

Continuous Improvement through Engagement, Innovation, and Impact: Development of a Scoring Model to Measure Scholarly Impact

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ABSTRACT

AACSB Standards for Business Accreditation (<http://www.aacsb.edu/accreditation/business/standards/>) require evidence of continuous improvement through engagement, innovation, and impact. This article details the results of a faculty initiative to define, measure, and report scholarly impact. The committee took a multi-dimensional view of scholarly impact and used the guidance contained within AACSB Standards 2 and 15 to develop a comprehensive operational definition and (innovative) measurement system for scholarly impact. The proposed scoring model allows for quantitative and qualitative self-assessments of intellectual contribution impact, as well as mechanisms for maintenance of accreditation reporting.

Keywords: AACSB Standards, impact, intellectual contributions, scholarly activity

INTRODUCTION

The Martha and Spencer Love School of Business (LSB) at Elon University strives to attract, develop and maintain a gifted and capable faculty body that is deeply committed to enhancing our students and stakeholders' understanding of business and management. As such, our faculty embrace scholarly inquiry as a way to remain *engaged* with an evolving literature base and a constantly changing business environment. We embrace scholarly inquiry as a way to develop *innovative* teaching/learning methods and activities, and managerially relevant knowledge, to fulfill our educational and business outreach mission. We embrace scholarly inquiry by sharing scholarly innovations with others through the production of tangible, mission-focused outputs that have an *impact* on the continued teaching and practice of business and management.

Our business school encourages and supports the creation of a diverse faculty portfolio of high-quality intellectual contributions that builds on our university's distinctive focus on active and experiential learning as a way to transform business education, business students, and business organizations. Intellectual contributions are the foundation for innovation in the classroom and in the workplace, and measures of the impact of our intellectual contributions support the claim that our innovative scholarly explorations make a difference in the lives of our students and in the organizations in which we interact. Our business school supports the depth and breadth of faculty participation in scholarship because we believe that innovation can best be explored in an environment that values the widest possible range of traditional and non-traditional approaches to research, and in an environment that values the widest possible range of research outputs.

A focus on institutional mission is essential because that focus is necessary to guide the recruitment, hiring, deployment and support of faculty in departments within our school. Within our business school, *engagement*, *innovation* and *impact* are enhanced by

- processes which result in the recruitment and hiring of academically and professionally qualified faculty who have demonstrated the potential to sustain and enhance their own intellectual capital while supporting growth in the composite human and intellectual capital of the LSB and Elon University;
- processes which result in the deployment of intellectually engaged faculty within and across disciplinary areas in undergraduate and graduate business programs;
- and processes which support the goal of producing high-quality intellectual contributions that are consistent with our mission, expected outcomes, and strategies and that impact the teaching and practice of business and management.

In the fall of 2013 and spring of 2014, we formed a faculty committee to study the revised AACSB Standards for Business Accreditation (<http://www.aacsb.edu/accreditation/business/standards/>) and to develop a system of measuring and reporting faculty scholarship consistent with our mission, expected outcomes, and strategies. This report details the deliberations and results of that work.

PRODUCING HIGH-QUALITY INTELLECTUAL CONTRIBUTIONS – DEFINING AND MEASURING SCHOLARLY IMPACT

Criteria for advancement in business schools (Mudambi, Hannigan & Kline, 2012) have typically emphasized the production of research outputs in appropriate journals (Starbuck, 2005; Trieschmann, Dennis, Northcraft, & Niemi, 2000), and an increased emphasis on the concept of research “impact” by AACSB (AACSB International, 2008) has prodded more schools to analyze the relevance of their research (Adler & Harzing, 2009; Pearce & Huang, 2012). The rationale for this particular word choice, *impact*, can be understood with reference to the concept of legitimacy (Alajoutsijarvi, Juusola, & Siltaoja, 2015; Bailey, 2013; Rynes & Brown, 2011). Legitimacy refers to the perception that what an organization or group of people does is proper and appropriate (Rynes & Brown, 2011). Legitimacy ensures continued survival and often results in increased power and influence, and continued access to resources. Due to escalating concerns about the value of business education from a number of directions, AACSB continues to encourage business schools to strive for legitimacy and impact in scholarly activity. As such, we sought to define and measure the concept of scholarly impact in terms that would be seen as legitimate to our stakeholders.

Some activities, including traditional peer-reviewed scholarship, may have multiple impacts, while others may have limited impact. It is possible that the impact of an activity or intellectual contribution may not be known or identifiable for a number of years. It is also important to note that evidence that intellectual contribution outcomes have made a difference may result from a single outcome produced by one or more faculty members and/or students, a series or compilations of works, or collaborative work with colleagues at other institutions or with colleagues in professional practice. As such, we have developed a composite multi-factor impact measurement system that takes into account impact metrics from 4 impact domains – mission alignment impact, academic (scholarly) impact, teaching/instructional/curricular impact, and practice/community impact. See Appendix 1 (derived from AACSB Standards for Business Accreditation Standard 2) for a listing of impact metrics in support of documentation.

As with any system that attempts to quantify something that is difficult to measure, there are invariably questions about the use, and the potential for abuse, of such measures in administrative settings and in performance appraisal systems. It was our the intention to provide a process for the measurement of impact with regard to academic and professional engagement activities (intellectual contributions), but not add to, supplement, or provide additional information for faculty performance appraisal, promotion and tenure assessment, and/or any other faculty performance evaluation process extant at our university. The information gained from assessing and reporting impact was intended *solely* for management, reporting and compliance with AACSB maintenance of accreditation requirements only.

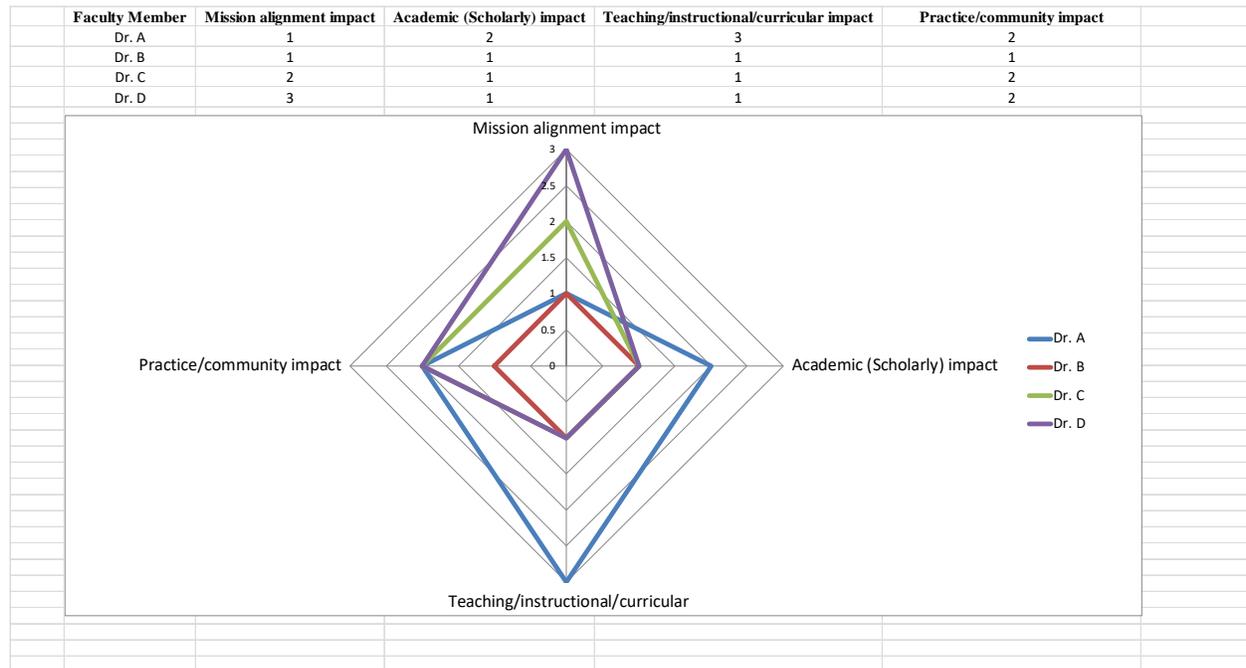
Our composite multi-factor impact measurement system includes qualitative descriptions and quantitative scales to assess intellectual contribution impact from 4 mission-related domains – mission alignment impact, academic (scholarly) impact, teaching/instructional/curricular impact, and practice/community impact. Faculty members self-assess the impact of their individual and combined intellectual contributions over a five-year period using qualitative assessment scales for each domain and score the impact of their intellectual contributions in each domain on a quantitative 1-3 assessment scale (1=some impact, 2=moderate impact, 3=high impact). See Appendix 2 for an example of a faculty impact assessment worksheet.

Consider the following example. Faculty member “Dr. A” has published 3 refereed journal articles in the past five years. All of the publications were in *appropriate* outlets, suitable to the mission of our school, and modest in impact (e.g., measured by mid-range acceptance rates, impact factors and/or citation counts). Dr. A might then rate her intellectual contributions as having “moderate impact” (a score of “2”) *in the Academic (Scholarly) impact domain* within the past five years. Dr. A may also use the information gained from her peer-reviewed scholarship to enhance the teaching of her coursework. She would include this information (along with other information related to the quality and impact of other teaching/instructional performance indicators) in her analysis of impact in the *Teaching/Instructional/Curricular impact domain*. Thus, some activities, like Dr. A’s peer-reviewed scholarship, may have impacts in multiple domains.

“Dr. D” may have created a noteworthy entrepreneurship program that has become a very visible feature of Elon’s commitment to active and engaged learning. As such, Dr. D might rate his intellectual contribution (the new academic program) as having “high impact” (a score of “3”) *in the Mission Alignment impact domain*. The Radar Chart shown as Figure 1 (below) displays the composite ratings of all of the faculty members (Dr. A through Dr. D) in a hypothetical department within our business school. The chart displays how the variety of intellectual

contributions, developed over the course of the past 5 years by faculty members within a department, serve to document impact across all 4 impact domains.

Figure 1. Radar Chart of Intellectual Contribution Impact by Impact Domain



The purpose of documenting intellectual contribution impact and displaying it in this way is to emphasize the intellectual contribution portfolio of individuals, departments, and our business school as a whole, and to show the domains in which impact is demonstrated. Rubrics for self-assessment within the 4 impact domains are provided to faculty members yearly so that they may keep a running list of academic and professional engagement activities (intellectual contributions) during each rolling 5-year AACSB reporting cycle. Definitions/qualitative descriptions of some, moderate and high impact are provided along with the rubrics (see Appendix 1 and Appendix 2). Combinations of multiple intellectual contributions within a domain may support a faculty member’s self-evaluation/rating of higher impact scores within that domain. For example, if Dr. A had produced 10 refereed journal articles in the past 5 years, with 2 articles receiving “Best Paper” awards, and Dr. A had been a member of two journal editorial boards... Dr. A’s determination of “high impact” in the *Academic impact domain* would most likely be substantively supported.

It is important for faculty understand that, as a business school faculty body, certain faculty members are going to have impacts in areas where other faculty are less productive. It is precisely this diversity of intellectual contribution activity and productivity that forms the starting point for discussions about the expected and appropriate impact for faculty members with different faculty qualifications (e.g., AACSB Standards for Business Accreditation Standard 15). It is *expected* that Instructional Practitioner (IP) faculty will excel in the Teaching/Instructional/Curricular impact domain, and the five-year AACSB reports should demonstrate substantial evidence of *high* impact intellectual contributions and activities in this domain. It is not expected that the IP faculty member will excel in the Academic (Scholarly) impact domain, where currency and relevance is most often demonstrated by the publication of manuscripts in peer-reviewed outlets. In this way, faculty will be more aware of the capabilities they bring to the school through their intellectual contributions. Faculty will also be more aware of the diversity of contributions by the school faculty as a whole, and on the impact the faculty portfolio makes on university mission and strategies. We do not aspire to have each faculty member demonstrate high impact in all 4 impact domains; on the contrary, the multidimensional impact rating approach allows faculty to apply their own specific strengths and skills to those areas that have the most mission impact, consistent with their academic preparation and professional engagement history. At present, our departments demonstrate a relative balance across all 4 impact domains, in line with our mission as an institution with a large undergraduate student population and limited masters’ programs, but it might be possible to use a radar chart like this to guide future hiring decisions. For example, if our strategy was to

highlight or develop a strength in one particular area, we might then hire faculty members with a focus in that area to supplement our highlighted strength. Conversely, if we were too heavy in one area, we might hire faculty members with complementary strengths in another area in order to achieve a better balance across our mission domains. As such, the radar chart can help us evaluate and develop supplementary and complementary fit (Muchinsky & Monahan, 1987).

We (as professional members of a faculty body) must resist the temptation to over-inflate our intellectual contributions and rate ourselves “high” in each mission domain. By removing any real or perceived linkage between individual impact self-assessment and school/university performance appraisal processes, we hope to eliminate much of the incentive for *impact inflation*. There may very well be individuals in our school who demonstrate high impact in multiple domains, but such should be cause for celebration and emulation, if possible. However, if your faculty duties are limited, by necessity, to certain mission domains (IP faculty members, for instance), there should be equal cause for celebration due to your intellectual contribution impacts, as well. The real value in the proposed system of impact assessment is in the potential for new connections and a deeper engagement between what we do as faculty (our intellectual contributions, in a variety of mission-related domains) and the changes or improvements we make in the lives of our students and stakeholders. It is tempting to see this system as just another method to keep score. However, it is more appropriate to see this system as an honest attempt to drive value creation activities for those individuals and organizations which count on the members of the Love School of Business to make a difference in the classroom and in organizations. From AACSB Standard 2: *Impact is concerned with the difference made or innovations fostered by intellectual contributions—e.g., what has been changed, accomplished, or improved.*

IMPLEMENTATION AND REPORTING

We have provided our faculty with the impact assessment guidance contained as Appendices 1 and 2, as well as completed “example” Faculty Impact Assessment Worksheets (not provided here – please contact the lead author for those examples), and have collected data over the past 3 years. Faculty report that the collection of evidence in support of their self-assessment ratings (from yearly self-reports and chair evaluations) is straightforward and takes, on average, less than 10 minutes each year. In order to assess the validity of the faculty self-ratings, we recently convened a panel of 3 faculty raters to assess agreement between faculty raters and between faculty raters and faculty self-ratings. Inter-rater agreement (between faculty raters) was very high, as was agreement between the faculty raters and individual faculty self-ratings. Department chairs have incorporated the summary information (e.g., reports by department) to guide their planning of professional development activities for faculty at different career stages and during different periods in the academic calendar. Most importantly, faculty now have a more informed understanding of how the composite portfolio of intellectual contributions impact our various stakeholders, and a better understanding of how they may plan their intellectual contribution activities for maximum impact across all mission domains.

CONCLUSION

As a complement to a well-developed system of assurance of learning assessment and reporting activities, this system of assessing and reporting scholarly activities provides an additional avenue for documenting engagement, innovation, and impact. This effort has forced us to articulate the value of our scholarly endeavors, and to soberly assess that value in light of our mission and the needs of our stakeholders and our institution. It has also allowed us to make more informed decisions about faculty development and resource allocations, and to plan for faculty recruitment and selection. Most importantly, it has allowed us to codify our unique culture of scholarship, and to detail the many ways in which our scholarly endeavors impact the teaching and practice of business.

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APPENDIX 1 - Impact Metrics in Support of Documentation Rubrics for Assessing and Scoring Intellectual Contributions within the 4 Impact Domains

It is not the purpose of this rubric/assessment guide to clearly and unambiguously specify the exact nature and quantity/quality of academic and professional engagement activities supporting determinations of impact within each mission domain. Such a task would be extremely difficult, if not operationally impossible. It would also be difficult, given the differing perspectives of a diverse faculty body within the LSB, to task a school-wide committee with *objectively* determining impact for each faculty member within each mission domain. Ultimately, the determination of impact in each mission domain must be made with reference to a combination of quantitative and qualitative factors, and this determination necessarily has to be a judgment call by individual faculty members. Such judgments can be meaningfully made by relying on current university processes and their associated artifacts for self-assessment and evaluation. As such, the assessment and reporting of impact adds little to the reporting and administrative burden of faculty. Faculty are, and should be, in the best position to support and defend their own determinations of impact in each mission domain by referencing readily available information sources. Primary source information on faculty academic and professional engagement activities is available from faculty yearly self-evaluation reports and departmental chair assessments. The number and types of engagement activities suitable for assessing impact can be found by referencing the intellectual contribution activities associated with the individual faculty qualification (e.g., SA, PA, SP, IP) for each faculty member. Additionally, faculty have data from work with school and university faculty committees, as well as reports and work products from internal faculty/staff bodies, external professional associations, and myriad other stakeholder groups who engage with LSB faculty on an ongoing basis. In short, while a rational, unequivocal numerical rating system is highly desirable, it is more likely that a qualitative/quantitative scoring model is the most feasible approach to impact measurement across the four impact domains.

As a guide, each rating of impact in this Appendix includes a *suggested* quantitative measure of outputs associated with an impact level (Low-Moderate-High). However, faculty are encouraged to adjust the rating/impact level to account for varying levels of qualitative impact. For example, if a faculty member published 3 refereed journal articles in a five-year period, such a record might engender a self-assessment of “Moderate Impact” in the Academic (Scholarly) impact domain. However, if those 3 articles were published in recognized “top tier” journal outlets in the discipline, a self-assessment of “High Impact” may be supported. It is not the goal of this rubric to provide prescriptive assessments of impact measures; it is our goal to provide benchmarks from which to assess and adjust individual determinations of impact across the 4 mission domains.

Mission Alignment Domain

Impact Domain	Some Impact	Moderate Impact	High Impact
Mission Alignment Impact (5 year period)	Some intellectual contribution activity impacting Mission Alignment Domain	Moderate intellectual contribution activity impacting Mission Alignment Domain	Substantial intellectual contribution activity impacting Mission Alignment Domain

High Impact - Faculty member can document > 5 substantive intellectual contribution activities in this domain

Moderate Impact - Faculty member can document 3 substantive intellectual contribution activities in this domain

Some Impact - Faculty member can document 1-2 substantive intellectual contribution activities in this domain

Academic and professional engagement activities supporting the faculty member's determination of impact in this domain include the following:

Alignment of intellectual contribution outcomes with themes or focus areas valued by the business school's mission (e.g., global development, entrepreneurship, innovation)

Percentage of intellectual contribution outcomes that align with one or more "mission-related" focus areas for research

Percentage of faculty with one or more intellectual contribution outcomes that align with one or more mission-related focus areas

Research awards and recognition that document alignment with one or more "mission-related" focus areas for research

Academic (Scholarly) Impact Domain

Impact Domain	Some Impact	Moderate Impact	High Impact
Academic (Scholarly) Impact (5 year period)	Some intellectual contribution activity impacting Academic Domain	Moderate intellectual contribution activity impacting Academic Domain	Substantial intellectual contribution activity impacting Academic Domain

High Impact - Faculty member can document > 5 substantive intellectual contribution activities in this domain

Moderate Impact - Faculty member can document 3 substantive intellectual contribution activities in this domain

Some Impact - Faculty member can document 1-2 substantive intellectual contribution activities in this domain

Academic and professional engagement activities supporting the faculty member's determination of impact in this domain include the following:

Publications in peer-review or editor-review journals

Citation counts

Download counts for electronic journals

Editorships, associate editorships, editorial board memberships, and/or invitations to act as journal reviewers for recognized, leading peer-review journals

Elections or appointments to leadership positions in academic and/or professional associations and societies

Recognitions for research (e.g., Best Paper Award), Fellow Status in an academic society, and other recognition by professional and/or academic societies for intellectual contribution outcomes

Invitations to participate in research conferences, scholarly programs, and/or international, national, or regional research forums

Inclusion of academic work (e.g., at textbook or journal article) in other professors' courses

Competitive grants awarded by major national and international agencies (e.g., NSF and NIH) or third-party funding for research projects

Patents awarded

Appointments as visiting professors or scholars in other schools

Teaching/Instructional/Curricular Impact Domain

Impact Domain	Some Impact	Moderate Impact	High Impact
Teaching/ Instructional/Curricular Impact (5 year period)	Some intellectual contribution activity impacting Teaching/ Instruction Domain	Modest intellectual contribution activity impacting Teaching/ Instruction Domain	Substantial intellectual contribution activity impacting Teaching/ Instruction Domain

High Impact - Faculty member can document > 5 substantive intellectual contribution activities in this domain

Moderate Impact - Faculty member can document 3 substantive intellectual contribution activities in this domain

Some Impact - Faculty member can document 1-2 substantive intellectual contribution activities in this domain

Academic and professional engagement activities supporting the faculty member's determination of impact in this domain include the following:

Grants for research that influence teaching/pedagogical practices, materials, etc.

Case studies of research leading to the adoption of new teaching/learning practices

Textbooks, teaching manuals, etc., that are adopted by other professors

Publications that focus on research methods and teaching

Research-based learning projects with companies, institutions, and/or non-profit organizations

Instructional software (by number of programs developed, number of users, etc.)

Case study development (by number of studies developed, number of users, etc.)

Mentorship of student research, including student research mentorship that leads to publications or formal presentations at academic or professional conferences

Documented improvements in learning outcomes that result from teaching innovations that incorporate research methods from learning/pedagogical research projects

Hiring/placement of students

Career success of graduates beyond initial placement

Placement of students in research-based graduate programs

Direct input from organizations that hire graduates regarding graduates' preparedness for jobs and the roles they play in advancing the organization

Movement of graduates into positions of leadership in for-profit, non-profit, and professional and service organizations

Practice/Community Impact Domain

Impact Domain	Some Impact	Moderate Impact	High Impact
Practice/ Community Impact (5 year period)	Some intellectual contribution activity impacting Practice/ Community Domain	Moderate intellectual contribution activity impacting Practice/ Community Domain	Substantial intellectual contribution activity impacting Practice/ Community Domain

High Impact - Faculty member can document > 5 substantive intellectual contribution activities in this domain

Moderate Impact - Faculty member can document 3 substantive intellectual contribution activities in this domain

Some Impact - Faculty member can document 1-2 substantive intellectual contribution activities in this domain

Academic and professional engagement activities supporting the faculty member's determination of impact in this domain include the following:

Media citations (e.g., number, distribution, and effect)

Requests from the practice community to utilize faculty expertise for consulting projects, broadcast forums, researcher-practitioner meetings, faculty/student consulting projects, etc.

Publications in practitioner journals or other venues aimed directly at improving management expertise and practice Consulting reports

Research income from various external sources such as industry and community/governmental agencies to support individual and collaborative research activities

Case studies based on research that has led to solutions to business problems

Adoption of new practices or operational approaches as a result of faculty scholarship

Presentations and workshops for business and management professionals (e.g., CPE)

Invitations for faculty to serve as experts on policy formulation, witnesses at legislative hearings, members of special interest groups/roundtables, etc.

Tools/methods developed for companies

Memberships on boards of directors of corporate and non-profit organizations

Involvement of faculty in executive education programs

Consulting activities of research active faculty that stem from participation in executive education activities

Inclusion of cases and other materials in degree programs that can be identified as resulting from executive education activity

Partnerships between the school and organizations that participate in executive education programs, which benefit the school's teaching, research, and other activities and programs

Involvement of executive education participants and their organizations in the teaching mission of the school (e.g., executive-in-residence program)

Linkage between organizations participating in executive education and student internships, as well as placement of graduates in entry-level positions

APPENDIX 2 – Faculty Impact Assessment Worksheet

Faculty Impact Assessment Worksheet

Name _____
 Rolling 5-year Period _____ to _____

Impact Domain	Self-Assessment Rating (circle/highlight one)	Evidence supporting self-assessment rating
Mission Alignment	Some – Moderate - High	[Cut-and-paste academic and professional engagement activities/intellectual contributions from yearly self-evaluation reports]
Academic (Scholarly)	Some – Moderate - High	[Cut-and-paste academic and professional engagement activities/intellectual contributions from yearly self-evaluation reports]
Teaching/Instructional/ Curricular	Some – Moderate - High	[Cut-and-paste academic and professional engagement activities/intellectual contributions from yearly self-evaluation reports]
Practice/ Community	Some – Moderate - High	[Cut-and-paste academic and professional engagement activities/intellectual contributions from yearly self-evaluation reports]