Stevens Institute of Technology

School of Business

**AACSB  
ASSURANCE OF LEARNING**

**Undergraduate BS in Business**

**COMPETENCY GOAL #3**

***Students understand how technology is leveraged to improve business performance*.**

**Responsibility:** Michael Parfett

December 2023

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# INTRODUCTION: COMPETENCY GOAL #3

**Students understand how technology is leveraged to improve business performance.**

This goal is assessed in MIS 460 IT Strategy: Strategic Issues in IT Management, which is one of the required courses in the Information System major. This competency goal helps students to understand the relationship between IT and the business and the value that IT can bring to the business in enabling competitive positioning. In MIS460, the students have the opportunity to develop strategies to create alignment. This requires a top-level view of the organization, creative thinking, and the development of strategic initiatives for the business.

The current version of the course uses a newly designed assignment that is focused on the key objectives of alignment, and how IT drives business improvement and competitive advantage.

A key goal here is to enable the student to establish new viewpoints in two key areas: 1) they must think like a top executive and 2) they must think outside of the IT organization (which is difficult since the majority of our students have only limited IT experience). As a result, they are exercising their creativity and innovative thinking far beyond what they have done to date in their education or work experience.

In addition, there are **specific competencies** that are needed in strategy development that this goal will address. The skills that are targeted are communication, ability to see the big picture, problem solving ability, analytic skills, leadership ability.

# 2. LEARNING OBJECTIVES AND TRAITS

The following is currently used:

|  |  |
| --- | --- |
| **Objective 1:** *Students recognize the role of the CIO as a corporate executive and leader and the IT organization as a contributor to the strategic direction of the firm.* | |
| **Traits** |  |
| Trait 1: | The student learns to think strategically beyond the IT function alone – ability to see the big picture |
| Trait 2: | The student understands how to develop an IT strategy that aligns with the business strategy – problem solving ability |
| Trait 3: | The student demonstrates creative, analytic and innovative thinking |
| Trait 4: | The student articulates the way in which technology enables business strategy i.e., drives business improvement and leads to a competitive advantage |
|  |  |
| Trait 5: | The document is well written, demonstrating good communication skills |

# 3. RUBRICS

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Objective 1:** *Students recognize the role of the CIO as a corporate executive and the IT organization as a contributor to the strategic direction of the firm.* | | | | | |
|  | **Trait** | **Poor (0-6)** | **Good (7 - 9)** | **Excellent (10)** | **Score** |
|  | **Value** | **0** | **7** | **10** |  |
| Trait 1: | The student learns to think strategically beyond the IT function alone – ability to see the big picture | Focus remains on IT alone | Alignment between business and IT is articulated | Innovative ideas are brought forth |  |
| Trait 2: | The student understands how to develop an IT strategy that aligns with the business strategy;  Demonstrated problem solving ability | The understanding of alignment is poor, incremental change | The understanding clearly shows a relationship between IT and business | The understanding goes beyond commonplace thinking and demonstrates insight into the future of the firm |  |
| Trait 3: | The student demonstrates creative, analytic and innovative thinking | Thinking is incremental | Some elements of the analysis process show radical change | The recommended strategies present a clear opportunity for competitive advantage |  |
| Trait 4: | The student articulates the way in which technology enables business strategy, in particular demonstrates how IT drives business improvement the leads to a competitive advantage | Relationship between IT and business strategy is not clear | Clear link between IT and business strategy is shown | The alignment of IT & business through strategy will provide competitive advantage. |  |
| Trait 5: | The document is well written demonstrating good communication skills | The ideas are not clearly stated; the sentence structure and grammar are poorly done | The ideas are well presented; the sentence structure and grammar are correct | A good writing style is displayed; easy to understand; all English constructs are mastered |  |
| **Criterion: Does not meet expectations: 0 – 34; Meets: 35-49 ; Exceeds: 50** | | | | | |

# 4. ASSESSMENT PROCESS

|  |  |  |
| --- | --- | --- |
| **Where and when measured?** | **How measured?** | **Criterion** |
| Course-embedded analysis assignment in required in course *MIS 460 IT Strategy: Strategic issues in IT management. A direct measurement –* Assessment will be done in the fall semester each year.  Indirect measurements will be taken periodically. | MIS 460 students from all sections of course.  Individual written project.  Indirect measure – student advisory board, donuts with the dean, young alumni council, graduate student exit interviews, employer surveys … | 90% of students get a grade of meets or exceeds expectation on the assessment assignment as measured by the rubric for this learning goal. |

# 5. RESULTS OF COMPETENCY GOAL ASSESSMENT - INTRODUCTION

The results of the learning goal assessments when carried out will are included below.

**Explanation for direct measurements:**

The learning goal has an learning objective which is measured using a rubric that in turn contains a number of desired “traits”. Students are scored on each trait.

The grading sheets for each student are used to develop a Summary Results Sheet for each learning goal objective.

The first table in the Summary Results Sheet for a learning objective and trait gives the counts of students falling in each of the three categories:

- Does not meet expectations  
- Meets expectations  
- Exceeds expectations

The right-hand column in the table is used to record the average score of the students on each trait. This table provides an indication of the relative performance of students on each trait.

The second table on each sheet provides the counts of students who fall in each of the above three categories for the overall learning objective.

The person doing the assessment provides explanatory comments and recommendations on the bottom of the Results Summary Sheet. The recommendations improve content or pedagogy changes for the next time the course is given.

**Explanation for indirect measurements:**

Indirect measurements will be taken at periodic intervals. Depending on the measurement chosen a diagnostic tool will be selected for analysis.

# 6. Assessment Fall 2021:

WE WILL START ASSESSMENTS IN FALL OF 2021

## The direct measurement is the written assignment

## An indirect measurement is use periodically. These could include: – student advisory board, donuts with the dean, young alumni council, graduate student exit interviews, employer surveys …

# RESULTS OF Direct ASSESSMENT: Fall 2021

COMPETENCY GOAL #: 3 ***Students understand how technology is leveraged to improve business performance.***

LEARNING OBJECTIVE # 1: Students will recognize the importance of technology in today’s business environment

ASSESSMENT DATE: 11/10/21 ASSESSOR: Professor Parfett

NO. OF STUDENTS TO BE TESTED: 29 Course: MIS460

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Learning Goal Traits | Not Meet Expectations  0 – 6 Poor | Meet Expectations  7 – 9 Good | Exceed Expectations  10 Excellent | Avg. Grade on Trait |
| 1: The student learns to think strategically beyond the IT function alone – ability to see the big picture | 0 | 2 | 27 | 9.86 |
| 2: The student develops an IT strategy that aligns with the business strategy; demonstrated problem solving ability | 4 | 1 | 24 | 9.38 |
| 3: The student demonstrates creative, analytic and innovative thinking | 0 | 3 | 26 | 9.79 |
| 4: The student articulates the way in which technology enables business strategy, in particular demonstrates how IT drives business improvement the leads to a competitive advantage | 4 | 2 | 23 | 9.17 |
| 5. The document is well written demonstrating good communication skills | 0 | 1 | 28 | 9.9 |
| Average Grade (Maximum 10) | | | |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  | Not Meet Expectations  0 - 37 | Meet Expectations  38 - 49 | Exceed Expectations  50 |
| Total Students by Category (Based on Average score across all traits)  Target is 90% meet or exceeds |  | 10 | 19 |
| 100% |  |  |  |

COMMENTS**:** The students did an excellent job on all the traits. The one that needs improvement is how IT drives business improvement that leads to a competitive advantage. This is a critical component of the course and must be well understood.

REMEDIAL ACTIONS:

We will add materials to both the lectures and the reading assignments to get a better understanding of how IT drives a competitive advantage.

# 7. Assessment Fall 2022:

# RESULTS OF Direct ASSESSMENT: Fall 2022

COMPETENCY GOAL #: 3 ***Students understand how technology is leveraged to improve business performance.***

LEARNING OBJECTIVE # 1: Students will recognize the importance of technology in today’s business environment

ASSESSMENT DATE: ASSESSOR: Professor Parfett

NO. OF STUDENTS TO BE TESTED: 48 Course: MIS460A (31) MIS460B (17)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Learning Goal Traits | Not Meet Expectations  0 – 6 Poor | Meet Expectations  7 – 9 Good | Exceed Expectations  10 Excellent | Avg. Grade on Trait |
| 1: The student learns to think strategically beyond the IT function alone – ability to see the big picture | 0 | 13 | 35 | 9.5 |
| 2: The student develops an IT strategy that aligns with the business strategy; demonstrated problem solving ability | 3 | 4 | 41 | 9.48 |
| 3: The student demonstrates creative, analytic and innovative thinking | 0 | 5 | 43 | 9.83 |
| 4: The student articulates the way in which technology enables business strategy, in particular demonstrates how IT drives business improvement the leads to a competitive advantage | 9 | 10 | 29 | 8.82 |
| 5. The document is well written demonstrating good communication skills | 0 | 0 | 48 | 10 |
| Average Grade (Maximum 10) | | | |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  | Not Meet Expectations  0 - 37 | Meet Expectations  38 - 49 | Exceed Expectations  50 |
| Total Students by Category (Based on Average score across all traits)  Target is 90% meet or exceeds | 0 | 32 | 16 |
| 100% |  | 100 |  |

COMMENTS: Three of the traits improved (alignment, critical thinking, written). Two of the traits declined (seeing the big picture, thinking beyond IT; competitive advantage). The competitive advantage results are disappointing, since this was a target area from the last assessment.

REMEDIAL ACTIONS: We need to continue to focus on improving the understanding of how IT helps to drive a competitive advantage. We will add additional materials to the presentations; replace some of the articles for discussion; and enhanced the cases aimed at better understanding how firms use IT to drive a competitive advantage.

# 8. Assessment Fall 2023:

# RESULTS OF Direct ASSESSMENT: Fall 2023

COMPETENCY GOAL #: 3 ***Students understand how technology is leveraged to improve business performance.***

LEARNING OBJECTIVE # 1: Students will recognize the importance of technology in today’s business environment.

ASSESSMENT DATE: December 6, 2023 ASSESSOR: Professor Parfett

NO. OF STUDENTS TO BE TESTED: 56 Course: MIS460A (27) MIS460B (29)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Learning Goal Traits | Not Meet Expectations  0 – 6 Poor | Meet Expectations  7 – 9 Good | Exceed Expectations  10 Excellent | Avg. Grade on Trait |
| 1: The student learns to think strategically beyond the IT function alone – ability to see the big picture | 1 | 5 | 50 | 9.70 |
| 2: The student develops an IT strategy that aligns with the business strategy; demonstrated problem solving ability | 3 | 2 | 51 | 9.68 |
| 3: The student demonstrates creative, analytic and innovative thinking | 0 | 6 | 50 | 9.71 |
| 4: The student articulates the way in which technology enables business strategy, in particular demonstrates how IT drives business improvement the leads to a competitive advantage | 11 | 6 | 39 | 8.6 |
| 5. The document is well written demonstrating good communication skills | 0 | 2 | 54 | 9.93 |
| Average Grade (Maximum 10) | | | |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  | Not Meet Expectations  0 - 37 | Meet Expectations  38 - 49 | Exceed Expectations  50 |
| Total Students by Category (Based on Average score across all traits)  Target is 90% meet or exceeds | 1 | 32 | 23 |
| 100% |  | 98 |  |

COMMENTS: Two of the traits improved (thinking beyond IT, alignment). Three of the traits declined (analytic thinking; competitive advantage; written). The competitive advantage results are disappointing since this was a target area from the last assessment. The other two, although lower where very high 9.71, 9.93).

REMEDIAL ACTIONS: We need to continue to focus on improving the understanding of how IT helps to drive a competitive advantage. We will add additional materials to the presentations; replace some of the articles for discussion; and enhance the cases aimed at better understanding how firms use IT to drive a competitive advantage.

# 9. Outcomes from Previous Assessments:

**OUTCOMES: BSB COMPETENCY GOAL # 3 AFTER ROUNDS OF ASSESSMENT**

After the Review Fall 2021

Competencies( knowledge, skills, abilities) addressed in this course:

* Trait 1 – ability to see the big picture – this skill was well understood
* Trait 2 – demonstrated problem solving ability – this skill was well understood
* Trait 3 – demonstrates creative, analytic and innovative thinking – this trait was well demonstrated
* Trait 4 – IT drives business improvement that leads to a competitive advantage – this skill needs improvement
* Trait 5 – communication skills, in particular written skills – all be one of the documents were well written

After the Review Fall 202

Competencies( knowledge, skills, abilities) addressed in this course:

* Trait 1 – ability to see the big picture – this skill was well understood; the results were slightly less than the last assessment
* Trait 2 – demonstrated problem solving ability – this skill was well understood; this improved from the last assessment
* Trait 3 – demonstrates creative, analytic and innovative thinking – this trait was well demonstrated ; this improved from last assessment
* Trait 4 – IT drives business improvement that leads to a competitive advantage – this skill needs improvement; this declined from last assessment
* Trait 5 – communication skills, in particular written skills – all of the documents were well written

After the Review Fall 2023

Competencies( knowledge, skills, abilities) addressed in this course:

* Trait 1 – ability to see the big picture – this skill was well understood; the results were higher than the last assessment
* Trait 2 – demonstrated problem solving ability – this skill was well understood; this improved from the last assessment
* Trait 3 – demonstrates creative, analytic and innovative thinking – this trait was well demonstrated ; this reduced slighly from last assessment
* Trait 4 – IT drives business improvement that leads to a competitive advantage – this skill needs improvement; this declined from last assessment
* Trait 5 – communication skills, in particular written skills – all of the documents were well written

The following table shows the average scores on each goal objective over time.

|  |  |
| --- | --- |
|  | Objective 1 – student recognize the CIO as a contributor to the strategic direction of the firm |
| Fall 2021 | 100% |
| Fall 2022 | 100% |
| Fall 2023 | 98% |

# 

# 10. Close Loop Process – Continuous Improvement Record

**Assurance of Learning**

**Assessment/Outcome Analysis**

**Close Loop Process - Continuous Improvement Record**

**Program:** Master of Science in Information Systems

**Goal 3:** Students understand how technology is leveraged to improve business performance.

**Goal Owner:** Michael Parfett

**Where Measured:** Course-embedded analysis assignment in required course *MIS 460 IT Strategy : Strategic issues in IT management.* Assessed in the fall semester each year.

**How Measured:**  MIS 760 students from all sections of course: Individual written project. Indirect measurement taken periodically – competitions, exit surveys, advisory board feedback ...

**Closing the Loop: Actions taken on specific objectives**

|  |  |
| --- | --- |
| **Objective 1** | Students recognize the role of the CIO as a corporate executive and the IT organization as a contributor to the strategic direction of the firm |
| **When assessed** | Fall 2023 |
| **Remedial**  **Action** | We need to continue to focus on improving the understanding of how IT helps to drive a competitive advantage. We will add additional materials to the presentations; replace some of the articles for discussion; and enhanced the cases aimed at better understanding how firms use IT to drive a competitive advantage. We will examine what was done from the last assessment and improve on the materials used. |
| **Outcome from previous**  **Assessment** | Two of the traits improved (thinking beyond IT, alignment). Three of the traits declined (analytic thinking; competitive advantage; written). The competitive advantage results are disappointing since this was a target area from the last assessment. The other two, although lower where very high 9.71, 9.93). |
| **When assessed** | Fall 2022 |
| **Remedial**  **Action** | We need to continue to focus on improving the understanding of how IT helps to drive a competitive advantage. We will add additional materials to the presentations; replace some of the articles for discussion; and enhanced the cases aimed at better understanding how firms use IT to drive a competitive advantage. |
| **Outcome from previous assessment** | Three of the traits improved (alignment, critical thinking, written). Two of the traits declined (seeing the big picture, thinking beyond IT; competitive advantage). The competitive advantage results are disappointing, since this was a target area from the last assessment. |
| **When**  **Assessed** | Fall 2021 |
| **Remedial**  **Action** | We will add materials to both the lectures and the reading assignments to get a better understanding of how IT drives a competitive advantage. |
| **Outcome from previous assessment** | THIS WILL BE BLANK FOR THE FIRST ASSESSMENT |

# Appendix A:

# Currently used

A multiple page assignment that addresses the students’ understanding of IT and business alignment of strategies as well as how to build a true partnership with the business, which drives business improvement and leads to a competitive advantage.