2020 AOL Report

Graduate School of Innovation and Technology Management

KAIST graduate school of Innovation and Technology Management (I&TM) provides global learning environment for students to grow and lead in innovation and technology management through collaboration with distinguished faculty and internationally recognized institutions. The program's curriculum focuses on developing skills for entrepreneurship, commercialization and problem solving that serves as key foundation for creating innovative values to many diverse technology-based companies.

Overall Review

In general, most students achieved more than the expected level. Students' abilities to identify business strategies, formulate problem statement, and be effective leaders were distinctive. However, some aspects need to be improved; such as developing business strategy, recommending and implementing ideas to tackle organizational problems, and communicating their solution proposals for management problems. In this regard, more effort is required to improve students' abilities, by creating additional course-embedded chances to practice business strategy presentations and teamwork.

- Total number of courses: 29 (Spring: 10, Fall: 10, Spring-Fall: 9)

- Total number of graduates: 36(February: 14, August: 19)

- Total number of enrollment:

  ·Spring: 105 (Master:75, PhD: 30)

  ·Fall: 103 (Master:77, PhD: 26)

- Sample: more than 6 (Necessary sample: 15% of graduates = 5.4)

- Assessment courses

Learning Goal 1	L11	Case Study
	L12	Case Study
Learning Goal 2	L21	ITM540. Strategy for Innovative Business
	L22	ITM540. Strategy for Innovative Business
Learning Goal 3	L31	ITM610. Formation and Implementation of Entrepreneurial Ventures
	L32	ITM636. Service Innovation in Industries
Learning Goal 4	L41	ITM501. Innovation Management
	L42	ITM501. Innovation Management

Overview of Assessment

Graduate School of Innovation and Technology Management: Assessment Learning Goal 1		
(Learning Goal 1 **Our graduates will be able to apply critical, innovative, and strategic thinking in a dynamic business environment**)		
Learning Objective	**Sample**	**Methods**
L11) Our students will have the ability to identify and analyze complex problems from multiple perspectives	Students completed Case Study (N = 30)*	Case study evaluation
L12) Our students will be able to apply innovative and strategic solutions to organizational problems.		
Findings		

✓ The mean scores of instructor's case study evaluation for both L11 and L12 exceeded 2 (meets expectations); the scores for L11 and L12 were 2.11 and 2.03 respectively.

✓ The overall score implies that most students were able to apply critical, innovative, and strategic thinking in a dynamic business environment through I&TM courses.

*1 = Fails to Meet Expectations, 2 = Meets Expectations, 3 = Exceeds Expectations

Learning Goal 1 – Objective 1 (L11)
Evaluation of L11 was based on a case study evaluation. An overall mean score for L11 was 2.11. The highest average score was 2.30 for 'Identification of current business strategy (Trait 1)', while the lowest one was 1.97 for 'Development of a business strategy (Trait 3).' The results show that course is recommended to improve the students' abilities to identify and analyze complex business problems.

Learning Goal 1 – Objective 2 (L12)
Evaluation on L12 was based on a case study evaluation. An overall mean score for L12 was 2.03, which is relatively lower than the scores of other learning goals. The highest average score was 2.20 for 'Formulation of the problem statement (Trait 1)', while the lowest one was 1.80 for 'Recommendation and implementation (Trait 5).' The results suggest that more training on recommendation and implementation of innovative and strategic solutions to organizational problems is needed.

Graduate School of Innovation and Technology Management: Assessment Learning Goal 2		
(Learning Goal 2 **Our graduates will acquire the communication skills needed to function effectively**)		
Learning Objective	**Sample**	**Methods**
L21) Our students will communicate effectively in written document and/or oral presentations.	Students enrolled in ITM540 (N = 6)*	Course-embedded assignment evaluation
L22) Our students will diagnose and communicate management problems.		Project report evaluation
Findings		

✓ The mean scores of instructor's assessments of students' project reports and case study for L21 and L22 respectively, exceeded 2 (meet the expectation); the scores for L21 and L22 were 2.50 and 2.56 respectively.

✓ The overall score implies that most students were able to communicate management problems effectively both orally and through written medium through I&TM courses.

*1 = Fails to Meet Expectations, 2 = Meets Expectations, 3 = Exceeds Expectations

Learning Goal 2 – Objective 1 (L21)
An overall average score for L21 was 2.50. The results imply that students were able communicate effectively in written documents and oral presentations. In general, the average score for each trait was closely distributed around the mean, ranging from 2.00 at the low end (Trait 1, 6) to 3.00 at its highest (Trait 5). The results show that there is a room to improve logic and organization of the ideas, and contents.

Learning Goal 2 – Objective 2 (L22)
An overall average score for L22 was 2.56. The results imply that students can diagnose and communicate management problems. While the average score of 'Problem identification (Trait 1)' at 3.00, the score of 'Solution proposal and evaluation (Trait 3)' is at the lower end by average score of 2.00. the 'Problem analysis (Trait 2) was 2.67 which is closer to the average. These results show that students not only need to practice in solution proposal and evaluation that are creative and feasible, but also need to focus on problem analysis based on logical evidence.

Graduate School of Innovation and Technology Management: Assessment Learning Goal 3		
(Learning Goal 3 **Our graduates will be competent and effective leaders**)		
Learning Objective	**Sample**	**Methods**
L31) Our students will be able to work effectively in a team environment.	Students enrolled in ITM610 (N = 6)*	Course-embedded survey
L32) Our students will understand ethical and social issues in organizations.	Students enrolled in ITM636 (N = 18)*	Course-embedded assignment evaluation
Findings		

✓ The mean scores of the team project reports and course-embedded assignment evaluation for L31 and L32 respectively, exceeded 2 (meet the expectation); the scores for L31 and L32 were 2.88 and 2.81 respectively.

✓ The overall score implies that most students will develop into competent and effective leaders through I&TM courses.

*1 = Fails to Meet Expectations, 2 = Meets Expectations, 3 = Exceeds Expectations

Learning Goal 3 – Objective 1 (L31)
An overall average score for L31 was 2.88. The results imply that the students were able to work effectively in a team environment. All average scores for the Traits except for 'Feedback seeking and self-development (Trait 2)' are 3.00. The average score for 'Feedback seeking and self-development (Trait 2)' is 2.50, which is the only lowest among other Traits in L31. Nonetheless, even the Trait 2 score was sufficiently high compared to general learning score.

Learning Goal 3 – Objective 2 (L32)
An overall average score for L32 was 2.82. The results imply that the students were able to understand the ethical and social issues in organizations. The average scores in all Traits are higher or near the overall average score.

Graduate School of Innovation and Technology Management: Assessment Learning Goal 4		
(Learning Goal 4 **Our graduates will acquire knowledge related to business innovation and technology management.**)		
Learning Objective	**Sample**	**Methods**
L41) Our students will be able to develop technology strategy to aid a wide range of corporate management decisions.	Students enrolled in ITM501 (N = 29)*	Project report evaluation
L42) Our students recognize the importance of technology in business innovation.		Course-embedded assignment evaluation
Findings		

✓ The mean scores of course-embedded survey for L41 and L42 exceeded 2 (meet the expectation); the scores for L31 and L32 were 2.58 and 2.57 respectively.

✓ The overall score implies that most students will acquire knowledge related to business innovation and technology management through I&TM courses.

*1 = Fails to Meet Expectations, 2 = Meets Expectations, 3 = Exceeds Expectations

Learning Goal 4 – Objective 1 (L41)
An overall average score for L41 was 2.58. The results imply that the students were able to develop technology strategy to aid a wide range of corporate management decisions. The average scores in all Traits are higher or near the overall average score.

Learning Goal 4 – Objective 2 (L42)
An overall average score for L42 was 2.57. The results imply that the students were able to recognize the importance of technology in business innovation. The average scores in all Traits are higher or near the overall average score.

Data Analysis and Results

Learning Goal / Traits	Assessment Learning Goal 1 (L1): Case Study							
	L1: Critical, Innovative and Strategic Thinking - Our graduates will be able to apply critical, innovative, and strategic thinking in a dynamic business environment.							
	L11: Our students will have the ability to identify and analyze complex problems from multiple perspectives			L12: Our students will be able to apply innovative and strategic solutions to organizational problems				
Traits	T1. Identification of current business strategy	T2. Identification of alternatives	T3. Development of a business strategy	T1. Formulation of the problem statement	T2. Problem analysis	T3. Generation of alternatives	T4. Evaluation of alternatives	T5. Recommendation and implementation
Students	30	30	30	30	30	30	30	30
1	1	1	1	1	1	1	1	1
2	2	2	2	2	3	3	3	2
3	3	3	3	3	3	3	3	2
4	3	3	2	3	3	3	3	3
5	3	3	2	2	3	3	3	2
6	3	2	2	2	2	2	2	2
7	3	3	3	3	2	3	3	2
8	3	2	3	3	2	3	3	3
9	3	2	2	3	3	3	3	2
10	2	2	1	2	1	1	1	1
11	2	1	1	1	2	2	1	1
12	2	2	1	2	2	2	2	2
13	2	2	2	2	1	1	1	1
14	2	2	2	1	1	1	1	1
15	2	2	1	2	2	2	2	2
16	3	3	3	3	3	3	2	3
17	2	3	3	3	3	3	2	2
18	2	2	3	2	2	3	3	2
19	1	2	1	1	1	1	1	1
20	2	1	1	2	1	1	1	1
21	3	3	2	3	2	2	2	3
22	3	3	3	3	3	3	3	3
23	2	1	1	2	1	1	1	1
24	2	1	1	2	1	1	1	1
25	1	1	1	1	1	1	1	1
26	3	3	3	3	3	3	3	3
27	2	1	2	2	1	1	2	1
28	3	2	3	3	2	3	3	2
29	2	3	3	2	3	3	3	2
30	2	1	1	2	2	1	1	1
# of 3 point	12	10	10	11	10	14	12	6
# of 2 point	15	12	9	14	10	5	7	12
# of 1 point	3	8	11	5	10	11	11	12
Total Score	69	62	59	66	60	63	61	54
Average	2.300	2.067	1.967	2.200	2.000	2.100	2.033	1.800
Total Average	2.111			2.027				

Criteria: 1 (Fails to Meet Expectations), 2 (Meet Expectations), 3 (Exceeds Expectations)

	Assessment Learning Goal 2 (L2): ITM540_Strategy for Innovative Business								
Learning Goal	**L2: Communication Skills - Our graduates will acquire the communication skills needed to function effectively**								
	L21: Our students will communicate effectively in written document and/or oral presentations					**L22: Our students will diagnose and communicate management problems**			
Traits	**T1. Logic & Organization**	**T2. Grammar and sentence structure**	**T3. Spelling and word choice**	**T4. Voice and body language**	**T5. Use of slides to enhance communications**	**T6. Contents**	**T1. Problem identification**	**T2. Problem analysis**	**T3. Solution proposal and evaluation**
Students	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**
1	2	3	3	3	3	2	3	3	2
2	2	2	2	3	3	2	3	2	2
3	2	2	2	3	3	2	3	2	2
4	2	3	3	3	3	2	3	3	2
5	2	3	3	3	3	2	3	3	2
6	2	2	3	2	3	2	3	3	2
# of 3 point	**0**	**3**	**4**	**5**	**6**	**0**	**6**	**4**	**0**
# of 2 point	**6**	**3**	**2**	**1**	**0**	**6**	**0**	**2**	**6**
# of 1 point	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total Score	**12**	**15**	**16**	**17**	**18**	**12**	**18**	**16**	**12**
Average	**2.000**	**2.500**	**2.667**	**2.833**	**3.000**	**2.000**	**3.000**	**2.667**	**2.000**
Total Average	**2.500**					**2.556**			

Criteria: 1 (Fails to Meet Expectations), 2 (Meet Expectations), 3 (Exceeds Expectations)

Learning Goal	Assessment Learning Goal 3 (L3): ITM610_Formation and Implementation of Entrepreneurial Ventures & ITM636_Service Innovation in Industries						
	L3: Organizational Leadership – Our graduates will be competent and effective leaders						
	L31: Our students will be able to work effectively in a team environment				L32: Our students will understand ethical and social issues in organizations		
Traits	T1. Committed and Collaborative problem solving	T2. Feedback seeking and Self-development	T3. Communication	T4. Team planning and task coordination	T1. Identification of ethical dilemmas	T2. Understanding of relevant social and ethical considerations	T3. Social and ethical consideration when recommending and proposing solutions to the stated problems
Students	6	6	6	6	18	18	18
1	3	2	3	3	3	2	3
2	3	3	3	3	3	3	3
3	3	2	3	3	3	2	3
4	3	3	3	3	2	3	3
5	3	3	3	3	3	3	2
6	3	2	3	3	3	3	3
7					2	2	3
8					3	3	3
9					3	3	3
10					3	3	3
11					3	3	3
12					2	3	3
13					3	3	3
14					3	3	2
15					2	3	3
16					3	2	3
17					3	3	3
18					3	3	3
# of 3 point	6	3	6	6	14	14	16
# of 2 point	0	3	0	0	4	4	2
# of 1 point	0	0	0	0	0	0	0
Total Score	18	15	18	18	50	50	52
Average	3.000	2.500	3.000	3.000	2.778	2.778	2.889
Total Average	2.875				2.815		

Criteria: 1 (Fails to Meet Expectations), 2 (Meet Expectations), 3 (Exceeds Expectations)

Assessment Learning Goal 4 (L4): ITM501_Introduction to Innovation Management: Theory & Practice					
Learning Goal	**L4: Comprehensive Knowledge in Business and Technology - Our graduates will acquire knowledge related to business innovation and technology management** **L41: Our students will be able to develop technology strategy to aid a wide range of corporate management decisions**				
Traits	**T1. Articulate technology-business link**	**T2. Identification of technology' strategic implications**	**T3. Development of viable technology strategies**	**T4. Comprehensive technology strategy**	**T5. Presentation**
Students	**29**	**29**	**29**	**29**	**29**
1	3	3	2	2	3
2	3	2	2	2	2
3	3	3	3	3	3
4	3	3	3	2	2
5	3	3	3	3	3
6	2	2	2	2	2
7	2	2	2	3	2
8	3	3	2	2	3
9	3	3	2	2	2
10	3	2	2	2	2
11	3	3	3	3	3
12	3	2	2	2	2
13	3	3	3	3	2
14	3	3	2	2	3
15	3	3	3	2	2
16	3	3	3	3	3
17	3	3	3	3	2
18	3	3	3	3	3
19	3	3	3	3	2
20	2	2	2	3	3
21	2	2	2	3	2
22	3	3	2	2	2
23	3	3	3	2	2
24	3	3	3	3	3
25	3	2	2	3	2
26	3	3	3	3	2
27	3	2	2	2	2
28	3	3	3	3	2
29	3	3	2	2	2
# of 3 point	25	20	14	15	10
# of 2 point	4	9	15	14	19
# of 1 point	0	0	0	0	0
Total Score	83	78	72	73	68
Average	2.862	2.690	2.483	2.517	2.345
Total Average	2.579				

Assessment Learning Goal 4 (L4): ITM501_Introduction to Innovation Management: Theory & Practice

L4: Comprehensive Knowledge in Business and Technology - Our graduates will acquire knowledge related to business innovation and technology management

L42: Our students recognize the importance of technology in business innovation

T1. Strategic and integrative thinking	T2. Development of aligned technology-business strategy	T3. Creative and innovative thinking	T4. Articulation of technology-business relationship
29	29	29	29
2	3	3	2
2	2	3	3
3	3	3	3
2	2	3	3
3	3	3	3
2	2	2	2
2	2	2	2
2	3	3	2
2	2	2	2
3	3	3	2
3	3	3	3
3	3	2	2
3	3	3	3
2	3	3	3
3	2	3	3
3	2	3	3
3	2	3	3
3	3	3	3
3	2	3	3
3	2	3	2
2	2	2	2
2	2	2	2
2	2	3	3
3	2	3	3
3	2	2	2
3	2	3	3
3	2	3	2
3	3	3	3
3	2	2	2
18	11	21	16
11	18	8	13
0	0	0	0
76	69	79	74
2.621	2.379	2.724	2.552
	2.569		