ITU

MBA Internship Provider Evaluation Analytics

(Fall 16 to Summer 17)



1.0 Introduction and Background

A student at ITU is exposed to different avenues of learning; academic, experiential and extra curricular. Academic learning and progress is monitored along several different levels such as Signature Assignments, Peregrine (external) competencies, Capstone Projects and Theses, and many others.

Experiential learning is an integral part of ITU's training model. The Internship Program at ITU is just such a way in which students get to experience applying classroom concepts to real life business problems.

This report is the second report analyzing the efficacy of ITU's MBA Internship program. The terms considered in this report are Fall 2016, Spring 2017, and Summer 2017.

2.0 ITU's Internship Program

The internship program is open to all students at ITU. However, in order to be eligible for an internship, the following criteria are strictly enforced:

- Internship must be in the field of study; i.e. students in the MBA program cannot take on internships designated for other fields even if they have relevant experience as engineers, digital artists, and others. Faculty advisors (responsible for the internship courses) from the Business Department review the relevant internship documents to ensure that students are interning within the fields they study in.
- In order to qualify for internships, a student must have a cumulative Grade Point Average (GPA) of 3.0 or above. Students with GPA lower than these thresholds are denied internships. The Registrars Office (RO), and the International Student Office (ISO) strictly enforce this rule.
- Students and prospective internship providers must sign relevant documents to ensure integrity of the internship experience for the provider and for ITU.

- Through the course of the internship, a faculty advisor who requires the student to submit self-evaluations several times during the term monitors the students' internship progress.
- At the end of the term, all internship providers are required to fill out a form which
 provides comprehensive feedback about the interns progress along ITU's learning
 outcomes and also comment on the interns quality of work and other improvements
 required.
- Students are allowed no more than three (3) full time internships (equivalent to three courses and/or nine credit hours) during the course of their study at ITU. These internships are considered as an option to the students' allowance of elective courses towards their degrees. Students are also allowed to take on part time internships.

As previously mentioned, the internship providers are required to assess their student interns' performance along several learning outcomes. This constitutes an External Assessment Report. However, the students also assess themselves, and faculty advisors assess the students. The internship program, as a whole, constitutes internal and external assessment of student learning. For the purposes of this report, we only consider the external assessment component (see internship provider evaluation survey template in Appendix 1).

3.0 Learning Outcomes Assessment

The student learning and performance in the internship Program is assessed on a scale of 1-10 (1 being "novice", and 10 being "expert") along four (4) major categories called general academic competencies. An example of a blank internship provider assessment template is included in Appendix 1 to this document. These categories (summarized from the internship course learning outcomes) are:

- Overall Skills, Technical Literacy and Performance
- Critical Thinking and Problem Solving

- · Communication and Teamwork
- Responsibility and Community Engagement

Each of these categories has several sub categories to fully understand the breadth of a student's learning during their internship. These factors are further mapped out to ITU's Business Department learning outcomes (LOs). These are as follows:

- Overall Skills, Technical Literacy and Performance > LO 5 (Technical Literacy)
- Critical Thinking and Problem Solving > LO 1 (Problem Solving), LO 2 (Critical Thinking)
- Communication and Teamwork > LO 3 (Communication), LO 4 (Teamwork)
- Responsibility and Community Engagement > LO 6 (Research), LO 7 (Leadership)

The scores from above are converted to a percentage basis for each LO mentioned above. These LO scores are then used to analyze the strengths of the students pursuing the internship program and to improve its efficacy.

4.0 Scope

For the purposes of this report, analytics are presented only for the Business Department and both full time and part time internships are considered.

This data has been analyzed for three (3) trimesters between Fall 2016 and Summer 2017. It must also be noted that the internship program at ITU is administered like any other elective course with three (3) credit hours attached to the full time internship, and one (1) credit hour attached to the part time internship section.

Lastly, while several tools are used to monitor and assess the internship program at ITU, we focus only on the information contained within the internship provider's final evaluation report (see Appendix 1) of the student and no other tool.

5.0 Key assumptions

Certain assumptions were required to be made in order to present this information in the most accurate and concise manner possible. These assumptions are as follows:

- Internship Location In some instances, it was noted that the internship location was not always consistently noted on the internship provider's evaluation. In such cases, if the student had done their internship with the same internship provider in a previous term, the location was used from the previous term. Where this was still not available, an internet search was conducted for the internship provider and the location was used from the website. There were very few records which needed such approximation.
- Internship Industry and Sector For comprehensive presentation, the students' internship designation was used to designate an industry and sector. Rather than arbitrarily assign the industry and sector information, these were derived from the 2017 North American Industry Classification System (NAICS). This is a standard used by US Federal Statistical Agencies "in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy" (US Census Bureau, 2017).
- Internship Level In order to ascertain the seniority of the internships MBA students were participating in, Internship designations, cross referenced with internship provider comments, goals and objectives were used to denote whether the student was working at a Senior level (Executive, Senior Project Manager, etc.), Middle Management (Team Lead, Project Manager, etc.) or at an Entry Level (Junior Project Consultant, Sales Representative, Junior Consultant, etc.)

6.0 Checking and Assurance

Since the previous release of this report, ITU's primary Educational (Learning)

Management System (EMS) has undergone several changes. A summary of these changes
are listed below:

 Ability to download final internship provider evaluation reports from each section en masse to a zip file. Previously, each department relied on the EMS team to run reports for them from the system and send us links to the completed files. These completed files contained, in addition to the internship provider's final report, self-evaluation reports (mid term and final) from the student as well.

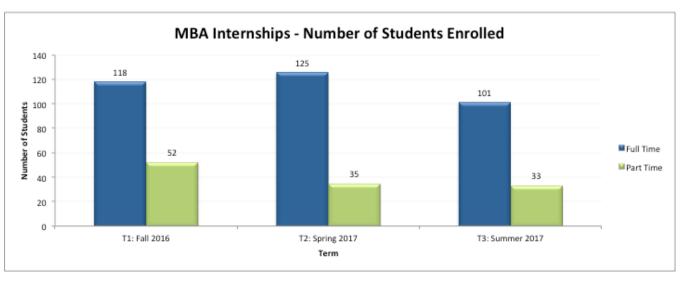
 Ability to verify number of students enrolled in the internship programs by department and check the rate of completion and follow up on reasons of non completion.

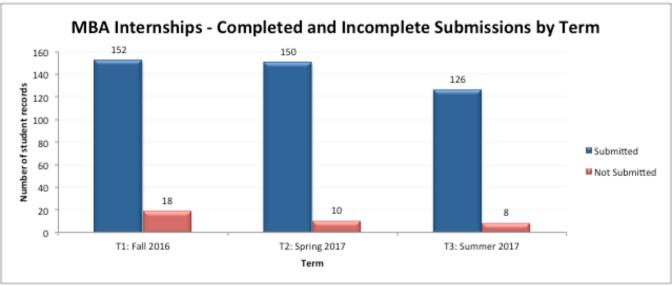
7.0 Student Enrollment in MBA Internship Program

• For the three (3) terms starting Fall 2016, the following table outlines the number of students who have been enrolled in the MBA internship program.

	Fall 2016		Spring 2017		Summer 2017	
	Full Time	Part Time	Full Time	Part Time	Full Time	Part Time
Number of	3	1	3	1	2	1
Sections						
Enrollment	118	52	125	35	101	33
Incomplete	14	4	4	6	3	5
Records/Non						
Submission						

- It may be seen from the table above that, in Fall 2016 and Spring 2017, three (3) full time internship sections were offered. However, in Summer 2017, only two (2) full time sections were offered for the MBA internship program. Only one (1) part time section was offered in each of the terms analyzed. The lower number of sections offered in the summer terms is normal as students prefer to take time out during the summers.
- Despite the lower number of full time sections, enrollment in these sections is almost at the same levels as Fall 2016. Enrollment in the part time sections is also comparable with the part time section enrollment in Spring 2017.
- The graph below depicts this better.





- It must be noted that "Incomplete" records also include internship provider assessments that were not submitted or contained no information at all. This may be due to the following factors:
 - o Internship provider not available on site due to travel
 - Busy schedules
 - Technical issues

8.0 Results at a Glance

• **Top 5 Providers**: Over the three (3) terms surveyed, the top (non staffing companies) internship providers of ITU MBA students are KPMG (2%), Ma Labs,

Inc. (1%), Pricewaterhouse Coopers (1%), Alibaba Group (1%) and Bank of the West (1%).

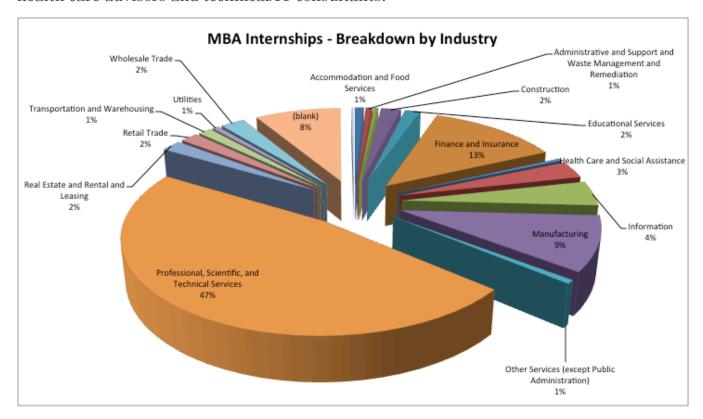
- Top 5 Internship Areas: Over the three (3) terms surveyed, the following business subject areas formed the five (5) most popular internship opportunities. Accounting, Tax and Auditing (31%), Finance, Investments, Credit Management and Finance Operations (12%), Business Analysis (9%), Marketing and General Business Operations (7%), and Project and Program Managers (28%).
- Internship Provider Satisfaction: Over the three (3) terms surveyed, 100% of internship providers who responded to the survey and provided commentary were impressed with ITU's internship program. They were impressed with the attitude, willingness to learn, work ethic, knowledge, and progress of ITU students working with them as interns. A large majority of internship providers expressed the desire to have their interns continue with them in future as regular employees.
- Top 5 Internship Sectors: Over the three (3) terms surveyed, the top five sectors (according to the 2017 NAICS industry classification codes), that provided internships to ITU Business students are in Professional, Scientific, and Technical Services (52%), Finance and Insurance (14%), Manufacturing (10%), Information and Data (5%), and Health Care and Social Assistance (3%).
- Top 5 Internship Locations: Over the three (3) terms surveyed, ITU MBA student interns were placed in internship programs mainly in California (84%), Texas (7%), New Jersey and Washington (2%), and Arizona, Georgia and Massachusetts (1%). Within California, the most popular locations are in and around San Jose, San Francisco and surrounding cities.
- Seniority of Internship Positions: Over the three (3) terms surveyed, ITU MBA student interns worked at various levels; entry level, middle management and senior/executive level respectively. Most ITU MBA interns worked in positions in Middle Management (64%). Only 30% of MBA interns work in Entry level positions and 6% of interns work in Senior Management or Executive positions.

9.0 Analysis of Internship Results

In the sections that follow, we will analyze the internship program as it pertains to ITU's Business Department. We present several levels of analysis. These will contain commentary as well as charts, tables and graphs to explain our findings.

9.1 MBA Internships by Industry

We previously noted that 52% of ITU MBA students, over the three (3) terms surveyed participated in internships within the Professional, Scientific, and Technical Services Field. According to the 2017 NAICS industry classifications, this industry is used to represent fields such as accountants, bookkeepers, auditors, management consultants, health care advisors and technical/IT consultants.



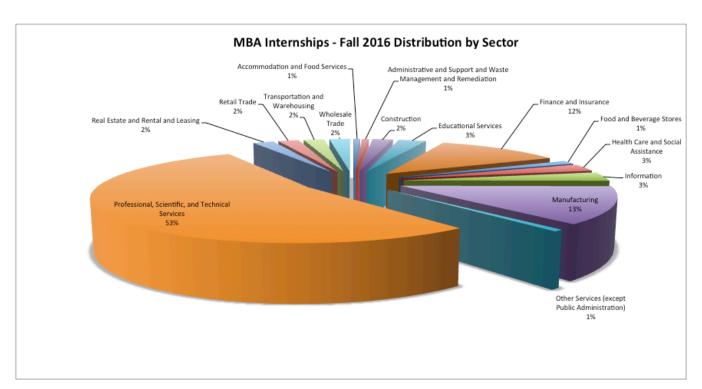
In analyzing the composition of the Professional, Scientific, and Technical Services (47%), we notice that the top sector representations that comprise about 75% of this dataset are as follows:

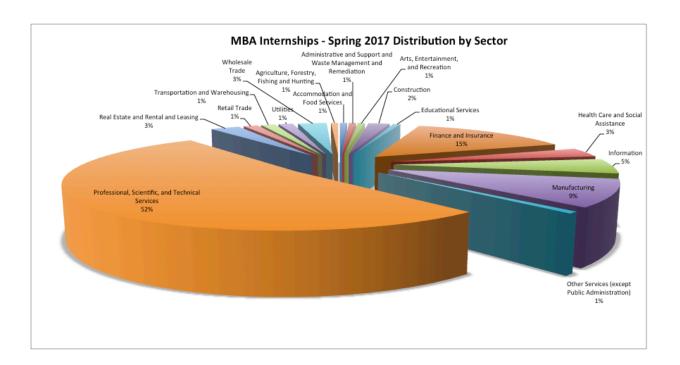
Professional, Scientific, and Technical Services Sub	Number of	Percentage of
Composition	Students	Total
Accounting and Tax Services	70	32%
IT Consulting Services	33	15%

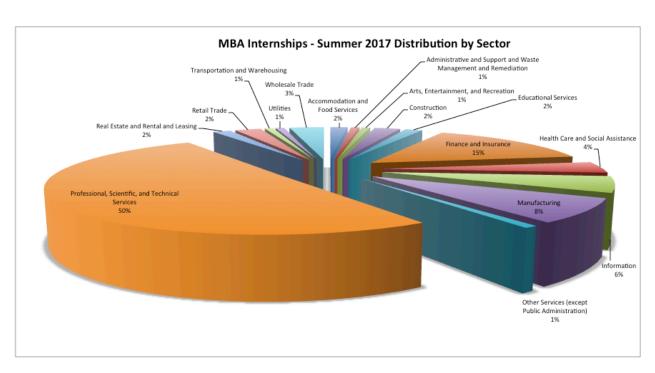
Management and Technical Consulting Services (non	48	22%
IT)		
Architecture and related consulting and design services	12	5%

The distribution by term and sector is described in the following graphs. It is important to note that term by term, there isnt much variation in the popularity of the Professional, Scientific and Technical Services sector.

ITU is located in the heart of the Silicon Valley. The proliferation of internships in the professional, scientific and technical services industries is in part a global trend as well as a phenomenon within the Silicon Valley. Among this industry, it is interesting to note that consulting (management, technical and IT) is gaining some prominence as a choice of internship amongst ITU Business students.





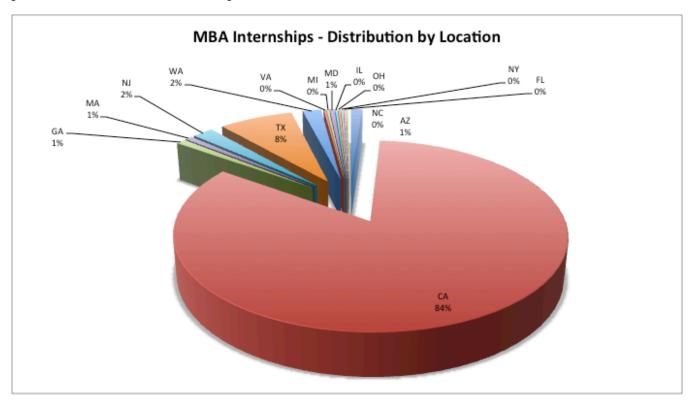


9.2 MBA Internships by Location

In other analytics reports prepared by the Department of Business Administration, it has been noted that students display a preference for weekend classes. Part of the explanation provided for this preference is that a lot of our students bag internships in other states and/or have to travel over fifty (50) miles to get to weekday classes. This excessive travel

may be seen by students as a burden. However, in determining which locations our MBA students work in, it was noted that most students (84%) hold internships within California. This is followed by Texas (8%). You will note that there are some locations that show 0% internships. However, this should not be read as no students are interning in those locations. Rather, the number of students is too low to form 1% or above.

We also noted, that most students continued their internship with the same provider term on term. This coincided with the providers positive evaluations of the students' performance on the internship.



Within California, the distribution of students is as follows:

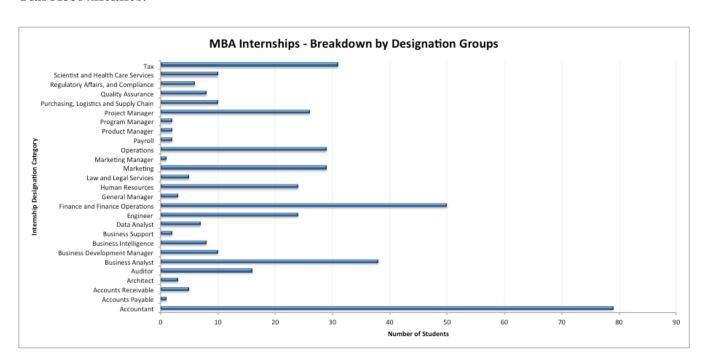
Internships Within California Composition	Number of Students	Percentage of Total
San Jose and surrounding suburbs (within 50 miles)	178	50%
San Francisco and surrounding suburbs	83	23%
Other (within California)	98	27%

It is recommended that we study this data more carefully. Currently, we note that most students work with internship providers who are California based. However, it must be noted that a large majority of MBA students are also working in consulting roles, which may require them to travel to client locations which need not be in California. This information will need to be mined to make any decisions about course delivery and structure.

9.3 MBA Internships by Designation/Job Title

The graph below depicts the titles used during the three (3) terms of ITU MBA student internships. Accountant (also including Accounting Intern) is the most popularly used designation. This coincides with observations that were previously made about Accounting internships being among the most popular internships with ITU Business students. It is also interesting to note the anecdotal feedback received from faculty members that students seek such professional experiences in the pursuit of professional licensure.

This is followed by Finance and Finance Operations internships, Business Analysts, and Tax Accountants.



The table below outlines the specific numbers associated with the graph depicted above.

Internships Designations	Number of	Percentage of
	Students	Total
Accountant	79	18%
Finance and Finance Operations	50	12%
Business and Data Analyst	45	10%
Tax Accountants (includes Tax Associates)	31	7%

9.4 MBA Internships by Seniority

It has been noted that ITU Business students come into their MBA programs with either prior graduate (and sometimes post graduate, and doctoral) coursework. Some students also come to ITU with significant work experience in Engineering and other technical and/quantitative backgrounds. An MBA from ITU degree equips such students to explore and pursue at a later stage, leadership within engineering and other technical arenas.

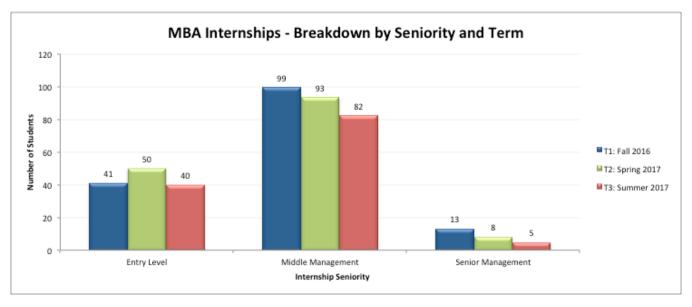
Given such extensive and illustrious academic and professional qualifications of our business students, this section aims to study the proportion of students, term on term who intern in entry level capacities, middle management and senior management/executive capacities. Some assumptions were made in making the distinction between entry level and middle management roles.

The term "entry level" for the purposes of this report is used to denote students who have the designation, "Junior", "Generalist", "Assistant", and/or "Trainee".

The term "middle management" for the purposes of this report is used to denote students who have the designation "Associate", "Specialist", "Junior Manager", "Team lead", and/or "Analyst".

The term "senior management" or "executive" is used to denote students who intern as "senior managers", "program managers", "directors" and similar.

The graph below depicts the number of students interning in the three (3) levels described, by term.



A majority of students are working in Middle Management, which is to be expected, given the level of experience students bring to their business degrees at ITU and to their internships. An interesting, but by no means trivial trend is the number of students working in senior management capacities. This trend bodes well for ITU MBA student interns, as it could indicate that ITU's business degrees propel these students to careers in senior management.

9.4 MBA Internships – Aggregate Learning Outcomes Assessment

A major part of assessing the quality of educational programs is to ascertain that students are learning what the program states the students will learn. Setting good learning outcomes is important as it enables effective assessment of student performance, along a common base.

ITU's business department follows a hierarchy of learning outcomes (LOs). This hierarchy is represented as follows:

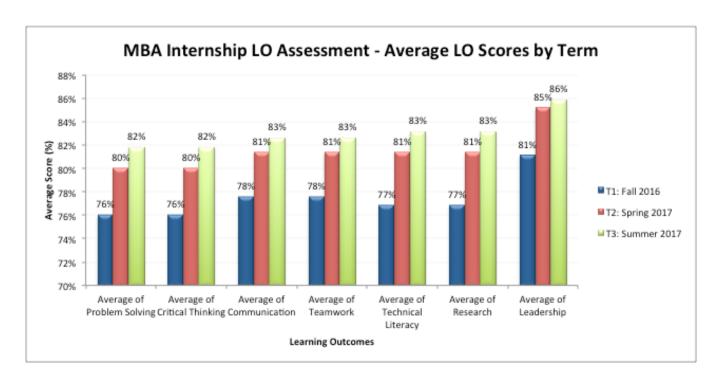
Course Learning Outcomes (CLO) > Emphasis Learning Outcomes (ELO) > Program Learning Outcomes (PLO) > Institutional Learning Outcomes (ILO)

As previously mentioned, the Internship Program assesses student performance externally based on a condensed version of the ILOs. For the Business Department, currently, the PLOs map directly, like for like (1:1) with the ILOs. This mapping (ITU MBA, 2017) is as follows:

- (ILO 1 Problem Solving) Justify the usage of core business theories to solve problems in the business environment.
- (ILO 2 Critical Thinking) Appraise critical thinking models to make effective business decisions.
- (ILO 3 Communication literacy)
 - I. Construct business documents clearly, concisely, and analytically.
 - II. Illustrate effective speaking skills in groups and in public.
- (ILO 4 Collaboration and Teamwork) Assemble teams for business projects using effective group dynamics.
- (ILO 5 Technical literacy) Illustrate in depth knowledge of key technical functions for business to work efficiently
- (ILO 6 Research skills and Information literacy) Identify and apply research methods to understand current business practices.
- (ILO 7 Individual Responsibility) Model sound ethical social responsibility.

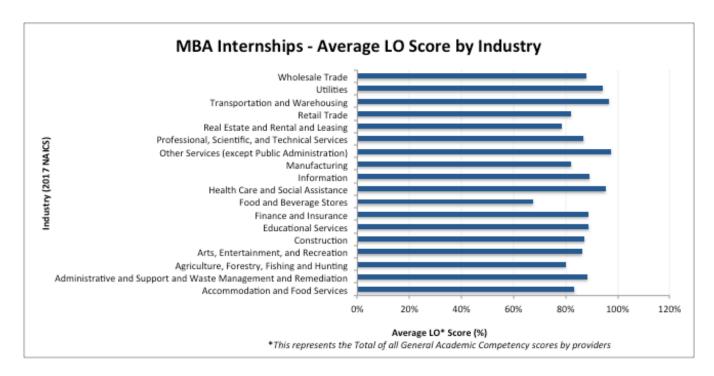
We use the internship providers' evaluation scores to identify how students performed in their internships.

The following graphs examine how ITU student interns performed along the learning outcomes as a whole during their Internship Program.

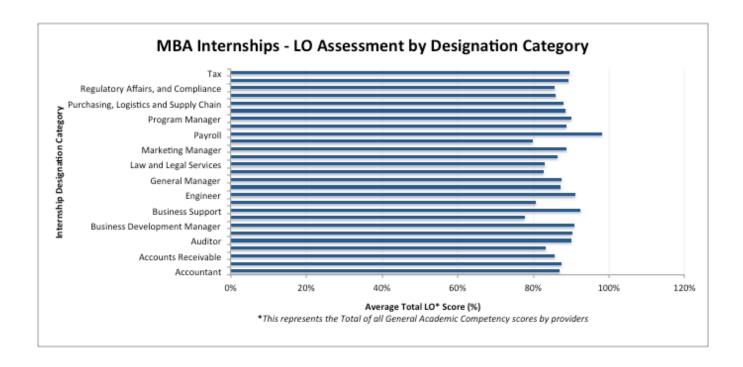


- The key takeaway from the chart above is the trend of improvement across each LO from one term to the next.
- Most students intern with the same provider term after term. Given this fact, it is even more interesting to note that students may start their internship experience with a certain level of competency in the LOs. However, repeated internships, stretch goals, and ITU's business education in the same areas do help students dramatically improve their performance along these LOs in the following terms. This sentiment is even echoed by some internship providers, who have positive things to say about their ITU student interns.
- It is interesting also that ITU MBA students start with a reasonably high competency score on the Leadership LO in Fall 2016 and, over time, they build upon this and improve their scores on this LO. It must be noted that core MBA courses such as Organizational Leadership Theories (required in the students' first trimester at ITU), and ITU's Toastmasters Club help reiforce the value of communication and leadership, enabling students the opportunity to practice these skills during the course of their academic pursuits.

• We break down the aggregate LO outcomes scores further by industry and other parameters below



• On an average, interns in most 2017 NAICS designated industries score above average on LOs. Specific highlights are Transportation and Warehousing Industries, Health Care and Social Assistance, and Utilities industries. However, even though there were relatively fewer students interning in the Food and Beverage Stores industry, the average score across all LOs was relatively low (around 70%). Partly, this could be due to the fact that internship providers in this industry may have rated student interns in a more strict manner.

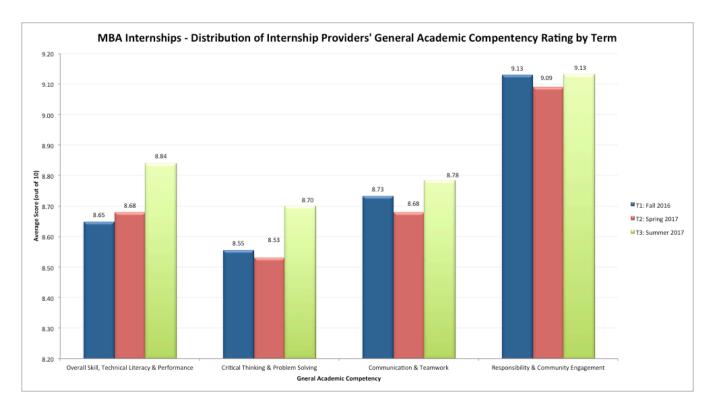


• On average, interns designated as Payroll interns have close to a perfect average score on most LOs. While, at first glance, this sounds like positive news, this must be considered further. For an almost perfect average score to occur, all students within this designation category would have to have received internship LO scores that were close to perfect or perfect. This sounds slightly unrealistic and also indicates the need for some kind of validation check for internship providers filling in high LO scores without being able to substantiate those scores.

9.5 MBA Internships – Aggregate Internship Providers' General Academic Competency Assessment

• It was previously mentioned that internship providers gauge ITU student intern performance along four (4) distinct categories and score student performance on those categories. These performance areas are further mapped to LOs, which have been analyzed before.

 The graph below outlines how students were rated on average by term and general academic competencies by their respective internship providers.



- Overall, ITU students perform extremely well at their internships. This is evidenced by the really high average scores received term on term. While this is great news, some caution needs to be exercised while reading this data. In some instances, it was noted that internship providers gave the same scores across all competencies without explaining why they were giving such scores. In addition, these scores were almost always above average than below. Some internship providers, however, did think carefully about the questions being posed, and rated students accordingly, and this was noticed in the variation of scores within the sub components of each competency. This was further validated by the providers' verbal commentary on the evaluation forms.
- From a competency assessment perspective, it was important to note that on average, most providers agreed that their interns had a wonderful work ethic, and

that their interns were incredibly "responsible" and "engaged" within their work based communities. From a scores perspective, it was noted that 'Responsibility and Community Engagement" received the highest average scores across all three (3) terms surveyed.

• With "Communication and Teamwork", an interesting trend was noted. This particular skillset was scored reasonably highly, with Summer 2017 having the highest average scores. It was noted that some internship providers had conflicting messages with this particular skillset. They rated their students quite highly (some even giving their interns a perfect score); but noted in their qualitative feedback, that they wanted their interns to "improve their communication and/or teamwork skills. This was rather misleading. One of the ways we interpreted this misalignment was to understand the various facets of communication and teamwork required by the particular role in the organization. It may have been that the intern was fluent in communicating with their teams, but may have lacked the ability to present their ideas/thoughts/findings to clients or higher level executives. It could also be interpreted that some interns needed improvement on verbal communication, but that they were reasonably strong in team dynamics and written communication.

9.6 MBA Internships – Aggregate Internship Providers' Qualitative Assessment of Intern Performance

In this section, we present some qualitative commentary from internship providers to round off the analysis we have conducted in previous sections. In most cases, the qualitative comments helped us, as analysts, to better understand the context within which interns operated in. It also helped us gauge and interpret the scores from previous sections better.

• Quality of Internship Program: Of those internship providers who provided qualitative feedback, a few commented that ITU's Internship Program is an

excellent program and that it has really helped connect them to quality talent. In addition, they were able to gain a lot from their student interns' theoretical perspectives being applied to the real life work situations facing them.

- **Desire to Retain Interns**: Most providers were very pleased with the capabilities of their interns and expressed willingness to retain the interns in a more permanent capacity in the future.
- Knowledge Areas: A consistent theme across internship providers was the ability to navigate through ERP systems and software related to the particular industry (e.g. Quickbooks, Netsuite, etc.). While ITU student interns successfully navigated their way through learning the needed skills on the job, it brings about a need for thought on the way ERP systems courses are designed and delivered at ITU. Data modelling, SQL skills and certain level of coding skills were also widely required for business interns in various capacities (e.g. Business Analysts, Data Analysts, Quality Engineers, Quality Assurance personnel, Digital Marketing personnel, and others). While ITU's MBA in Business Analytics does cater to providing some of these skills, it might be a worthwhile exercise to introduce some certificate courses in programming, SQL, and other tools of Project Management (Agile methodologies, etc). Excel knowledge and skills were also mentioned as a "must have" for students working in the financial services sector as well as the accounting sector.
- **Dislike of Evaluation Instrument:** While the three (3) page survey instrument was a deterrent to a lot of providers who chose not to respond to the qualitative feedback, a few internship providers did let us know that the survey instrument was "complicated". The internship provider in this case did specifically provide positive comment on the quality of their intern. It is our opinion that the survey instrument needs to be looked at with a view to redesigning it, as it may be causing internship providers some discomfort to expend the time to fill out a document that is about three (3) pages long.

10.0 Recommendations and Considerations

Data completeness and quality

Over the terms surveyed, we noted that several students either did not upload their internship evaluation surveys on the EMS portals or that the information contained was incomplete. In some cases, it was also noted that students and/or their internship providers had emailed the advising faculty member the evaluation surveys directly, rather than posting these on EMS. Therefore, while the student got credit for completing the requirements of the course, the information was unavailable for retrieval and/or analysis. Further, it was noted that where students took full time internships with the same provider in consecutive trimesters, the qualitative sections of the evaluation forms were usually left incomplete. Finally, it was also noted that each of the four (4) internship quality assessment areas were almost always filled out with the same results; i.e. 9/10 or 7/10. Without a qualitative assessment going along with these ratings, it is hard to understand the basis of the scores provided.

It is recommended that students upload the completed surveys from their internship providers directly on EMS, so that this is available for future retrieval and analysis.

Data automation

Currently, EMS requires students to upload completed PDF documents from the internship providers. However, this results in a lot of redundancy and effort to manually extract information from the PDF documents into a format, which easily lends itself to data analysis.

It is recommended that EMS find a way to extract the information in a ready to use format such as CSV or XLS files so that more value may be created through analysis.

Data validation and checks for submission

In certain cases, it was noted that very few students uploaded documents with just a digital signature on the evaluation document. There was no other information available (including name of student being assessed, details of their performance, qualitative commentary, etc). These instances, although very few have been flagged for further investigation.

It is recommended that a process be instituted, either centrally, or within each department, where the advising faculty investigates such "strange" occurrences or anomalies in the data. Any instances of student wrongdoing may be followed up in the relevant term itself.

Redesign of survey instrument

The evaluation survey instrument currently is a three (3) page document which has several sections. Section 1 is for the student to complete and all other sections that follow are for the internship providers to complete. It has been noted that it is quite likely, especially in the case of large consulting firms (KPMG, Ernst & Young etc), several ITU MBA student interns may be working in the same firm. Further, if the student works with the same manager as an intern term after term, the manager may find it time consuming to fill out three (3) pages worth of quantitative and qualitative information.

It is recommended, that the survey be automated and a link be sent directly to internship providers. The results of the internship evaluation instrument are automatically collated into a usable format for further analysis. As of the start of Fall 2017, a project is underway by the EMS team to determine the demand from various departments for such automated surveys.

Intern Self Evaluation

Currently, the evaluation of the students' internship experience is performed in two (2) separate tracks. The student intern is required to write a reflective final essay about their internship experience in the particular term. The internship provider, on the other hand, is required to provide their assessment of the student intern's performance during the term. We only mine the latter.

It is recommended that the student intern also provide their evaluation of the internship experience along the same lines that their internship providers provide their evaluations. This would paint a more holistic picture of the quality of the internship program.

Internship Location Criteria

Currently, the forms being used request the students to fill out details about the location their internships will take place. However, since a lot of students are in consulting roles or project based roles at different client sites (which may or may not be California based, even if the consulting firm is), it is recommended that this information also be requested of students. This will help tailor campus based classes (currently heavily weekend oriented) in a better, more suitable manner that ensures an even spread between weekday and weekend classes.

11.0 Conclusions

This report has been an analysis of the efficacy of ITU's MBA Internship program. ITU's internship program contains an internal assessment (reflective essay submission by student intern) component as well as an external assessment component (internship provider evaluation). For the purposes of this report, we have only considered the external assessment component. This assessment tool is also scored along various learning outcomes. This learning outcomes based assessment brings about several factors to improve course content and delivery within the business department at ITU.

To summarize, across the board, ITU student interns have a good understanding of the business processes and the organizational context within which they work in. The internship providers are extremely happy with their interns' dedication and with their abilities, from a technical perspective as well as from a work ethic perspective. In a lot of cases, internship providers have expressed the desire to convert the student to full time and/or retain them as part of their workforce for the future. This demonstrates the value ITU's internship program brings to students and to internship providers alike.

Lastly, further considerations and recommendations have been provided to improve the efficacy of this report for departmental decision-making purposes.

APPENDIX 1: INTERNSHIP PROVIDER EVALUATION (attached as hyperlink)

Internship Provider Evaluation Survey Template