

# Student Satisfaction with Undergraduate and MBA DS/P/IS Programs

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A series of studies jointly sponsored by Educational Benchmarking, Inc. (EBI) and AACSB examined many aspects of student satisfaction with undergraduate business and MBA programs. For undergraduate programs, 9,340 students representing 93 institutions participated in the study. These students completed a comprehensive questionnaire that included demographic information as well as 120 questions in a —point scale format addressing various aspects that may be associated with student satisfaction.

For the MBA study, over 3,300 MBA students from 68 universities were involved. These students responded to 130 questions designed to capture the many elements which may, in concert, constitute areas of student satisfaction with an MBA program.

Participating institutions, in addition to receiving extensive information about student satisfaction in their own programs, received comparative information about six peer/competitor programs of their choice. Information provided to participating institutions for the six peer/competitor programs were reported in the aggregate. In the interests of confidentiality, these data are not provided at the level of the individual peer institution.

In this article, we report aspects of program satisfaction for decision science, production/operations management, and management information systems (DS/P/IS) majors at both undergraduate and MBA levels.

## DS/P/IS Undergraduate Programs

Nearly nine percent (8.9%) of undergraduate business students major in DS/P/IS.

Accounting (23.6%), management/business administration (22.3%), finance (19.5%), and marketing (18.6%) comprise the preponderance of majors. The data that follow are based on the responses of 807 undergraduate business students who are majors in DS/P/IS.

The essential question raised by the AACSB/EBI joint project is what are the elements associated with high levels of student satisfaction in business programs. Consistent with that objective, the study relied on three questions to capture "overall satisfaction."

- To what extent did your undergraduate business experience fulfill your expectations?
- When you compare the total expense to the quality of education, how do you rate the value of the investment you made in your undergraduate business program?
- How inclined are you to recommend your undergraduate business program to a close friend?<sup>1</sup>

The study also relied on a series of questions assessing general areas relevant to the delivery of an effective undergraduate business program which would be reasonably expected to affect students' satisfaction:<sup>2</sup>

- Quality of faculty and instruction for required courses
- Quality of faculty and instruction for courses in students' major
- Breadth of the curriculum (e.g., international perspective, social responsibility and ethics, technology, practical applications)
- Preparation for and use of computer applications in the classroom

- Extent of duplication in the curriculum
- Size of enrollments in required courses and those for students' majors
- Amount of and quality of student teamwork
- Effectiveness of course sequencing
- Extent and quality of skills training (e.g., presentation, written communication, team effectiveness, computer)
- Quality of services by the undergraduate program office
- Academic quality, teamwork, and camaraderie of classmates
- Student organizations and extracurricular activities
- Availability and access to computing facilities
- Quality of classroom and instructional facilities
- Quality of faculty and non-faculty student advising
- Quality of placement and career services

The study also included other potential indicators of overall satisfaction with undergraduate programs. Among these were students' SAT/ACT scores, undergraduate grade-point-average (GPA), and the average number of hours worked weekly. Also included were two questions related to the workload required in undergraduate programs. One question addressed the workload associated with required courses; the other addressed the workload for courses required for students' majors.

## What Matters to DS/P/IS Students?

As indicated in Table 1, the single best predictor of overall satisfaction with undergraduate programs was satisfaction with the quality and instruction in required classes.<sup>3</sup> A related issue was the quality of faculty and instruction in students' majors. DS/P/IS students have little or no discretion about required courses and those courses necessary to complete their majors. Given that, students may be less likely to share the responsibility for a poor experience. The prevalence of these elements in overall student satisfaction, then, may not be surprising.

The quality of placement and career services was also an important indicator of overall undergraduate student satisfaction. It is notable, however, that business placement and career services is less important in the assessment of overall student satisfaction than are the quality of faculty and instruction for required courses and the academic challenge of the program.

It is also apparent that the academic quality of classmates, their camaraderie, and their capacity to work effectively in teams is an important factor in the overall satisfaction for DS/P/IS students. This may suggest that "satisfied" DS/P/IS students perceive that their experience in the business school has a social as well as an academic component. The quality of faculty and non-faculty student advising is also an important factor in student satisfaction.

There are other factors that help us understand overall satisfaction for undergraduate business students. EBI refers to these as "minor predictors" (see Table 1) because, while they are statistically significant, they add relatively little to overall student satisfaction.<sup>4</sup> In combination, however, they may merit consideration. In this group of variables are workload for required courses, student organizations and extracurricular activities, and effectiveness of course sequencing.

## Many Things Are Apparently of Little Concern to DS/P/IS Students

Table 1 also illustrates the elements that have virtually no impact on overall student satisfaction. Some of these are interesting as well, because these results do not sustain what many faculty and staff have come to believe. There is some evidence, for example, that students with higher SAT/ACT scores are the better students ( $r = .395$ ,  $p < .001$  with GPA). Better SAT/ACT scores are not, however, associated with higher student satisfaction.

Much has also been said about class sizes and their alleged impact on student experiences. Smaller programs routinely argue that their ability to provide relatively small classes is an inherent advantage; larger institutions are sometimes apologetic about their inability to do likewise. It is notable, then, that the size of enrollments

in required courses and those courses necessary for students' majors is simply not a factor in overall undergraduate business school student satisfaction.

It is also interesting that the average number of hours worked per week by undergraduate students has no impact on student satisfaction. Moreover, there is not a significant relationship between the average number of hours worked per week and undergraduate GPA ( $r = -.056$ , ns). This, too, would not seem to confirm the conventional wisdom.

We were also struck, contrary to our own biases, by the impact of facilities on overall student satisfaction. Quality of classroom and instructional facilities and availability and access to computer facilities provide no unique contribution to overall satisfaction.

The various constructs to which we have referred are easily compared between DS/P/IS students and those with majors in other disciplines.<sup>5</sup> In only two areas are DS/P/IS students less satisfied than students in other disciplines—quality of services by the undergraduate program office and availability and access to computing facilities. On a number of other dimensions, however, they are comparatively more satisfied. These include preparation for and use of computer applications in the classroom, amount and quality of student teamwork, extent and quality of skills training, quality of placement and career services, academic challenge of the program, and the quality of placement and career services. It would appear, on average, that DS/P/IS programs are delivering a satisfying educational experience to their majors.

## DS/P/IS Majors in MBA Programs

DS/P/IS students comprise 11.6 percent of MBA majors. Finance (35.5%) and marketing (22.7%) have the disproportionate share of majors. The data that follow are based on the responses of 374 DS/P/IS majors in MBA programs. For MBA programs, like that for undergraduates, overall satisfaction is a construct comprised of the same three questions which were noted earlier.<sup>6</sup>

There are a number of general areas that are relevant to the delivery of an MBA program which might affect a student's

### Major Predictors (in order of importance) of Overall Student Satisfaction in Undergraduate DS/P/IS Programs

- Quality of Faculty and Instruction for Required Courses
- Academic Challenge of the Program
- Quality of Placement and Career Services
- Quality of Faculty and Non-Faculty Student Advising
- Academic Quality, Teamwork, and Camaraderie of Classmates
- Quality of Faculty and Instruction for Courses in Students' Majors

### Minor Predictors (in order of importance) of Overall Student Satisfaction in Undergraduate DS/P/IS Programs

- Work Load for Required Courses
- Student Organizations and Extracurricular Activities
- Effectiveness of Course Sequencing

### Predictors which Have NO Impact on Overall Student Satisfaction in Undergraduate DS/P/IS Programs

- Breadth of the Curriculum (e.g., International Perspective, Social Responsibility and Ethics, Technology, Practical Applications)
- Quality of Services by the Undergraduate Program Office
- Quality of Classroom and Instructional Facilities
- Preparation for and Use of Computer Applications in the Classroom
- Availability and Access to Computing Facilities
- Students' Undergraduate Grade-Point-Average
- Amount and Quality of Student Teamwork
- Extent of Duplication in the Curriculum
- Average Number of Hours Worked by Students
- Students' SAT/ACT Scores
- Extent and Quality of Skills Training
- Size of Enrollments in Required Courses and those for Students' Majors
- Work Load for Elective Courses

tion with the quality of placement and career services.<sup>7</sup> Second was the quality of faculty and instruction for required classes. Several factors might underscore the criticality of this dimension. Such courses cannot be avoided. Also, since many MBA programs are cohort-driven, many students have no discretion with regard to the time these courses are offered or the instructor teaching the section. It is also apparent that the academic quality of classmates, their capacity to work effectively in teams, and their camaraderie are important elements of the MBA students' experience.

Other aspects of the MBA experience that are associated with overall satisfaction with the program are quality of the faculty and instruction for elective MBA courses; student organizations and extracurricular activities; quality of computing facilities; access, responsiveness, and leadership of the dean; and quality of faculty and non-faculty student advising.<sup>8</sup>

### What Does not Matter?

There are a number of factors that are apparently of little consequence to the satisfaction of DS/P/IS majors in MBA programs. These are notable because contemporary schools of business do attribute great importance to them, a level of importance apparently not shared by the students. Quality of classroom facilities and the work load for both required and elective courses are among these. Some may also find it interesting that MBA students' grade-point-average (GPA), their GMAT scores, and their work experience are unrelated to their student satisfaction.

How often have we heard something on the order of "high grades make for contented students," or that "high grades and work experience drives placement opportunities, which, in turn, drives student satisfaction"? These data reflect no empirical basis for those views; MBA students' grade-point-average is not a factor in overall satisfaction. In addition, MBA students' prior work experience is not at issue; it has no impact on overall satisfaction. GMAT scores are modestly correlated with GPAs ( $r = .27, p < .001$ ). Amount of work experience is inversely related to GPA ( $r = -.13, p < .05$ ). Work experience is unrelated to GMAT.

**Table 1: Predictors of overall student satisfaction in undergraduate DS/P/IS programs.**

satisfaction with the overall program. While the constructs were similar to those relied on for undergraduate programs, there were some differences:

- Quality of faculty and instruction for required MBA courses
- Quality of faculty and instruction for elective MBA courses
- Quality of placement and career services
- Access, responsiveness, and leadership of the dean
- Quality of faculty and non-faculty student advising
- Student organizations and extracurricular activities
- Program diversity (minority and international students)
- Amount of and quality of classmates' work experience

- Academic quality, teamwork, and camaraderie of classmates
- Quality of classroom facilities
- Quality of computing facilities

We were also interested in the potential relationship that might exist between certain other student information on which many MBA programs rely and students' subsequent overall satisfaction with the program. These included students' GMAT score, their MBA grade-point-average, and years of work experience. Also included were two questions related to the workload required in MBA programs, one for required courses, the other for elective courses.

### What Matters?

As illustrated in Table 2, the single best predictor of overall satisfaction with MBA programs for DS/P/IS majors was satisfac-

There are relatively few differences between the satisfaction levels between DS/P/IS MBA students and those with other majors.<sup>9</sup> Those differences, however, are notable. DS/P/IS students do have, for example, higher matriculating GMAT scores and higher GPAs as well. They are less satisfied, on average, with the quality of elective courses. They are also much more satisfied with placement and career services. Few would be surprised given the robustness of the market for DS/P/IS students.

## Summary

Departments or alternative structures for decision sciences, production/operations management, and MIS, whether at the undergraduate or MBA level, would rarely have the luxury of identifying those elements that may affect student satisfaction and allocating resources for their improvement. Instead, most units will focus on those aspects of undergraduate business and MBA programs that promise the greatest returns and invest in those.

Based on the results of the AACSB/EBI study, it appears that there are areas common to both undergraduate and MBA programs of DS/P/IS in which investments translate effectively to student satisfaction. The quality of faculty and instruction for required courses generally, and specifically courses required for students' majors, are important elements for undergraduate and MBA programs. Also, investments in business placement and career services would seem to pay good dividends as well. It is also notable that both undergraduate and MBA DS/P/IS majors appear to be sensitive to the academic quality, teamwork, and camaraderie of their classmates. We would be hesitant to dismiss all the other factors. With limited resources, however, attention to these would appear to be better allocations.

## Endnotes

1. These three questions were highly correlated. A factor analyses confirmed a psychometrically robust single construct with high reliability. Accordingly, in subsequent sections we report the statistical results for the overall satisfaction dependent variable construct.

### Major Predictors (in order of importance) of Overall Student Satisfaction in MBA DS/P/IS Programs

Quality of Placement and Career Services  
Quality of Faculty and Instruction for Required MBA Courses  
Academic Quality, Teamwork, and Camaraderie of Classmates

### Minor Predictors (in order of importance) of Overall Student Satisfaction in MBA DS/P/IS Programs

Quality of Faculty and Instruction for Elective MBA Courses  
Student Organizations and Extracurricular Activities  
Quality of Computing Facilities  
Access, Responsiveness, and Leadership of the Dean  
Quality of Faculty and Non-Faculty Student Advising

### Predictors which Have NO Impact on Overall Student Satisfaction in MBA DS/P/IS Programs

Quality of Classroom Facilities  
MBA Students' Grade-Point-Average  
MBA Students' Work Experience  
Work Load for Required Courses  
Work Load for Elective Courses  
Students' GMAT Score  
Students' Work Experience  
Program Diversity (Minority and International Students)

**Table 2: Predictors of overall student satisfaction in MBA DS/P/IS programs.**

2. The general areas which we describe are, except where noted, multi-item constructs with robust factor solutions and high reliability. In all cases, we relied on a conservative .5 item inclusion for the factor analyses. Also, reliability (coefficient alpha) levels exceeded .7 for all constructs. Copies of this information including factor solutions, reliabilities, descriptive statistics and a correlation matrix for the variables are available from the authors.

3. Table 1 illustrates the results of a stepwise, multiple regression with the overall satisfaction construct as described in endnote 1 with the independent variables as identified in this section. Detailed analyses of the multiple  $r$ 's,  $r^2$ 's, and change in  $r^2$ , and related significance for this multiple regression is available from the authors. In summary, the overall multiple  $r$  for this regression is .79 ( $r^2 = .624$ ).

4. The first set of variables, "major predictors," comprise a multiple  $r$  of .776 ( $r^2 = .603$ ). The "minor predictors," each of which is statistically significant, raise this to .790 ( $r^2 = .624$ ). The addition to unique variance, then, for the minor predictors is modest.

5. These results are based on a series of  $t$ -tests. Exact results, means, and significance levels for the undergraduate programs are available from the authors.

6. Only the program referents, for example, "undergraduate business experience," "MBA experience" for the questions were different.

7. Table 2 illustrates the results of a stepwise, multiple regression with the overall satisfaction construct with the independent variables as identified in the MBA section. Detailed analyses of the multiple  $r$ 's,  $r^2$ 's, and change in  $r^2$ , and related significance for this multiple regression is available from the authors. In summary, the overall multiple  $r$  for this regression is .738 ( $r^2 = .544$ ).

8. The first set of variables, "major predictors," comprise a multiple  $r$  of .697 ( $r^2 = .438$ ). The "minor predictors," each of which is statistically significant, raise this to .738 ( $r^2 = .542$ ). The addition to unique variance, then, for the minor predictors is modest.

9. These results are based on a series of  $t$ -tests. Exact results, means, and significance levels for MBA programs are available from the authors. ■