaches in Education* follows the 6th edition of the *Publication Manual of the American Psychological Association*. Citations and references should use the (author's last name, year of publication) notation in a citation in the text and use the APA style.

The reference section should be headed with the section heading of “References” and all references are to be listed alphabetically by the first author’s last name. Each reference should list all authors. List the online URL with a hyperlink. Retrieved date is not needed. Here are some examples:

**Book examples:**

**Journal article examples:**

**Reference example:**

If the authors cite their own work, they should simply state (Author, year) and the same in the reference list (no title) in the initial manuscript (since the reviews are double-blind).

One of the most common errors we have observed with submitted articles is improper referencing due to improper attribution in the text and reference section. Please make sure that all the material in the submitted article is properly referenced and cited as appropriate.

**Submission**

Send an electronic copy of the Word document of the manuscript including the title page, abstract, text of the manuscript, acknowledgments, and references, with a separate file of any surveys used, separate .jpg files of the figures and photos of authors, and a Word document of the author biographies to Dr. Elizabeth Cudney at QAEJournal@gmail.com.

**Note on Copyright Transfer**

Prior to publication, you must sign a form affirming your work is original and is not an infringement of an existing copyright. Additionally, we ask you to transfer copyright to ASQ. The copyright transfer allows you to reproduce your article in specific ways, provided you request permission from ASQ and credit the copyright to ASQ. The transfer also allows ASQ to reproduce the work in other publications, on its website, etc.

If you use materials from other works in your articles (other than standard references), you must obtain written permission from the copyright owner (usually the publisher) to reprint each item of borrowed material. This includes any illustrations, tables, or substantial extracts (direct quotations) outside the realm of fair use. Submit these permission letters with the article. Articles cannot be published until copies of all permission letters are received.

For example, an article includes a PDSA illustration from a book. The permission statement would include: Figure 1 is from Nancy R. Tague’s *The Quality Toolbox, 2nd ed.*, ASQ Quality Press, 2005, page 391. This permission statement would appear in the caption just below the PDSA figure.