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Mapping Industry Standards in Undergraduate Business Education

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Mapping Industry Standards in Undergraduate Business Education

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About our institutions...

**Texas A&M**
- College Station, TX
- Public research university, established 1876
- ~70,000 students
- >130 undergraduate programs; >260 graduate programs

**Purdue University**
- West Lafayette, IN
- Public research university, founded 1869
- ~43,000 students
- 200 undergraduate programs; >80 graduate programs

24 astronauts
## Our Business Schools

### Purdue
- Krannert School of Management
- Enrollment: 3,164 (2,450 undergraduate, 714 graduate)
- #24 US News & World Report *Overall Best Undergraduate Program*
- 7 undergraduate programs
- 7 specialized master’s programs
- 4 MBA program options
- 3 Ph.D. Programs (Economics, Management, & Organizational Behavior - with multiple options to specialize)

### Texas A&M
- Mays Business School
- Enrollment: 6,041 (4,858 undergraduate, 1,138 graduate)
- #31 US News & World Report *Overall Best Undergraduate Program*
- 7 undergraduate programs
- 7 specialized master’s programs
- 3 MBA program options
- Ph.D Program in Business Administration (multiple options to specialize)
Study Background

“A standard is a document that provides requirements, specifications, guidelines or characteristics that can be used consistently to ensure that materials, products, processes and services are fit for their purpose.”

– International Organization for Standardization (ISO)
Impact on Business

93%

Sources:
Industry Standards in Education

• In Engineering & Engineering Technology Curricula
  • Required by ABET (Accreditation Board for Engineering and Technology) accreditation criteria
  • Survey – ~30% of ET faculty respondents don’t teach standards; ~50% reported “lack of expertise on the application of standards” (Khan, Karim, & McClain 2013)

• In Business Curricula
  • No specific language in AACSB guidelines
  • General business knowledge area – “systems and processes in organizations, including planning and design, production/operations, supply chains, marketing, and distribution”

Source:
Research Questions

• Are industry standards being taught in undergraduate business management curricula? If so, in which types of courses?

• What opportunities are there to integrate (or further integrate) industry standards into undergraduate business management courses?
Literature Review

• Little traditional literature published on integrating standards into business curricula
• National Institute of Standards and Technology (NIST)
• International examples
Methods

Curriculum mapping of undergraduate management programs to a list of pre-established terms related to standards

38 syllabi, 26 courses

49 syllabi, 36 courses
Results

Only 8% of courses included standards language in the syllabus (5/62)

<table>
<thead>
<tr>
<th>Institution</th>
<th>Course Title</th>
<th>Syllabus Language That Includes Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purdue</td>
<td>Competitive Strategy</td>
<td>&quot;competition for standards and multi-sided platforms;&quot; &quot;the art of standards wars&quot;</td>
</tr>
<tr>
<td>Purdue</td>
<td>Technology Strategy</td>
<td>&quot;standard battles &amp; design dominance&quot;</td>
</tr>
<tr>
<td>Purdue</td>
<td>Manufacturing Strategy</td>
<td>A case questions is: &quot;what is the process employed at Nypro to identify and standardize important innovations?&quot;</td>
</tr>
<tr>
<td>Purdue</td>
<td>International Management</td>
<td>“global standardization”</td>
</tr>
<tr>
<td>Texas A&amp;M</td>
<td>Introductory Accounting</td>
<td>“accounting standards”</td>
</tr>
</tbody>
</table>
Results – potential curriculum areas for standards integration

- Business & Management Strategy
- Business Law
- Ethics & Social Responsibility
- Human Resources
- Information Systems
- International/Global
- Marketing
- Process / Product Development
- Project Management
Results

50% of courses were found to have the potential for the integration of standards based on language in the syllabi (31/62);

Purdue – 14 & Texas A&M - 17
Discussion

• Based on reviewing syllabi, appears to be little current integration into undergraduate management curricula at two large, highly ranked research institutions

• Openness and flexibility of the AACSB accreditation guidelines

• Similar to many engineering faculty, business faculty may not feel they have the expertise to meaningfully integrate standards content into curricula
Examples of Potential Integration

- Business law – concepts of mandatory and voluntary standards
- Human Resources
  - ISO 30405 (Human resource management - guidelines on recruitment)
  - ISO/TR 30406 (Human resource management -- Sustainable employability management for organizations)
- Marketing - standards can be used to promote how products meet or exceed standards
Librarians can help

• Librarians develop & manage standards collections for academic institutions

• Several studies have discussed how librarians teach about standards in engineering and technology – why not business?

• Standards are $$ -- librarians can also highlight low-cost and freely available options for obtaining standards
Study Limitations

• Lacks inter-rater reliability
• Only focused on course syllabi
• Only evaluated academic programs at two institutions – cannot be widely generalized
• Does not consider student co-curricular activities (e.g., internships, club activities, competitions)
Conclusion & Next Steps

• Standards are important for business success and it’s important to consider how they may best be integrated into undergraduate curricula to prepare graduates for the workplace.

• This is a pilot study that highlights the need for future work in this area.
Thank you!

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Study accepted for publication: