Systems-designed graduate program review

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ABSTRACT

A graduate program review using a systems approach takes a comprehensive look at a program and the circumstances in which it operates. The academic discipline, societal organizations served by the program, and student demand are as important as the analysis of faculty, students, and financial resources. The systems-designed review ensures a thorough analysis of the factors controlled by the program and the factors that influence the program yet are beyond its control. The results of a comprehensive systems-designed program review guide administrators in the determination of strategic direction and resource allocations that are consistent with the institution's long-term plans.

Keywords: Academic program review, graduate program review, systems-designed program review, systems approach, strategic planning, university administration, resource allocation

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INTRODUCTION

When discussing the purpose of formal graduate program reviews, the policy statement of the Council of Graduate Schools, *Assessment and Review of Graduate Programs*, identifies a variety of issues related to the strategic and long-term plans of the institution (Baker, 2005). According to this statement, the focus of program review is on graduate program success and improvement. Not surprisingly, the factors influencing program success align with those associated with university strategic planning. Baker describes factors external to the graduate program such as government action, accrediting standards and practices, and public interest groups, all of which are beyond the control of the program, the department and the university. Included as well are factors internal to the university, and controllable by the program, the department and/or the university, such as budget constraints, space needs, and organizational structure. Baker goes on to say:

> "Within the individual university, program review helps in long-range planning and in setting both institutional and departmental priorities. It gives administrators and academic leaders critical information about the size and viability of a program, its future faculty resources and student market, its equipment and space needs, its strengths and weaknesses, and its contribution to the mission of the institution."

From the vantage of university strategic planning, graduate program reviews ultimately inform organizational priorities and the allocation of institutional resources (Barak, 1995, Dickeson, 2010, Zumeta, 2011).

If the current practice of graduate program review is comprehensive, including a thorough examination of internal and external factors, then the systems-designed approach (Churchman, 1968) discussed in this paper provides a straightforward structure for the review that also addresses the nature of relationships among the program's stakeholders. If, however, the current practice is not comprehensive, then the systems-designed approach not only provides a straightforward structure, it advances the practice of graduate program review such that information, data and findings produced by the process directly inform university strategic planning and resource allocation (Wells, 2011).

THE SYSTEMS APPROACH IN GRADUATE PROGRAM REVIEW

Any review of a graduate program requires significant investments of time and resources. When the findings of a review contribute to strategic planning processes and results in a clear understanding of the program's contribution to the university, strategic decisions and resource allocations are transparent. In the interest of all those involved, including program faculty, program administrators, and university administrators, conducting a comprehensive systems-designed review offers this transparency and more. From the vantage point of a program's faculty and administration, it provides a formal opportunity to highlight and promote the program's successes, to access whether or not there are sufficient resources devoted to the program, and to improve the program. From the point of view of a university administrator, it is an opportunity to assess if the program remains viable given the strategic direction of the university and, if so, what additional resources or actions are required to improve its operations. If there are strategic

conflicts, programs have the opportunity to make changes and reposition themselves to better align with the direction of the university (Michael, 1998).

In many instances, those performing the program review do not possess expertise in executing the review; consequently, the review performed may not address all issues adequately, and, in fact, may omit entirely the inclusion and measurement of variables that provide information about important strategic factors leading to insightful decisions by all involved. For this reason, a systems approach to the graduate program review process is advantageous.

Figure 1 (Appendix), Systems-Designed Graduate Program Review, provides a system view of the five major stakeholder groups of a graduate program—the graduate program itself (including curriculum and program administration), faculty, students, other principal stakeholders (including university administration), dissertation and theses committees—and the competitive environment, as well as the relationships among these stakeholders. All or some subset of these stakeholder groups comprise and influence all graduate programs.

A comprehensive program review is equivalent to the study of the characteristics of these stakeholder groups and the nature of their relationships. The analysis of these stakeholders integrates internal factors controllable by the program, department, and/or university, as well as the external factors beyond their control. The description of the systems-designed graduate program review includes a discussion of the internal and external factors as they relate to characteristics of the stakeholder groups.

The Graduate Program

The characteristics specific to the graduate program include internal factors under the control of the program, its department, and/or the university. These characteristics, however, may also reflect the relationship of the program to external stakeholders. In order to understand what the program is attempting to accomplish, it is vital to have a mission statement included in a program review. Statements and data supporting the program's specific purpose relative to the expectations of employers, demand for the program's intellectual capital in the local and regional area, requirements for continuing to the next level of graduate education, and the position of major competing programs connect the program with external stakeholders and underscore the program's relationships with the external stakeholders.

The inclusion of the program's strategic plan describes how the program will fulfill this mission and accomplish its purpose. In addition, the program review should include a clear statement or organizational chart describing the governance of the program, including the role and responsibilities of the program's administrators. The financial position of the graduate program delineates the source of funds, including access to external funding sources, and their allocation. Resources used in the delivery of the program include classrooms and facilities such as laboratories, technology, library resources, student workspace, funding for graduate students including graduate assistantships, and resources that assist the student in acquiring a position upon completion of the program.

Because the curriculum is an internal characteristic of the graduate program, a statement describing the curriculum design is included here, along with data reflecting the frequency of offerings and other important curricular elements. Additional internal factors include the criteria and processes for student admission and the various methods the program employs to enhance its relationship with other principal stakeholders. Organizing and consulting with a program advisory

board comprised of executives and practitioners with expertise critical to the program's disciplines is an approach to enhancing relationships with these principal stakeholders.

Examples of external factors with significant influence on a graduate program include: (1) current percentage and expected future percentage of graduate students selecting the degree program relative to all students in the market for that degree, and (2) the reputation of the degree program and the university relative to competitors. Likewise, trends in technology may influence the rate of change in the technological requirements associated with offering the program.

Faculty

First focusing on the internal characteristic, the analysis of the faculty consists of basic information about the credentials of the faculty, measurements of their productivity germane to the graduate program, including scholarship, consulting, and other forms of outreach to external communities, and measurements of responsibilities unique to the graduate program, including teaching and advising. The characteristics, qualifications, and scholarship of the faculty reflect program quality, productivity and the university's investment in intellectual capital. In addition, this analysis must include summary data on the diversity of the faculty and describe how faculty resources contribute not only to the delivery of the curriculum, but also to the mission of the university.

External factors include the analysis of social, political, regulatory, and other trends that influence the size of the potential pool of new faculty. These factors may also influence the mobility of faculty and the market-derived salary of faculty in the discipline. In addition, all external factors influencing the demand for the intellectual capital of the faculty are critical to the analysis.

Students

As with the stakeholders previously discussed, the assessment of students includes both external and internal factors. The analysis of external factors includes estimates of potential student demand and the growth rate for that demand. A critical component of these estimates is the sensitivity of demand to economic conditions.

This component of the analysis also considers enrollments, retention and graduation rates, and basic demographics on age, gender, ethnicity, and any other characteristic embraced by the program mission. In addition, the program review should provide data about student placement in organizations consistent with the stated purposes of the program.

Other Principal Stakeholders

This collection of stakeholders includes groups or entities relevant to the analysis of factors both internal and external to the program, department and/or the institution. Other academic units at the university that share resources with the graduate program under review are internal to the institution.

An important external factor are the program’s academic disciplines, which rely on the education and experiences acquired in the graduate program to create well-trained faculty and practitioners, and who, in turn, produce the intellectual contributions of the disciplines. Students prepared for future employment and faculty scholarship that may inform the practice of the

discipline are examples of program outcomes. The nature of employer demand for program graduates, the nature of demand for the intellectual output of the faculty, and the external trends (social, political, technical, etc.) influencing both of these areas are important external factors. Other stakeholders external to the program include alumni of the program and university who serve as a special resource for assistance and funding, international partners who extend the learning environment as well as contribute to faculty development, and other key communities that have self-interest in program outcomes. Many of these groups may also provide curricular support through adjunct teaching or ad hoc lectures. It is important for the program review to address adequately the nature of these other principal stakeholders and their relationship to the graduate program.

Dissertation and Thesis Committees

These groups play an important and unique role in providing governance over scholarship for the academic discipline. Given the common practice of mandating committee memberships both internal and external to the unit or university, consideration of this stakeholder is unique and deserves separate analysis. An important external validation of the program under review is the ability to attract highly qualified external members to these committees.

The Competitive Environment

Many discussions on program review, including Baker, et.al. (2005), conclude that the program review stops with the analysis of the five stakeholders cited above. Avoiding an analysis of the program's competitors and the competitive environment potentially places the graduate program at risk. As noted in the first section of the paper, the program review is an important input to the strategic planning process of a university. Including an analysis of the competitive environment allows those closest to the program to provide direct input to the university's strategic decision making. The alternative approach forces this competitive investigation into relatively more remote offices of the university's administration and into the hands of individuals who do not have firsthand knowledge of the program's competitive situation.

Incorporating these factors in the systems-designed graduate program review ensures that program faculty and administrators have a full understanding of the graduate program and the environment in which the program operates. This is true even if the data and information originates from a university-wide department responsible for aggregating and analyzing market intelligence, and not the graduate program itself. In any case, those involved with the graduate program and its review are in a position to be fully informed and to understand the factors that may influence the university's strategic planning and resource allocation.

THE BENEFITS OF SYSTEMS-DESIGNED GRADUATE PROGRAM REVIEW

The benefits of a systems-designed graduate program review are threefold. First, its comprehensive reporting and analysis of information and data, both internal and external, aligns directly with processes of strategic planning and resource allocation. Second, its thoroughness reduces the replication and redundancy of information gathering and measurement often experienced with a self-study for accreditation purposes or reports for university assessment requirements. Finally, the systems-designed process informs faculty of the of the program's status,

its position relative to competitors, its value to stakeholders, and its contribution to the mission of the university. With this breadth of information, university-wide strategic choices and resource allocation decisions may be transparent to the faculty.

As evidenced by previous research and by the case study conducted for this research and described in a subsequent section of this paper, current practice for academic program review aggregates and assesses information descriptive of an academic program's status, and focuses on factors internal to the program and the institution (Bresciani, 2002, Hogan, 1999, Wroblewski, 1995, Dickeson, 2010). These reviews include evaluation of program objectives, accomplishments toward those objectives, quality of faculty, quality of students, and rigor of the curriculum. Though the Council of Graduate Schools advises otherwise (Baker, 2005), the case study identified some program reviews that go on to evaluate budgets and financial resource requirements. Strategic analyses require all of this information related to internal factors to determine the alignment of the academic program with the mission of the institution.

Program sustainability and the institution's allocation of financial resources, however, depend not only on internal information, but also on external factors (Michael, 1998, Zumeta, 2011). What macro trends effect employer interest in graduates of the program? What competing universities attract the best students and why? What drives a student to select one academic program over another? What organizations or foundations will fund the academic program? Answers to these questions and others inform strategic analyses that, in turn, inform the institution's allocation of resources. A systems-designed approach to graduate program review provides these answers.

As discussed by Kotler and Fox (1985):

> "During decades of expansion, many institutions added courses and programs. When the financial crunch hit in the 1970s, many faced the choice of making cuts across the board or of identifying the stronger programs for full support while drawing funds away from weaker programs. This can be an exceedingly painful process, but economic realities suggest that each institution focus its financial and other resources on programs that further its mission, build on institutional strengths, and meet the needs of identifiable target markets."

The systems-designed program review, by identifying the centrality of the program to the university's mission, assessing the quality of the program, and considering the viability of the student and employer markets, allows faculty to understand the rationale underlying strategic decisions related to growth and to consolidation.

University faculty and administrators already engage in a multitude of review and assessment activities. It is to the institution's advantage to streamline these activities and to use the information and results of these ongoing processes in as many ways possible. The systems-designed graduate program review, as one of these processes, integrates with assessments related to an institution's mission and objectives, the established budgeting process, accreditation standards and outcomes assessment, and any other customary processes for program development, review, and change (Bresciani, 2002, Rowley, Lujan, and Dolence, 1997).

It is beneficial that the faculty members responsible for an academic program aggregate, synthesize, and report the required information and data and that academic peers assess the program. In this way, members of the faculty have first-hand knowledge of the information and data intended for subsequent use in the strategic planning process. Assuring that the academic

program review generates the required internal and external information and that faculty members are closely involved in the review process facilitates strategic analysis and increases the likelihood of faculty acceptance of strategic choices.

Susan Barnard and Ann Ferren (2001) illustrate the value of program reviews to the university's strategic planning. Their description of a department at Radford University illustrates how faculty and administrators "…collaborate in effective strategic planning, make collective decisions, and maintain or increase mutual trust within a climate of evidence." In this scenario faculty avoided the elimination of an academic program by understanding the factors driving strategic decisions, gathering and analyzing the necessary information, and designing a plan for program growth consistent with the strategic direction of the institution.

CURRENT PRACTICES FOR GRADUATE PROGRAM REVIEW—A CASE STUDY

The purpose of this case study is to determine if a systems-designed approach to graduate program review advances the current practice. Discussed in this section are the conditions necessary to reach such a conclusion and the specific research questions, the selection of cases, the structure of the analysis, and the findings.

Research Questions

There are two characteristics unique to the systems-designed approach to graduate program review. First, it reflects a comprehensive approach that includes internal, controllable factors and external, uncontrollable environmental factors such that the review directly informs university level strategic planning and resource allocation. Second, it reflects a straightforward structure that addresses the relationships among all the components of the review. If the current practice of graduate program review falls short on one or both of these characteristics, then the systems-designed approach advances current practice.

The results of a case study designed to assess qualitatively the following questions provided the basis for the description of current practices.

- Is the information and data included in graduate program reviews, from a planning orientation, inclusive of both internal and external factors?
- Are the results of graduate program reviews used to guide strategic planning and/or resource allocations?
- Is there a straightforward structure guiding graduate program reviews and the application of a systems-designed approach?

Cases

In order to understand current practices of graduate program review, 24 universities drawn from the Carnegie Foundation's Basic Classifications of universities with master's degree and doctoral degree programs formed the basis of a case study (Carnegie Foundation, 2010). See Table 1 (Appendix), Carnegie Basic Classifications, for the identification of the six classifications for universities offering master's degree and/or doctoral degree programs and the colleges and universities included in this case study.

The study selected a convenience sample of colleges and universities uniformly distributed across the six Carnegie classifications. In total, the researchers investigated 144 university websites. Limited access to the details of the selected university's policies and processes of program review applicable to graduate programs resulted in a sample of four universities from each of the six applicable classifications. Consequently, one of every six of the 144 colleges and universities provided on-line access to program review documentation sufficiently detailed to be included in this research. The policies, documents, reports and procedures assessed were those available on the website of each university during the data collection period, June through September 2011. The result of an assessment of the available information was a careful study of the current practice of academic program review at the graduate level.

Structure of Analysis

The case study investigated the presence or absence of information and data relevant to each component of a comprehensive, systems-designed program review. Table 2 (Appendix), Case Analysis Information and Data, lists the information sought for the qualitative analysis and organizes it by process and purpose factors, internal factors, external factors, and relationship factors. Since any piece of information may be associated with internal, external, and relationship components of the systems-designed approach, categorization of factors by these components is helpful. Any direct links to strategic planning and resource allocation and any specific evidence of a systems design approach are also noted.

Process and purpose factors are primarily internal components though several have elements associated with relationships since they link the program with stakeholder groups, both inside and outside the university. Members of the review committee may be external to the program or the university, thus reflecting relationships across components. Those responsible for initiating the review and those receiving the results may link the program to other components or to the strategic planning process. The articulation of ties to accreditation and assessment suggest relationships and components of planning, and may be reflective of ties to strategic planning and elements of systems design. Finally, the purpose of the review, depending on the extent of its influence, may have immediate links to other components, with planning, and with a systems approach.

The internal factors, as expected, align most directly with the internal components of a systems approach. Some factors, however, incorporate element of relationships, planning, and systems dimensions. The statement of the mission of the program may include its fit with the universities mission and objectives, as well as the value of the program's intellectual capital to the region and/or specific industries. Financial resources align directly with resource allocations and the stability and sustainability of the program link with other components and are critical to the university's planning.

The external factors all have importance to the university's planning and resource allocation. The size and growth rate of the student pool, the number and influence of competitors, trends in the discipline and employment opportunities all have a strategic impact and influence the university's propensity to investment resources in the program.

Finally, any evidence of the relationship among stakeholders is important. The nature of relationships, such as the strength of the program's ties to alumni, employers, discipline-based organizations, and other university departments and units, influences the value and quality of the academic program. In a similar way, the quality of student advising depends on the nature of the

relationship among students, faculty, and program administrators. Recognition of these relationships is reflective of a systems-designed approach.

Findings

The findings summarize the systematic content analysis of the policies and procedures of the 24 universities included in the case study. Details of the content analysis, recording the presence or absence of information in relevant categories, appear in Table 3 through Table 6 (Appendix). If the total number of observations appearing in the tables is less than 24, then information relevant to the categories was not present. On the other hand, if the total number of observations exceeds 24, then observations were relevant to more than one category. In these tables, observations appear by Carnegie classification and total. If there are differences among the universities that appear to be associated with classification, the summary statements note those differences.

Considering the graduate program review policies and procedures of these 24 universities, this bulleted summary describes findings relative to the process and purpose factors. See Table 3 (Appendix), Process and Purpose Factors by Carnegie Classification, for tallies of the observations.

- Eighteen of the 24 universities review graduate programs on a five to seven year cycle. The cycles range from five-year intervals to ten-year intervals. Two RU/VH universities and one RU/H university conduct graduate program reviews on a ten-year cycle.
- In most cases, upper level administrators appoint the members of the review committee (members internal to the program and/or external members), frequently in consultation with program directors, department chairs, and/or deans. Beyond this, at seven universities, five of which are Master's M or Master's S universities, standing university-wide committees or academic senate committees conduct the reviews. In two cases, one RU/VH and one Master's S university, the state appoints all committee members. Only five universities include in the review a self-study report prepared by program faculty.
- A review process initiated by department chairs (six cases) or the provost (six cases) appears to be the common practice. In other cases, a standing university committee or council, or the academic senate initiates the review.
- The findings of the review typically go to the university provost. This is the case in twelve of the 24 cases. Alternatively, a graduate dean or graduate council receives the report. In three of the cases, the state receives the final report.
- Graduate program reviews tend to be coordinated with accreditation cycles and in one case the accreditation process and report actually serves as the program review. Eighteen of the 24 universities reference coordination with accreditation and/or assessment processes.
- Thirteen of the 24 cases identify program improvement as the primary purpose of the graduate program review. The policies at nine universities include statements articulating the value of the review to the strategic and resource allocation processes, though did not go beyond a general reference to the review's strategic value. In two additional cases, the policy references the institution's long-range planning, with specific comments on the centrality of the program, student demand and program budget. In six cases, the purpose of the review is not articulated.

Relative to a comprehensive, structured systems-designed approach to graduate program review, the last three points are insightful. The recipient of the information and findings of the review, coordination with accreditation processes, and direct reference to university-wide strategic planning and resource allocation reflect the extent to which the review has elements of the systems-designed approach. The central involvement of the recipient in university planning and the alignment of the review with accreditation and assessment suggest understanding of relationships among components of the review. Direct references to planning and resource allocation underscore the value of graduate program review in those processes.

The integration of a robust set of internal and external factors reflects the comprehensiveness of the graduate program review and suggests elements of the systems-designed approach. While the exact set of factors reflects the unique characteristics and circumstances of a specific program, both internal and external factors and the factors' relationships with other components are essential to a comprehensive review if it is to add value to the planning process. As the following summaries suggest, only two universities included in the cases analysis integrate a comprehensive set of internal and external factors. While the majority of cases prescribe a robust set of internal factors, very few prescribe the analysis of a robust set of external factors. Similarly, very few identify or analyze the relationships among the various components or the review.

Internal factors considered in this analysis are ones descriptive of students and faculty, program mission with links to university mission, assessment and accreditation considerations, facilities, financial and other resources, and program stability and sustainability. Observation tallies appear in Table 4 (Appendix), Internal Factors by Carnegie Classification.

- Twenty of the 24 cases include a profile of the program's students. In four of those cases, a centralized university operation (e.g. institutional studies) provides the required data. Most cases include student enrollment, retention and graduation rates, demographic profiles, and admission test results. Only one case includes a determination of the cost per student. Of the four universities that did not include data descriptive of the program's students, three are RU/VH universities.
- Twenty-one of the 24 cases incorporate a profile of the program's faculty that includes one or more of these descriptors, size, qualifications, teaching practices and/or research accomplishments. Of the three cases not including descriptors of the faculty, two are RU/VH universities and one is Master's L.
- Eighteen cases include a statement of the mission of the program and fifteen include the program's fit with the university mission and/or the mission of the state. Eleven cases reference information descriptive of the program's reputation, ranking and/or accreditation.
- Resources available and/or required by the program may consist of facilities and equipment, grants, and other funding sources, including allocations from a general fund and endowments. Fifteen universities in the case study expect information regarding facilities and equipment, and twelve expect information regarding all sources of funding to be included in the program review. Universities with doctoral program classifications place more emphasis on financial resources than do the master's classification universities.
- Seven of the universities ask for information regarding the stability and sustainability of the program based on analyses that provide future projections and/or multi-year plans.

Four external factors are easily identifiable as important for a comprehensive review, estimates of the size and growth rate of the student pool, analysis of competitors, trends and changes in the discipline, and opportunities for employment or further education after graduation. Refer to Table 5 (Appendix), External Factors by Carnegie Classification, for tallies.

- Only two of the 24 universities studied include all four of these external factors in the graduate program review.
- Four cases include estimates of the size and growth rate of the future student pool, six include an analysis of programs competing for students, and nine assess significant trends in the discipline that would influence the program's future.
- Employer demand for graduates and opportunities for further education is included more than any other external factor. Eleven universities in the cases study expect the review to include an assessment of such factors.

The absence of analyses of the external factors clearly suggests that the current practice of graduate program review is not comprehensive. Process and purpose factors and internal factors are more likely to be included than the external factors just discussed.

The final indicator of a comprehensive, systems-designed approach to graduate program review is the presence of an analysis of the characteristics and nature of relationships among the review's components. This includes connections among internal and external factors, relationships with external stakeholders such as alumni, the geographic region and grant-giving organizations, and links with university-wide planning and resource allocation. Table 6 (Appendix), Relationship Factor by Carnegie Classification, provides tallies of this factor.

- Fifteen of the 24 universities in the case study address one or more relationships with internal factors, external factors, planning processes, and or stakeholders of interest to the program.
- Five of the fifteen cases make a moderate number of references to internal factors, planning, or comparisons to national benchmark programs. The other ten make some specific reference to alumni, competing programs, community and regional attachments, or employers.

Conclusions

While elements of a comprehensive approach to graduate program review are present across the cases, none of the universities in the case study employs a structured, fully comprehensive systems-designed approach. Specifically, the case analysis qualitatively considered and concluded the following.

- Information and data included in graduate program reviews, from a planning orientation, are primarily descriptive of internal factors, with little attention given to external factors and stakeholders.
- The use of the results of graduate program reviews to guide strategic planning and/or resource allocations is recognized. The absence of a comprehensive approach, however, limits the extent of its usefulness.

- The existing policies articulate process and purpose issues though they are without a straightforward structure that includes the interrelationships among the components of the review.

A systems-designed approach to graduate program review advances the current practice. It offers a new way of thinking about the review. The findings of the qualitative analysis satisfy both conditions advanced in the discussion of the study's purpose.

- The current practice of graduate program review does not generally reflect a comprehensive approach that includes internal, controllable factors and external, uncontrollable environmental factors.
- The current practice of graduate program review does not generally reflect a straightforward structure that addresses the relationships among all the components of the review.

AN EXAMPLE OF A SYSTEMS APPROACH TO GRADUATE PROGRAM REVIEW—THE UNIVERSITY OF DAYTON MBA PROGRAM

To illustrate how a specific university used the systems approach, a revised version of Figure 1 (Appendix), created for the 2008 MBA Program Review at the University of Dayton, appears in Figure 2 (Appendix). Note that the diagram no longer includes thesis committees since a thesis is not a program requirement for the MBA at the University of Dayton. Because this is a part-time MBA program, an important external stakeholder (and consistent with the program's purpose) is the regional business community. As a result, part of the program review focused on economic studies and data describing the trends experienced by the local and regional community.

Analysis of the competitive environment began with the identification and assessment of macro trends exogenous to the sphere of program control. When linked to the strengths and weaknesses identified in the MBA program's strategic plan, these trends revealed opportunities and threats to the program from changes in the environment. For example, the part-time MBA program draws students most heavily from local and regional employers. During difficult economic times, these employers eliminate tuition remission benefits, scale down the number of employees, or even cease operations. All of these actions influence the number of students potentially interested in the UD MBA Program. Growth in graduate programs is a major initiative of the University of Dayton. The threats associated with a weak local economy suggested that action to ensure the MBA program's alignment with university strategy was necessary. The systems-designed, comprehensive MBA program review provided the foundation for the needed changes.

Figure 3 (Appendix), Program Review Leading to Program Change, illustrates how the MBA Program Review at the University of Dayton contributed to a larger process of program revision. The program review, using the systems-designed approach and including an analysis of both internal and external factors, was the foundation for a School of Business Administration (SBA) task force, which in turn created recommendations for MBA Program change.

The SBA graduate curriculum committee then used the recommendations to create a unified plan of change. Both AACSB accreditation standards and University of Dayton graduate program guidelines informed the entire process. While the graduate committee provides faculty oversight for the graduate program, final authority for the change rests in the hands of the SBA

faculty. The comprehensive systems-designed program review provided faculty a thorough analysis of the program's status and the factors that would influence its future. With this information and data, the rationale for program revision was clear. After discussions and minor modifications, the SBA faculty granted approval and has since implemented the new program. Total time from the beginning of the MBA Program Review until the faculty approval was approximately 21 months.

CONCLUSIONS AND RECOMMENDATIONS

The current practice of graduate program review is rarely comprehensive, inclusive of a thorough examination of internal and external factors. The systems-designed approach provides a straightforward structure for the review that also addresses the nature of relationships among the program's stakeholders. Not only does it provides a straightforward structure, it advances the practice of graduate program review such that information, data and findings produced by the process directly inform university strategic planning and resource allocation .

This approach not only assesses data and information descriptive of the academic program, its faculty, students, and administration, it includes financial and nonfinancial resources for which the program competes within the institution. External or environmental factors, outside the control of the program and the institution, are also incorporated. These external, uncontrollable factors include employers, the academic discipline, communities, and the macro trends influencing society, the economy, technology, and politics. With purposeful design, the information required for the graduate program review is the same information required for the institution's resource allocation and long-term planning decisions.

Additional advantages of the systems-designed graduate program review stem from its comprehensiveness and the involvement of program's faculty. A thorough review may eliminate the need for replication and redundancy of information collection and analysis for accreditation and other assessment functions. Faculty and administrators have access to complete information regarding the graduate program and the environment in which it operates. This same information becomes the basis for university-wide strategic decisions. With widespread dissemination of this information, all involved have a better understanding of the rationale for strategic choices and resource allocations. Knowing the factors that influence those allocations empowers faculty and administrators to address important issues, take calculated action, and influence the program and the institution in meaningful ways.

Moreover, the enhanced systems approach offers the potential to have a positive impact on the financial health of the university and the economic health of the region the graduate program serves. To demonstrate this, further research is necessary to understand the extent to which the enhanced systems-designed graduate program review leads to effective strategic choices and efficient allocation of university resources, the value added to the region by the graduate program's intellectual capital and its graduates, and the extent to which these outputs influence the economic health of the region.

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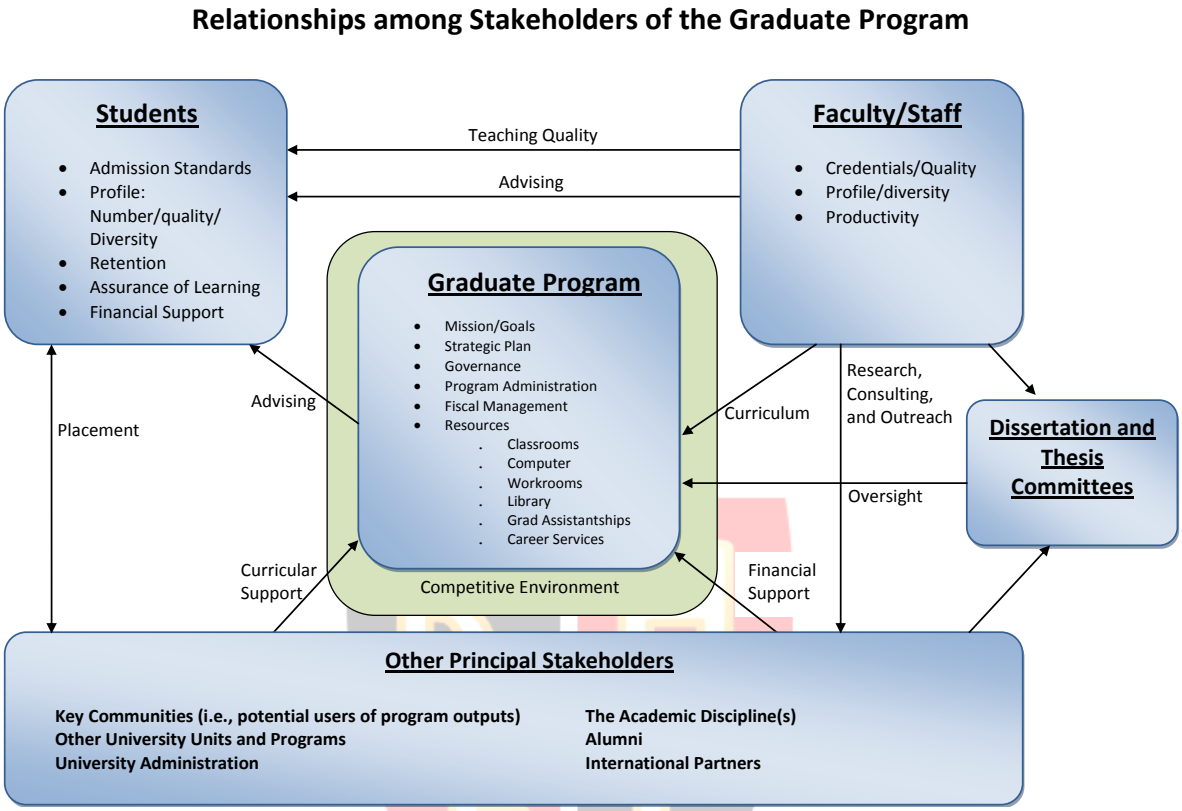
APPENDIX

Figure 1: Systems-Designed Graduate Program Review (Wells, 2011)



Note that the placement of the stakeholders in this figure is an artifact of the attempt to keep the figure uncluttered and does not imply any priority or importance.

Table 1: Carnegie Basic Classifications

Doctorate-granting universities that award at least 20 doctoral degrees per year		
RU/VH	Research Universities with very high research activity	Oregon State University University of Wisconsin-Madison University of Washington Virginia Tech
RU/H	Research Universities with high research activity	Boston College University of New Hampshire University of Texas-San Antonio West Virginia University
DRU	Doctoral/Research Universities	East Carolina University Illinois State University Indiana University of Pennsylvania Texas Christian University
Master's colleges and universities that award at least 50 master's degrees and fewer than 20 doctoral degrees per year		
Master's/L	Master's Colleges and Universities with larger programs	Boise State University California Polytechnic State University James Madison University Southern Connecticut State University
Master's/M	Master's Colleges and Universities with medium programs	Butler University Ithaca College John Carroll University Utica College
Master's/S	Master's Colleges and Universities with smaller programs	Bemidji State University Dakota State University Southwestern Oklahoma State University University of Alaska Southeast

Table 2: Case Analysis Information and Data

Information and Data	Internal Components	External Components	Relationship Components	Strategic Planning and Resource Allocation	Evidence of Systems Design
Process and purpose factors					
Frequency of graduate program review	x				
Composition of review committee	x		x		
Responsibility for initiating review	x		x		
Recipient of findings and/or report	x	x	x	x	
Articulation of links with assessment and/or accreditation	x		x	x	x
Articulation of purpose of review	x		x	x	x
Internal factors					
Profile of student body	x				
Profile of faculty	x				
Statement of mission, alignment with university and with region	x		x	x	x
Reputation	x		x		
Facilities and equipment	x			x	
Financial resources	x			x	
Stability and sustainability	x		x	x	
External factors					
Size and growth rate of student pool		x		x	
Direct competitors		x		x	
Trends in discipline		x		x	
Employment opportunities		x	x	x	
Relationship factor					
Articulation of relationships among factors			x		x

Table 3: Process and Purpose Factors by Carnegie Classification

Information And Data	RU/VH	RU/H	DRU	Master's L	Master's M	Master's S	Total*
Frequency of review							
5 to 7 years	2	3	3	3	4	3	18
8 to 10 years	2	1	1	1			5
Composition of committee							
State policy or involvement	1					1	2
Standing university committee	1		1		3	2	7
Members internal to program	1	3		1	1		6
Internal and university-wide members	1	1	2	2		1	7
Internal and external to university	1	1	1		1		4
Responsibility for initiating review							
Provost, provost council or top academic officer	1	1	2	1		1	6
Senate	1						1
Graduate dean or council		2		1			3
Department chair			2	1	3		6
Dean						1	1
Academic standards or assessment committee					1		1
Academic program review committee				1			1
Recipient of final report							
State	1		1			1	3
Provost or top academic officer	1	2	3	2	2	2	12
Graduate dean or council		2	1	2			5
Senate			1				1
Board of trustees		1	1			1	3
Academic standards or assessment committee	1		1	1	2	1	6
Academic dean		2	2	2	2		8
Articulation of links with assessment and/or accreditation Included in review	2	4	4	3	2	3	18
Articulation of purpose of review							
Program improvement	2	2	2	3	3	1	13
Planning and budget	1	1	1	1	3	2	9
Uncover issues			1	2			3
Reflection		1					1

*Total observations are less than 24 when information was not included in the available documents. Total observations exceed 24 when multiple responses were appropriate.

Table 4: Internal Factors by Carnegie Classification

Information And Data	RU/VH	RU/H	DRU	Master' L	Master's M	Master's S	Total*
Profile of student body							
Enrollment		3	4	2	3	1	13
Retention		3			3	2	8
Graduation rates		1				1	2
Demographic profile	1	1	3	1	1	2	9
Admission test results, GPA	1	1		1			3
Cost per student			1				1
Change over time					1	1	2
Admission process and criteria				1	1	1	3
Profile of faculty							
Size and composition	1	1	1	2	1	2	8
Qualifications	2	3	3	2	2	4	16
Teaching practices		1		1	2	1	5
Research accomplishments	2	4	3	3	3	4	19
Statement of mission, alignment with university and with region							
Mission	1	3	3	3	4	4	18
Alignment with university, region, and/or state initiatives	1	2	3	2	3	4	15
Reputation Included in review	1	3	3	2		2	11
Facilities and equipment Included in review	2	3	3	3	1	3	15
Financial resources Included in review	2	3	4	1		2	12
Stability and sustainability Forecasts included in review	1	1	1	2		2	7

*Total observations are less than 24 when information was not included in the available documents. Total observations exceed 24 when multiple responses were appropriate.

Table 5: External Factors by Carnegie Classification

Information And Data	RU/VH	RU/H	DRU	Master's L	Master's M	Master's S	Total*
Size and growth rate of student pool Included in review			1	1	1	1	4
Direct competitors Included in review		1	1	1	1	2	6
Trends in discipline Included in review		2	2	1	2	2	9
Employment opportunities Included in review	2	2	1	1	2	3	11

*Total observations are less than 24 when information was not included in the available documents. Total observations exceed 24 when multiple responses were appropriate.

Table 6: Relationship Factor by Carnegie Classification

Information And Data	RU/VH	RU/H	DRU	Master's L	Master's M	Master's S	Total*
Articulation of relationships among factors							
Moderate	2		2	1			5
Minimal	1	2	1	1	3	2	10

*Total observations are less than 24 when information was not included in the available documents. Total observations exceed 24 when multiple responses were appropriate.

Figure 2: Systems-Designed Graduate Program Review for the University of Dayton MBA Program

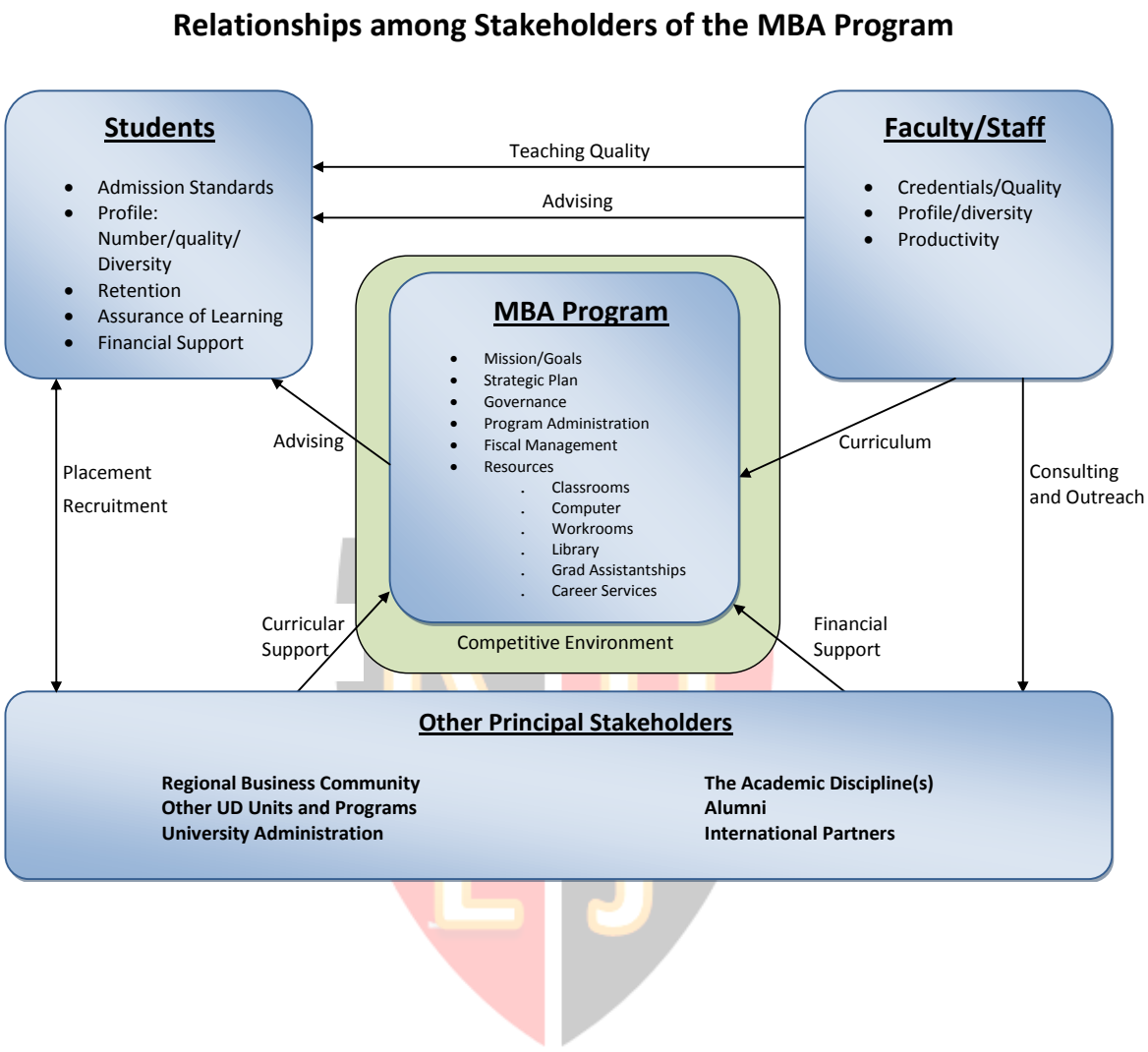


Figure 3: Program Review Leading to Program Change