

Florida Atlantic University
Information Technology and Operations Management (ITOM)
Program Review
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Review Team Report

Dr. Ephraim McLean, Dr. Balaji Padmanabhan and Professor Linda Johnson reviewed FAU's Department of Information Technology and Operations Management (ITOM) on February 20-21, 2014. Dr. Tamara Dinev provided the reviewers with a self-study, faculty CVs and other supporting documents in advance of the site visit. The review team met with Graduate College Dean Deborah Floyd, Dean of Undergraduate Studies Ed Pratt, Associate Vice President of Research Jeffrey Anderson, Associate Provost for Assessment and Programs Michelle Hawkins, College of Business Dean Daniel Gropper, Associate Dean Paul Hart, ITOM faculty members, as well as undergraduate and graduate students.

Summary: At the department, college and university levels there appear to be several positive initiatives that can provide a strong tail wind for future growth and productivity in the Department of Information Technology and Operations Management (ITOM). This report identifies some of the salient findings first. As always, there are opportunities for improvement, with recommendations listed next.

Section A: Findings

The review team met with students, faculty and administrators and noted positive sentiment toward the department in each constituency. There appear to be several reasons to look forward to a strong trajectory for the department in the medium term fueled by stronger enrollment in programs, new leadership and the momentum it creates, potential for innovation in the department and a strong recognition for the value of high quality research. Below we highlight some specific findings that stood out from the different meetings as well as content provided in the self-study guide.

Programs

Enrollment in the ITOM undergraduate and graduate degree programs is on a positive growth trajectory with an increase in majors in 2012-13. Further, SCH/FTE reports indicate that the recent ITOM numbers are near a five year high. The broader macro environment relating to a STEM focus in many programs as well as growth in analytics and information security areas suggests that the recent trends that the department is seeing will continue.

New departmental initiatives that address market needs are indeed providing momentum. The ITOM department is reacting quickly to the market as suggested by the minors developed in recent years in the areas of Business Analytics, Information Security, and Healthcare Information

Systems. In addition to the two tracks in the MIS undergraduate major and the MSITM graduate program, the four certificate programs and six minors including the three aforementioned, directly address industry demand. Recent curricular changes and the implementation of new courses that have increasing demand from students should position the department for growth, retention and enhance students' ability to graduate on time. The five-year accelerated combined BBA-MSITM program is another recent initiative that demonstrates the department's commitment to serving students and industry. These developments should also contribute to the economic growth of the State.

While examples of academic departments operating in silos are numerous, the ITOM Department appears to be working collaboratively to offer interdisciplinary programs with other academic units, both inside the College of Business and across colleges. The most effective example of this is the partnership between ITOM and the Department of Computer Science in the College of Engineering to offer the MS-ITM program. The graduate students that the review team met saw this partnership as a benefit to their overall educational experience (though they did discuss frustration over a difference in the way the two units scheduled courses, suggesting that perhaps greater coordination can help).

Student Success

Clearly, strengthening the quality and diversity of offerings promotes student success by providing strong programs that cater to the needs of the market. In addition, there were other highlights that suggested various positives from a student success perspective.

Overall, there appears to be a strong commitment to teaching. Faculty were genuinely engaged and invested in delivering courses and a curriculum that prepares students for success in the degree programs and in the work place. The students that the review team met with enthusiastically identified specific courses and faculty members that they felt were exceptional to their educational experience.

The faculty members demonstrated their commitment to exploring and implementing alternative course delivery modes through a 100% in-unit full-time faculty member participation in the E-learning training course. In addition, large lecture courses are utilizing video lecture capture as a delivery mechanism that offers students either a face-to-face experience and/or the ability to view the lecture online. Some faculty members identified the lecture capture format as an effective and preferred delivery system for large courses.

Importantly, the department has built in a reward mechanism for faculty who teach large sections. Such incentive design appears to align well with student needs, many of whom work during the day, while providing faculty with more time for their research. Enrollment of 120 students counts for two courses with TA support; teaching a 250+ student class credits faculty with three courses and additional TA support as well.

Also, the recently created ITOM Advisory Board has successfully connected key industry leaders from prominent firms in the area to the degree programs and students. This can lead to important industry partnership providing curriculum advice, student internships and placement after graduation.

Research

The department has a history of being able to publish in premier journals. The self-study document highlights several examples that suggest this. In the 2006-2011 period the department was ranked in the top 30 for research in the UT-Dallas research rankings. In the same period, the department faculty had several journals accepted in top MIS and Operations journals, though this appears to have reduced in the recent five-year period. However, there now appear to be some attractive incentive mechanism in place to promote and reward high quality research. New tenure-track assistant professors are supported in their developing an active research agenda with a 2-2 teaching load for the first three years of employment, summer support and competitive salaries. In addition, research active faculty members with journal articles published in premier journals are given a course reduction, resulting in possibly a three-course teaching load in some cases. Also as noted earlier, teaching high enrolment courses counts for more than one course for course-load assignment purposes. These should all create a climate that fosters greater research productivity in the department.

Intangibles

New leadership at the College appears to have a strong supportive stance toward the ITOM Department. A tenure-track faculty line was approved and the department is in the search process. Dean Groper acknowledged the strong value that ITOM can provide to the College of Business.

Students appear to be motivated to proactively engage in initiatives that support the department. The ITOM student organization, with support from faculty advisors, encourages community building amongst the majors. Several students we spoke with were actively involved in this student group. It seemed well organized and clearly brought students together in discourse outside of the classroom.

Section B: Recommendations

As discussed in Section A, there are many, indeed many, important points of pride for the ITOM department. However, these are times when higher education is in a state of flux and there are many challenges for public and private universities nationwide. These times of rapid change do necessitate quick response from academic departments, but also lead to many opportunities that can be capitalized on. Below we identify some important recommendations across strategic, operational and intellectual capital considerations. We note that many of these recommendations originated from discussions in the various meetings on campus during the visit, hence there are indeed roots of change within that can work to act on some of these.

Strategic

While the department has several strong initiatives in the Operations and MIS areas, it is not clear that these changes are being driven by a well-articulated strategic plan. This is indeed a great time for the department faculty to engage in a strategic planning exercise, done perhaps in a

departmental retreat off-campus. The outcome of this should be a clear strategic plan that outlines the departmental mission and vision over the next five years. While there is a current mission and vision statement, these appear to be too broad, lack specific goals and metrics for evaluation, and a plan to work toward achieving these goals.

There is significant opportunity here to link the Operations and MIS areas even more strongly. The department should clearly articulate the synergies and how these tie to the proposed strategic plan over the next five years. In particular, the new program in Analytics, taught by the Operations faculty, should be very attractive to the MIS students and to the Florida job market. Such a plan will permit investment in areas that are aligned with specific goals, and should also guide the department in paring back on any initiatives that do not seem aligned to the main goals in the plan.

Overall both the MIS and Operations programs should be allowed to grow. There is a very strong need in the market for graduates with such skills. In Florida, the lack of skilled labor in STEM related fields has been recently noted by the Florida Board of Governors. The ITOM department clearly caters to this need. But the question of how to grow is an important one that deserves careful consideration. Certainly, growth should be strategically tied to the departmental vision and strategic plan. Growth could also be tied to the pursuit of some societal and business benefit in specific functional areas – e.g. security, healthcare. Growth should also leverage the IT/OM link more tightly. Further, growth should occur at all levels including in the graduate programs.

In 2008, the department had 23 full-time faculty members. Due to declines in enrollment, this number has declined to 16 full-time faculty members at present. But enrollments have now come back to levels approaching those of 2008, and there has not been a corresponding rebuilding of the faculty. One tenure-track faculty member is leaving this year and there are plans to hire one new assistant professor, thus achieving no new net growth. The addition of three or four new research-productive faculty appears well justified.

Intellectual Capital

Strong intellectual capital is at the core of successful academic programs. The department should continue to explore initiatives that can build and strengthen the intellectual capital. Publishing in top journals, seeking and obtaining research grants and authoring patents were all specific desires that were expressed in many meetings the review team had. The development of a journal list for the College and mechanisms to align course-load with research productivity should help in this process. Given these objectives and mechanisms, the department should set a concrete goal of having most tenured and tenure-track faculty on a 2-2 teaching load within five years.

Faculty should also be encouraged to seek more research grants. This can permit course buyouts to reduce teaching load, provide for student support as research assistants, underwrite travel to academic meetings and conferences and lead to publications in premier journals. However, institutional infrastructure, support and recognition for developing and writing grants need to be strengthened. There appear to be some initiatives such as seed grants for faculty at the university level, but it is not clear if these are adequate. Perhaps at the College level there needs to be

stronger support for faculty to collaborate across departments to develop interdisciplinary grants in high impact areas.

Success in further strengthening the intellectual capital through premier publications and research grants can also help make a strong case for restoring the PhD program. The PhD program can be a strong impetus for strengthening the intellectual capital and should be an important part of the near future of the department. The program should be reinstated when the department and College feel comfortable that incoming doctoral students will have enough faculty mentors who can help doctoral students develop their own dissertations for publication in premier journals. This can be achieved through faculty growth as well as more publications in premier journals.

Finally, faculty should be encouraged to seek greater involvement in high-profile service outside the university in such academic and professional associations as AIS, INFORMS, ACM, IEEE, AITP and SIM as officers, track chairs in conferences, reviewers, editorial positions, etc. Such exposure can lead to increased visibility for the department as well as for individual faculty members.

Operational

Overall the department appears to be run extremely well and Dr. Dinev has demonstrated the leadership needed to help the department survive a tough five-year stretch when enrollments in ITOM related courses dropped precipitously nationwide. The ITOM department now however has a unique opportunity to focus its knowledge internally to further improve operations in some areas. A few recommendations that have their roots in some of the meetings with students and faculty are listed below.

Course scheduling is an area where there might be some opportunities given the recent strong growth in programs in the department. As the demand for certain courses grows, some courses are getting capped out, denying access to majors. The department may want to consider establishing “major restrictions” in the advance registration window, where only majors can register for the courses first. After this window, registration can then be opened to all students again, to ensure broader availability of the courses. These can improve graduation rates if students are currently finding it difficult to register into courses that they need.

If the College of Engineering were to offer more night courses, it would be beneficial to the MS-ITM graduate program, which is an attractive blend of business and engineering. For students in this program, the business courses are conveniently scheduled, accommodating the daytime jobs of many of the students. However, the same cannot be said for their three engineering courses. Students feel the courses are of high quality; but because they are offered during the day, they lack the flexibility that the evening MIS courses offer them. If these engineering courses were to be provided at night, graduate students who work during the day might be able to graduate sooner. It would also make the program more attractive to potential students who are working full-time.

Given the demand for ITOM graduates in Florida and throughout the nation, the department may wish to consider establishing executive-style or premium-priced graduate degree and non-degree programs. Such programs, if successful, could be a major source of funds for the department and a source of extra income for faculty. In other parts of the country, these executive programs, offered in the evening or on weekends, have proved very popular with local companies. They provide a way for companies to invest in their star employees without the loss of time away from work. The feasibility of such an innovation could be discussed with the department's board of advisors for their advice.

Another operational recommendation is to invest in resources to measure all initiatives to evaluate where to invest. Some examples are tracking students who are FTIC and Transfers separately, tracking declared business pre-majors separately from other students who get into the business program. There should also be staff support to support programs, track all these data and quantify student and alumni feedback. Such support can also help promote the program to high schools and other potential sources for undergraduate and graduate students. Currently the department Chair appears to be doing all of this with a single staff-support person. Similar-sized departments at comparable universities are likely to have two or three administrative support personnel instead of just one.

Finally, the budget process seems very centralized and does not permit much autonomy. It would be useful to explore options that can provide greater funding flexibility and reduce the need to move paperwork back and forth between the department and Dean's office. Travel, office supplies and incidental expenses, such as support for advisory board meetings and student activities programs, are specific areas where more autonomy would be beneficial.

Conclusion

Overall, the ITOM department is in good shape, well managed, and with a caring teaching faculty and growing strength in scholarly research. Enrollments are strong and growing and the students seem well pleased with their undergraduate and graduate educational experiences. However, this growth indicates a corresponding need for more faculty members, particularly those with strong research skills. No major problems or deficiencies were found and the findings and recommendations that are listed above are designed to assist the department and the College to make further improvements in an already strong department.