
MARKET-INFORMED EDUCATION: RESPONSIVENESS OF GRADUATE BUSINESS PROGRAMS

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ABSTRACT

Online course offerings have become ubiquitous in modern higher education. The trend is particularly strong in graduate business programs. The purpose of this paper is to analyze the prospective effectiveness of graduate business programs responsiveness to market informed education. The analysis evaluates comparative 2013-2017 enrollment growth of MBA campus, MBA online, Specialized Graduate Business campus, and Specialized Graduate Business online programs ranked by U.S. News & World Report. Results indicate substantial enrollment growth in online programs compared to stagnant growth in traditional campus programs. Leading graduate business programs might focus on considerations other than enrollment growth such as job placement and maintaining the exclusivity of the brand. The results from this manuscript provide evidence supporting the notion of market forces pushing many programs into the online platform if there is a desire to maintain or expand enrollment. **JEL Classification:** I23, I26

INTRODUCTION

The trend in higher education throughout the last decade is for institutions to consider their role in society carefully and to evaluate the relationships with various stakeholders and communities. Increasingly, universities are expected to engage interactions with industrial and regional partners (Burrows, 1999). In addition, the marginal revenue derived from alumni and corporate donors is often key to yielding viable campus innovation and advancement. The rise of stakeholder salience correlates with the decline in government funding as a percent of total expenditures. For the university, thinking in terms of market demand and partnerships with key stakeholders has important implications for its governance and accountability arrangements (Jongbloed, Enders & Salerno, 2008). The purpose of this research is to explore market-informed education using enrollment in online graduate business programs as a general vehicle.

The organization of the manuscript includes a background section framing the environment influencing market-informed education. The second section puts forth information relating to the rise and efficacy of online delivery in higher education. The third section offers a brief empirical analysis illustrating a perspective on the importance of responsiveness to market demand in higher education via graduate business program enrollment trends. The final section offers a conclusion with a discussion on research extensions and limitations.

BACKGROUND

Interconnections and interdependencies between higher education, society, and the economy is a salient aspect of the modern market. Higher education is interacting with an increased number and variety of stakeholders. How a university proceeds to identify, prioritize, and engage with its communities reflects the evolution of the university. One may argue that the outcome of this process of stakeholder engagement will have cogent implications for the university's chances for survival (Jongbloed, Enders & Salerno, 2008). Understanding universities as complex social agents is key, not just to build more efficiently functioning universities, but also for identifying the unintended consequences and possible pitfalls that may emerge through the adoption of new market approaches.

The stakeholder concept originates from the business science literature (Freeman, 1984) tracing back to Adam Smith's "The Theory of Moral Sentiments." Its modern use in management literature comes from the Stanford Research Institute introducing the term in 1963 to generalize the notion of the stockholder as to the only group or individual to whom management need be responsive. A more modern definition of stakeholder is "any group or individual who can affect or is affected by the achievement of the firm's objectives" (Freeman, 1984). Freeman argues that business organizations should be concerned about their stakeholders' interest when making strategic choices.

Higher education institutions have a distinctly public character or responsibility to society (Neave, 2000). To meet this public responsibility objective, higher education institutions historically receive significant funding from government sources. Today, the basic funding and functions that higher education institutions perform are going through a process of change. The teaching and research functions are being reassessed, with an eye upon the contribution they make to the social-economic well-being of their environment. Higher education is not only expected to deliver excellent education and research, but it also must deliver those outputs in ways and forms that are relevant to the productive process and to shaping the knowledge of society. As far back as 1973, there were discussions about changing the social contract between higher education and society (International Labor Organization, 1975). In addition to the transmission and extension of knowledge, universities have been called upon to engage the following: (1) Play an important role in the general social objective of achieving greater equality of opportunity; (2) Provide education adapted to a great diversity of individual qualifications, motivations, and aspirations; (3) Facilitate the process of lifelong learning; and (4) Assume a public service function by making a contribution to the solution of major problems faced by the local community and society at large (Neave, 2006).

The current market environment forces universities to be in constant dialogue

with their stakeholders in society. This may lead to some fundamental changes in the relationship linking the universities and their industry environment. In their education and research tasks, universities continue to have an obligation to demonstrate quality, efficiency, and effectiveness, not just to those in government administration, which have the legal and historic responsibility for exercising official oversight, but increasingly to a wider range of stakeholders (Trow, 1996). As the source of revenue to fund institutional budgets increasingly rely directly on students, alumni, community and corporate sources, accountability to said stakeholders expands. As the direct role of government financial support is displaced by other stakeholders, the university becomes more integrated into society and more responsive to market forces. Value in terms of enrollment but also societal support migrates to the providers that best respond to this change in stakeholder environment (Slywotzky, 1995). The downside of this trend is the potential of universities becoming fragmented and overburdened by stakeholder claims unless they employ careful management practices.

Faculty and staff play an important role in relation to market-informed education as the heart of an institution. A dedicated staff is crucial to the daily customer service operational components of the institution. The faculty represents the talent embodying the product of higher education. Facilities, athletics, and local amenities may influence student college selection, but academic programs cannot sustain relevance without committed faculty members. The rise of the information age and online instruction will result in some academic programs expanding market share and other academic programs struggling to compete. To borrow from the finance literature, beta values tied to academic program enrollment variability will be much higher than historical norms. As a result, institutions continue to meet short-run enrollment expansion with a disproportionate number of non-tenure-track faculty positions relative to new tenure-track positions. In addition, programs that struggle to compete in the modern market reality of higher education will need to replace some retiring and departing faculty with non-tenure track positions. Tenure is a valuable part of the governance of higher education and will be maintained into the future. On that basis, the percentage of faculty in tenured and tenure-track positions must slightly decrease to maintain flexibility to market demand fluctuations across various disciplines. Somewhat related, the national propensity in higher education is to employ an increasing number of part-time faculty as a vehicle to support short-run growth patterns (Monks, 2009). Although many part-time faculty members provide great value to an institution, focusing on filling the excess demand with full-time positions align better with the student-centered environment ideology espoused by many institutions. The dedication and focus put forth by full-time faculty are a luxury many part-time faculty members cannot provide given the need to work other jobs to earn a living (Glenn, 2016). Regardless of designation as tenured, tenure-track, part-time, or full-time, market conditions have a significant influence on the emerging roles of faculty and staff members in higher education.

Students are the most important stakeholder for a public institution of higher education. The existence of the institution is predicated on serving the human capital needs of emerging constituents that will serve as future leaders in a variety of roles throughout society. Higher education has witnessed transformational changes, which includes serving a working adult population via night classes and the more recent innovations in the form of online course offerings. The asynchronous mode of online instruction has significantly changed higher education throughout the last twenty

years. More importantly, the trend toward online and hybrid instruction is likely to continue for the next twenty years. Consistent with e-commerce and cyber sales displacing significant market share from brick and mortar retail outlets, the market for online instruction has still not reached maturation. The transformation of dynamic engagement via video, virtual reality, augmented reality, and related tools requires significant and consistent investment into the online infrastructure. The modern student has never known life without the Internet. On the horizon, few future students will have ever experienced the Internet in any other form other than broadband, in many cases complete with multiple mega or gigabyte download per second delivery speeds. No longer does this student visit a video store to rent movies or video games. Network television, as well as radio and music, are being replaced by on-demand viewing and listening services, and today's students enjoy these amenities in mass quantity. Further, current end-user experiences across technology platforms are greatly enhanced via the breach and inclusion of the reality-virtuality continuum (Milgram 1994). The result is an environment where the traditional dictated time and place continuum for higher education instruction will not serve the expectations or possibly even the technology-rich needs of many future students. Future students are likely to demand an increasing amount of asynchronous options, digital recreations of real-life settings, and virtual elements as an overlay of the real world across blended multiple engaging platforms. Institutions, programs, and disciplines that can meet those needs and expectations at a competitive price will have a market advantage in an increasingly competitive environment.

THE ONLINE ENVIRONMENT IN BUSINESS EDUCATION

Online course offerings in postsecondary schools are growing rapidly. Postsecondary institutions offering online courses include both traditional institutions and institutions founded to offer only online courses. According to the U.S. Department of Education, 90 percent of degree-granting postsecondary institutions offered asynchronous Internet courses in 2001 (National Center for Education Statistics, 2001). Both the numbers of postsecondary schools offering online courses and the numbers of students enrolling in online courses are increasing. Jeff Seaman, chief information officer and survey director of the Sloan Consortium states, "According to *Online Nation: Five Years of Growth in Online Learning*, the growth rate of 9.7 percent for online enrollments far exceeds the growth rate of 1.5 percent for the overall higher education student population" (Allen & Seaman, 2007). Brown and Corkill (2007) indicate that almost two-thirds of colleges and universities that offer face-to-face courses also are providing graduate courses via the online environment. In recent years, online enrollment continues to grow as the total number of students in college shrinks (Schaffhauser, 2017; Straumsheim 2017).

As the numbers of students enrolled in online instruction have increased, researchers have debated the effectiveness of online instruction (Bowman, 2003; Fann & Lewis, 2001; Fortune, Shifflett & Sibley, 2006; Gayton & McEwen, 2007; Jennings & Bayless, 2003; Lezberg, 1998; Marks, Sibley & Arbaugh, 2005; Worley & Dyrud, 2003). Interest in the effectiveness of online instruction as a component of overall program effectiveness has been driven by the federal government through requirements of regional accrediting agencies, an international accreditation association for schools

of business, universities where schools of business are housed, and varied individual stakeholders. As an individual college CEO examines the role of online learning in meeting a college's strategic needs, assurance of its effectiveness in the creation of genuine learning is a critical factor in the evaluation process (Ebersole, 2008). While the need for assessment is not new, the focus of assessment as illustrated by the Association to Advance Collegiate Schools of Business (AACSB) International has intensified (Pringle & Michel, 2007). All collegiate business programs are tasked with the ongoing need for assessment (Bagamery, Lasik & Nixon, 2005; Martell & Calderon, 2005; Trapnell, 2005). It is important that assessment for online education be viewed as a system that involves more than just testing and evaluation of students (Martell, 2007). Traditionally, accrediting bodies were focusing primarily on input measures (Peach, Mukherjee & Hornyak, 2007). Input measures could reflect characteristics of the students who attended the business program (Mirchandani, Lynch & Hamilton, 2001) or organizational factors such as the institution's reputation, faculty-student ratio, or the number of faculty with terminal degrees (Peach, Mukherjee & Hornyak, 2007). For collegiate business programs aspiring to meet or maintain the standards of accreditation established by AACSB, assessment requires that the schools of business have program learning goals and utilize direct measures that reflect student demonstration of achievement of these goals (Pringle & Michel, 2007). As schools of business have developed and rapidly expanded their online course enrollments, assuring that student learning in the online format is at least equivalent to the level of learning taking place in traditional classroom courses have been a useful component of meeting assessment requirements (Terry, 2007).

Market-informed education decisions respond to traditional market forces. Online education reduces the traditional barrier to entry of geography. What were once regional markets have become national markets or at least, larger regional markets. In this environment, branding becomes a key revenue driver as schools compete for enrollment. The increased potential market coincides with a decrease in government funding. Between 2012 to 2017, government funding to higher education decreased at an annualized rate of 0.5% (Sayler, 2017). Not only have fixed costs of facilities and faculty for universities not decreased over this period but the technology infrastructure costs to provide innovative online instruction has increased to meet the expectations of students. Schools navigate in an industry of pressured margins with limited ability to raise price because of the expanded regional marketplace. Many industries respond to this mature market phenomenon by merging to gain the benefits of economies of scale. While this could be an option for universities, expanding enrollment through online programs has the same impact of increasing quantity and lowering average fixed cost per student (Grant Thornton, 2017). A key driver in expanding enrollment is branding (Sayler, 2017). Students look for accreditation, ranking, and other quality measures combined with career enhancement opportunities in their analysis of educational providers. Adjusting program offerings and interactions to student needs is part of the expanded assessment process of including the student voice in a school's strategic planning response to market-informed education decisions (Higdon, 2016).

Quality metrics are an important link to growing online enrollment in graduate business programs. While business degree programs are offered at a wide range of price points, external rankings and accreditation are important quality control considerations for many students. If academic programs can provide students quality program combined with the convenience of the online mode, some institutions should

benefit from the emerging market demand.

EMPIRICAL ILLUSTRATION

To illustrate the importance of responsiveness to market demand in higher education, this section offers a brief empirical analysis of graduate business program growth. Online course offerings have become ubiquitous in modern higher education. The trend is particularly strong in graduate business programs. This section evaluates comparative 2013-2017 enrollment growth of MBA campus, MBA online, Specialized Graduate Business campus, and Specialized Graduate Business online programs ranked in the top 100 (U.S. News & World Report, 2017). U.S. News & World Report provides annual rankings of top programs. As part of the ranking process, extensive data is collected across multiple degree programs traits relating to admissions, enrollment, demographics, job placement, faculty credentials, and related quality control considerations.

The Kruskal-Wallis test is sensitive to differences among means in the k populations and is extremely useful when the alternative hypothesis is that the k populations do not have identical means. The null hypothesis is that the k enrollment growth in the different program classifications come from an identical distribution function. For a complete description of the Kruskal-Wallis test, see Conover (1980). The specific equations used in the calculations are as follows:

- (1) $N = \sum_{i=1}^k n_i$ with $i = 1$ to k
- (2) $R_i = \sum_j R(X_{ij})$ with $j = 1$ to n_i
- (3) $R_i = \sum_{ij} O_{ij} R_i$ with $i = 1$ to c
- (4) $S^2 = [1/(N-1)] [\sum_i t_i R_i^2 - N(N+1)^2/4]$ with $i = 1$ to c
- (5) $T = (1/S^2) [\sum_i (R_i^2/n_i) - N(N+1)^2/4]$ with $i = 1$ to k
- (6) $| (R_i/n_i) - (R_j/n_j) | > t_{1-\alpha/2} [S^2(N-1-T)/(N-k)]^{1/2} [(1/n_i) + (1/n_j)]^{1/2}$,

where R is the variable rank and N is the total number of observations. The first three equations find average ranks. Equation (4) calculates the sample variance, while equation (5) represents the test statistic. If, and only if, the decision is to reject the null hypothesis, equation (6) determines multiple comparisons of enrollment growth across graduate business program classifications.

The nonparametric empirical approach yields an equation (5) test statistics of 22.36 (p-value = .0001), indicating a significant difference in the average rank order of enrollment growth across one or more of the four classifications. Assuming an alpha level of .05, the empirical results from equation (6) indicate there are three groupings of program classifications with enrollment growth rates that are statistically different. Specifically, the results from equations five and six provide empirical evidence that the MBA online has statistically higher enrollment growth rates than the other three program classifications. The second highest enrollment growth is from Specialized Graduate Business online, which is also statistically greater than the other two program classifications. Finally, the lowest enrollment growth is statistically equivalent for the MBA campus and Specialized Graduate Business campus programs.

The empirical results above provide evidence that business programs reacting to market demand and providing online course delivery are rewarded with higher

enrollment growth over campus programs. It is important to note the results are somewhat biased by the fact that some campus graduate business programs may not be actively pursuing enrollment growth. For example, several campus Ivy League or highly-ranked MBA programs could achieve enrollment growth by simply being less selective and more open to expansion when reviewing applications. At the same time, the primary reason many graduate business programs offer online degree options is to increase enrollment. The empirical results from online graduate business programs demonstrate an example of a positive result based on an academic discipline responding to industry conditions and market demand.

CONCLUSION

Technological change is creating a world where all industries, including higher education, must respond to market triggers. This manuscript offers general discussion and an applied example of market-informed education. The application put forth provides empirical evidence that online graduate business programs have responded to market information resulting in significant enrollment growth relative to their campus alternatives. A limitation of the empirical analysis includes the perspective bias of campus programs not always seeking growth relative to their online counterparts. The narrative put forth is in the spirit of initiating an important discussion but should not be viewed as complete or inflexible. Despite limitations, this manuscript establishes market-informed education as a topic for future research. A possible research extension includes an investigation into the efficacy of internship or experiential learning activities as a vehicle connecting students to future employers in response to market-informed demand for current and future labor market needs across industries. Analyzing market forces, responding to stakeholder needs, and efficiently allocating resources in response will continue to be an important aspect of successful modern higher education institutions.

REFERENCES

- Allen, I. & Seaman, J. (2007). *Online Nation: Five years of growth in online learning*. Needham, MA: Sloan Consortium.
- Bagamery, B., Lasik, J., & Nixon, D. (2005). Determinants of success on the ETS Business Major Field Exam for students in an undergraduate multisite regional university business program. *Journal of Education for Business*, 81, 55-63.
- Bowman, J. P. (2003). It's not easy being green: Evaluating student performance in online business communication courses. *Business Communication Quarterly*, 66(1), 73-78.
- Brown, W. & Corkill, P. (2007). Mastering online education. *American School Board Journal*, 194(3), 40-42.
- Burrows, J. (1999). Going beyond labels: A framework for profiling institutional stakeholders. *Contemporary Education*, 70(4), 5-10.
- Conover, W. (1980). *Practical Nonparametric Statistics*. New York, NY: John Wiley & Sons Publishing.
- Ebersole, J. (2008). Online learning: An unexpected resource. *The Presidency: The American Council on Education's Magazine for Higher Education Leaders*, 11(1), 24-26, 28-29.
- Fann, N. & Lewis, S. (2001). Is online education the solution? *Business Education Forum*, 55(4), 46-48.
- Fortune, M. F., Shifflett, B., & Sibley, R. (2006). A comparison of online (high tech) and traditional (high touch) learning in business communication courses in Silicon Valley. *Journal of Education for Business*, 81(4), 210-214.
- Freeman, R. (1984). *Strategic management: A stakeholder approach*. Boston, MA: Pitman.
- Gaytan, J. & McEwen, B. (2007). Effective online instructional and assessment strategies. *American Journal of Distance Education*, 21(3), 117-132.
- Glenn, Gwendolyn (2016). Colleges increasingly replacing full-time faculty with adjuncts. *WFAE: Charlotte's NPR News Source*, retrieved from <http://wfae.org/post/colleges-increasingly-replacing-full-time-faculty-adjuncts>.
- Grant Thornton (2017). *The State of Higher Education in 2017*. Retrieved from <https://www.granthornton.com/-/media/content-page-files/nfp/pdfs/2017/Transforming-Business-Models-for-Market-Shifts.ashx?la=en&hash=71B410FD3EA256B7A8C33C57FF1CDCF9AE743BA6>
- Higdon, R. (2016). Employability: The missing voice – how student and graduate views could be used to develop future higher education policy and inform curricula. *Power and Education*, 8(2), 176-95. <https://doi.org/10.1177/1757743816653151>
- International Labor Organization (1975). *The role of universities in higher education*. Geneva, Switzerland: International Labor Organization.
- Jennings, S. & Bayless, M. (2003). Online vs. traditional instruction: A comparison of student success. *The Delta Pi Epsilon Journal*, 45(3), 183-190.
- Jongbloed, B., Enders, J., & Salerno, C. (2008). Higher education and its communities: Interconnections, interdependencies and a research agenda. *Higher Education*, 56(3), 303-324.
- Lezberg, A. (1998). Quality control in distance education: The role of regional accreditation. *American Journal of Distance Education*, 12(2), 26-35.

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- Marks, B., Sibley, T. & Arbaugh, J. (2005). A structural equation model of predictors for effective online learning. *Journal of Management Education*, 29(4), 531-563.
- Martell, K. & Calderon, T. (2005). Assessment in business schools: What it is, where we are, and where we need to go now. In K. Martell & T. Calderon Eds, *Assessment of student learning in business schools* (pages 1-26). Tallahassee, FL: Association for Institutional Research.
- Martell, K. (2007). Assessing student learning: Are business schools making the grade? *The Journal of Education for Business*, 82(4), 189-195.
- Milgram, P., Takemura, H., Utsumi, A. & Kishino, F. (1995). Augmented reality: A class of displays on the reality-virtuality continuum: *Proceedings of the SPIE, Telemanipulator and telepresence technologies 1995 conference*, 2351, 282-92. Boston.
- Mirchandani, D., Lynch, R., & Hamilton, D. (2001). Using the ETS Major Field Test in Business: Implications for assessment. *Journal of Education for Business*, 77, 51-56.
- Monks, James (2009). Who are the part-time faculty? *AAUP: Academe*, retrieved from <https://www.aaup.org/article/who-are-part-time-faculty#.WoEiLGedCvU>.
- National Center for Education Statistics (2001, January 4). *Quick tables and figures: Postsecondary education quick information system, survey on distance education at postsecondary education institutions, 1997-1998*. <http://nces.ed.gov>
- Neave, G. (2000). *The universities' responsibility to society*. Oxford: Pergamon.
- Neave, G. (2006). Redefining the social contract. *Higher Education Policy*, 19(1), 269-286.
- Peach, B., Mukherjee, A., & Hornyak, M. (2007). Assessing critical thinking: A college's journey and lessons learned. *The Journal of Education for Business*, 82(6), 313-320.
- Pringle, C. & Michel, M. (2007). Assessment practices in AACSB-accredited business schools. *The Journal of Education for Business*, 82(4), 202-211.
- Schaffhauser, D. (2017). On-campus enrollment shrinks while online continues its ascent. *Campus Technology*, retrieved from https://campustechnology.com/articles/2017/05/02_on-campus-enrollment-shrinks-while-online-continues-its-ascent.aspx.
- Slayer, B. (2017). Colleges and Universities in the U.S.: 61131a. *IBIS World Industry Report*.
- Slywotzky, A. (1995). *Value Migration*. Harvard Business Review Press.
- Straumsheim, C. (2017). Volatile but growing online ed market. *Inside Higher Education*, retrieved from <https://www.insidehighered.com/news/2017/05/02/report-finds-growth-volatility-online-education-market>.
- Terry, N. (2007). Assessing the difference in learning outcomes for campus, online, and hybrid instruction modes for MBA courses. *The Journal of Education for Business*, 82(4), 220-225.
- Trapnell, J. (2005). Foreword. In K. Martell & T. Calderon Eds, *Assessment of student learning in business schools*. Tallahassee, FL: Association for Institutional Research.
- Trow, M. (1996). On the accountability of higher education in the United States. In P. Maassen & F. Vught (Eds.). *Inside academia: New challenges for the academic profession* (pp. 227-268). Utrecht: De Tijdstroom.
- U.S. News & World Report (2017). Best graduate school rankings. Retrieved from

<https://www.usnews.com/best-graduate-schools>

Worley, R. B., & Dyrud, M. (2003). Grading and assessment of student writing. *Business Communication Quarterly*, 66(1), 79-96.



