

Strategy to Improve the Competence of Alumni of the Department of Management IPB University Using Tracer Study

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ABSTRACT

This study aims to formulate strategies for improving the competencies of alumni from the Department of Management, IPB University, using tracer study data from cohorts 53–57 (graduates of 2016–2020). The study has three main objectives: (1) to identify learning activities considered most beneficial and the competencies mastered based on the graduates' learning outcomes; (2) to assess the relevance of alumni competencies to current labor market needs; and (3) to analyze alumni preferences toward the Department of Management as a platform for competency development. The research employed a quantitative approach with purposive and snowball sampling techniques, involving 154 alumni as respondents. Data were analyzed using descriptive statistics, Importance Performance Analysis (IPA), and Net Promoter Score (NPS). The results indicate that the Kuliah Kerja Nyata (KKN) is a learning activity that provides considerable benefits. Communication skills emerged as the top priority for improvement, as reflected in their position within the “concentrate here” quadrant of the IPA analysis. The NPS results show that alumni demonstrate good loyalty. Recommendations include strengthening skills through internship programs in companies where alumni work or within relevant university units.

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1. INTRODUCTION

Indonesia is one of the countries that is part of the G20 (Group of Twenty) and holds a strategic position in the global economic arena. Indonesia's appointment as the G20 Presidency holds strategic significance for economic recovery and the realization of Indonesia Maju, provided that opportunities and challenges can be capitalized on optimally for the nation's benefit[1]. These members are Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, South Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the United Kingdom, the United States, and the European Union. It reflects acknowledgment of Indonesia's standing as one of the major economies globally,

while also positioning the country to represent other developing nations[2]. As a country contributing to 85% of the world’s GDP, G20 member states are committed to maintaining the GDP growth of their respective countries. The GDP growth rates of G20 member countries are presented in Figure 1.

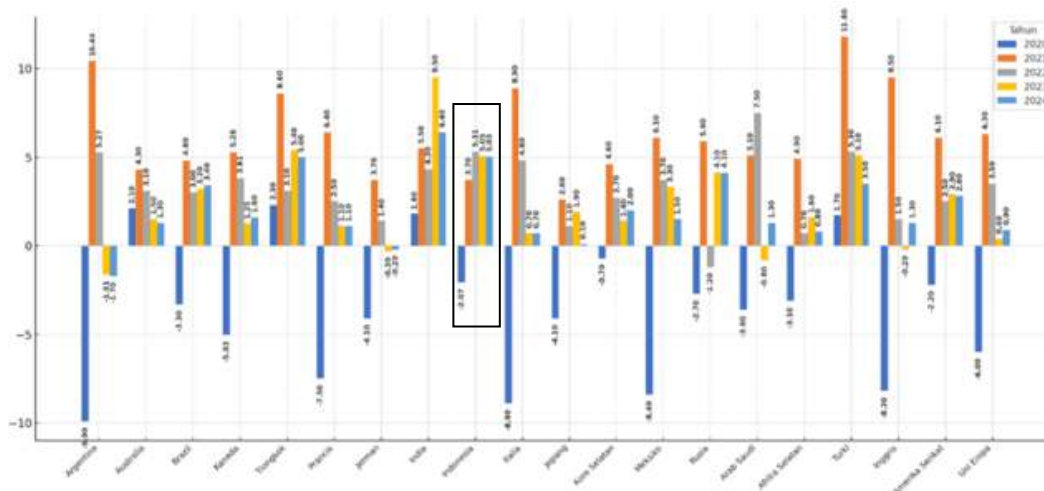


Figure 1. GDP growth rates of G20 member countries

Figure 1 shows that the economic growth of G20 countries in 2020–2024 reflects a post-pandemic recovery. Indonesia is among the countries with a strong recovery, recording a GDP growth of -2.07% in 2020, which then rose to 3.7% (2021), 5.31% (2022), and remained stable at around 5.05%–5.03% in 2023–2024. These figures are relatively consistent and quite high compared to other G20 countries. A decline in the unemployment rate has been one of the driving factors behind the GDP increase. World Bank provides data on the unemployment rate for higher education graduates from various countries around the world, including the ASEAN region. This data is presented as the percentage of individuals with higher education—diploma, bachelor’s, master’s, or doctoral degrees—who are unemployed, compared to the total number of higher-educated individuals in the labor force. The unemployment rate can serve as an indicator to assess the economic development of a country, whether it is progressing, slowing down, or experiencing a decline[3]. The unemployment percentage for higher education graduates in ASEAN countries, as recorded by the World Bank, is presented in Figure 2.

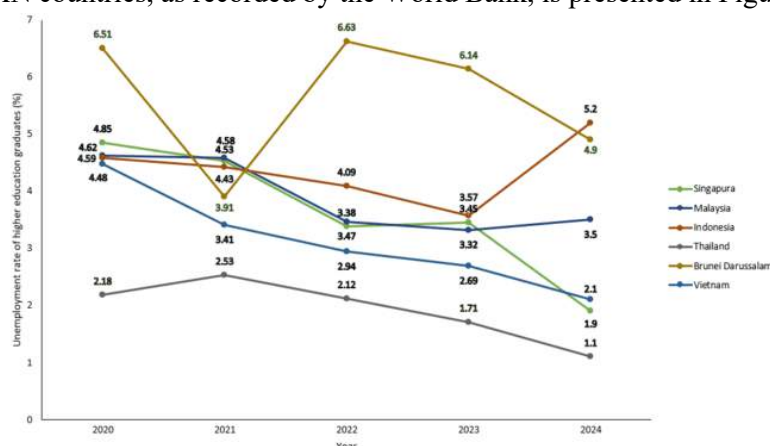


Figure 2. Unemployment rate of higher education graduates in ASEAN countries

Figure 2 shows the trend of higher education graduate unemployment in six ASEAN countries from 2020 to 2023. In general, there was a decline, with Brunei Darussalam recording the highest rate of 6.63% (2022) and Thailand the lowest at 1.71%. In 2021, all countries experienced a decrease, while in 2022 most countries saw an increase, except Brunei, which rose significantly. In 2023, only Singapore

recorded a slight increase. Indonesia experienced a steady decline from 2020 to 2023, but in 2024 it became the highest in ASEAN at 5.2%, an increase of 1.63% from the previous year. The National Medium-Term Development Plan (RPJMN) 2020–2024 sets out the development of quality human resources through three pillars: (1) basic services and social protection, including access to education, healthcare, and population management; (2) improving productivity through vocational education, higher education development, progress in science and technology, innovation, and sports achievements; and (3) character building through mental revolution, strengthening Pancasila values, cultural preservation, religious moderation, and literacy. In Indonesia, the number of university graduates who are able to remain in the workforce is still a challenge. The relatively high unemployment rate among graduates indicates a gap between academic qualifications and the job readiness expected by the labor market[4]. Therefore, the role of universities in equipping students with relevant skills to face these challenges becomes increasingly important[5]. Universities are under growing pressure to provide graduates with strong hard and soft skills, as well as greater competitiveness, so they can adapt to the challenges of globalization and the Fourth Industrial Revolution[6]. Unemployment refers to a condition in which a large portion of the working-age population is seeking employment but fails to obtain it.[7] The comparison between the number of graduates and unemployment can be seen in Figure 3.

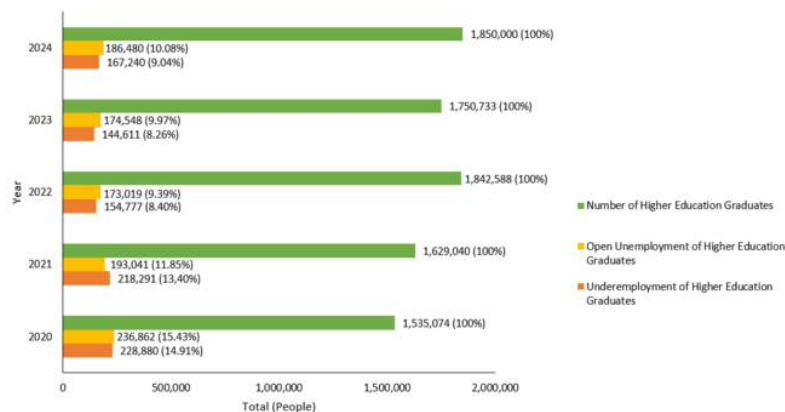


Figure 3. Number of graduates, open unemployment, and underemployment of higher education in Indonesia

Figure 3 shows that the number of higher education graduates in Indonesia increased from 1.53 million (2020) to 1.85 million (2024). In 2020, the highest rates were recorded for open unemployment at 15.43% and underemployment at 14.91%, influenced by the Covid-19 pandemic. These figures declined until 2023 but rose again in 2024 to 10.08% for open unemployment and 9.04% for underemployment. This increase was driven by a mismatch between graduates’ skills and industry needs[8]. Universities today produce a workforce that does not align with the needs of industry[9]. The ranking of universities worldwide is compiled by a UK-based institution, Quacquarelli Symonds (QS), known as the QS World University Rankings. It has outlined four key pillars that define a world-class university: (1) research; (2) teaching; (3) employability; and (4) internationalization[10]. This ranking lists 1,503 universities worldwide, including those in Indonesia. Table 1 presents the five highest-ranked universities in Indonesia according to the QS World University Rankings.

Table 1. University Rankings in Indonesia According to the QS World University Rankings

Name of university	Ranking 2022	Ranking 2023	Ranking 2024	Ranking 2025
Universitas Indonesia (UI)	290	248	237	189
Universitas Gadjah Mada (UGM)	254	231	263	224

Institut Teknologi Bandung (ITB)	303	235	281	255
Universitas Airlangga (UNAIR)	465	369	345	287
Institut Pertanian Bogor (IPB)	511-520	449	489	399

Table 1 shows the ranking improvements of five Indonesian universities from 2022 to 2025. UI and UNAIR improved every year, while UGM, ITB, and IPB rose in 2023 but declined in 2024. Overall, the largest increase was achieved by UNAIR (178 points), followed by IPB (112–121 points), UI (101 points), ITB (48 points), and UGM (30 points). One of the assessment factors is employers’ perception of graduates. In addition to international rankings, there are also national university rankings. The Indonesian Ministry of Education and Culture issued Decree Number 3/M/2021, which establishes eight Key Performance Indicators (IKU) to evaluate the performance of State Universities and Higher Education Service Institutions. The indicators are: 1) graduates securing decent jobs; 2) students gaining off-campus experience; 3) lecturers engaging in off-campus activities; 4) practitioners teaching on campus; 5) lecturers’ work being used by society or receiving international recognition; 6) study programs collaborating with world-class partners; 7) collaborative and participatory classes; and 8) internationally standardized study programs. These IKUs are used as one of the factors in determining university rankings according to the Ministry of Education, Culture, Research, and Technology (Kemendikrisaintek). Table 2 presents the top universities in Indonesia according to the Ministry.

Table 2. University Rankings in Indonesia According to Kemendikrisaintek

Nama of university	Ranking 2022	Ranking 2023	Ranking 2024
Universitas Indonesia (UI)	1	2	1
Universitas Gadjah Mada (UGM)	2	3	2
Institut Teknologi Bandung (ITB)	9	5	3
Universitas Airlangga (UNAIR)	5	4	5
Institut Pertanian Bogor (IPB)	4	1	6

Table 2 shows that Universitas Indonesia ranked as the best university in 2022 and 2024, while UGM consistently remained in the top three. ITB dropped out of the top five in 2022, and Universitas Airlangga consistently stayed in the top five from 2022 to 2024. IPB saw a significant rise in 2023 but fell in 2024, recording the smallest decline compared to other universities. IPB consistently ranked in the top five according to the QS World University Rankings and the top six according to Kemendikrisaintek from 2022 to 2025, showing significant progress at both national and international levels. Nevertheless, IPB recorded the smallest improvement in the QS rankings and dropped from first to sixth place in the Kemendikrisaintek rankings. The Directorate of Student Affairs and Career Development (Ditmawa) plays a role in enhancing students’ skills by facilitating academic reasoning activities, talents and interests development, professional organizations, soft skills training, career and entrepreneurship programs, and internship coordination, supporting IKU indicators 1, 2, and 6.

In 2023, the Management study program became the most sought-after in Indonesia. The Department of Management at IPB, established in 2021 under the Faculty of Economics and Management (FEM) IPB, is among the top five most popular study programs at IPB. The department is accredited by BAN-PT, AUN, and ISO 9001:2015, with a vision to deliver excellent management education that meets international standards and focuses on sustainability. One of its missions is to prepare graduates to excel in a global environment. Given the high demands of career readiness, the department must ensure that alumni competencies align with labor market needs. The Ministry of Education, Culture, Research, and Technology provides an online system to monitor alumni activities, including through tracer studies, which are crucial for evaluating university performance and as a requirement for BAN-PT accreditation. Tracer study data for IPB’s Department of Management cohorts

49–52 reveal a competency gap with workforce needs, particularly in self-development, creativity, and judgment and decision-making. Alumni are rated highly in work ethic and motivation but weaker in foreign languages, creativity, and critical and analytical thinking. Research on cohorts 53–57 is being conducted to assess improvements in graduate competencies and curriculum relevance to labor market demands, as well as to formulate strategic recommendations for enhancing graduate quality.

Previous studies have generally focused only on the competency indicators set by BAN-PT to assess graduate performance. However, few have included Graduate Learning Outcomes (Capaian Pembelajaran Lulusan, CPL) competencies as part of the analysis. CPL is a crucial internal benchmark to determine whether graduates' competencies are aligned with the curriculum designed by the study program. Therefore, this study aims to address this theoretical gap by using both BAN-PT and CPL competencies simultaneously to formulate a more comprehensive and contextual strategy for improving alumni competencies. In addition, most existing tracer studies still use a simple descriptive analysis approach, which only describes the current condition without providing concrete direction for areas that need improvement. This creates a methodological gap in terms of the analytical tools used. In this study, the approach is expanded by applying Importance Performance Analysis (IPA) to map the extent to which competencies are considered important by employers and how well these competencies have been mastered by alumni. Thus, the results can provide more targeted strategic recommendations for improving alumni competencies. The objectives of this study are to 1) identify learning activities that benefit alumni and competencies mastered based on the Graduate Learning Outcomes of the Department of Management; 2) analyze the relevance of competencies possessed by alumni of the Department of Management after receiving the Certificate of Graduation (SKL) to the needs of the labor market; and 3) identify alumni preferences toward the Department of Management as a platform for competency development.

2. METHOD

This study was conducted online by distributing a Google Form to alumni of the IPB Department of Management from cohorts 53–57 or the 2016–2020 batches. The research took place over two months, from January to August 2025. The primary data in this study were obtained through a tracer study questionnaire distributed by the Department of Management to alumni from cohorts 53 to 57. The secondary data in this study came from the alumni database of the IPB Department of Management for cohorts 53–57 and literature relevant to this research.

This study employed a non-probability sampling method for sample selection, applying purposive sampling and snowball sampling techniques. Purposive sampling is a method of selecting samples with specific characteristics relevant to the research context[11]. The criteria for inclusion in this study's sample were alumni of the IPB Department of Management from cohorts 53–57 who were already employed. According to theory of Gay and Diehl, the sample size should be as large as possible, with a minimum of 10% of the population required for descriptive research[12]. With a population of 515 people, the minimum required sample size was 103. This study involved 154 respondents, representing 29.9% of the population, which is considered sufficient to represent the population's characteristics. Data analysis included validity and reliability testing before distributing the questionnaire, descriptive analysis to answer objective 1, Importance Performance Analysis (IPA) to address objective 2, and Net Promoter Score to address objective 3.

3. RESULTS AND DISCUSSION

3.1. Respondent Characteristics

The respondents in this study consisted of 154 alumni of the IPB Department of Management who graduated between 2020 and 2024, or from the 2016 to 2020 cohorts. These cohorts are also referred to as batches 53 to 57 at IPB. The respondents were categorized based on several characteristics: gender,

batch, GPA, length of study, place of residence, source of tuition funding, job search duration, job search method, factors considered when choosing the first job, first take home pay, first job position, current job position, type of company, company level, current take home pay, income compared to the regional minimum wage (UMP), and workplace challenges. The respondents' characteristics are presented in Table 3.

Table 3. Respondent Characteristics

Characteristics		First Take Home Pay						Total	%Total
		≤UMK	>UMK s/d UMK+25%	>UMK+25% s/d UMK+50%	>UMK+50% s/d UMK+75%	>UMK+75% s/d UMK+100%	>UMK+100%		
Gender	Male	15	15	4	12	9	5	60	38.96
	Female	32	25	17	10	3	7	94	61.04
Subtotal		47	40	21	22	12	12	154	100
Batch	53	13	8	7	5	5	5	43	27.92
	54	8	13	3	5	3	3	35	22.73
	55	11	8	4	4	2	1	30	19.48
	56	9	6	5	6	1	2	29	18.83
	57	6	5	2	2	1	1	17	11.04
Subtotal		47	40	21	22	12	12	154	100
GPA	>2.50 - 3.00	7	2	1	1	0	2	13	8.44
	>3.00 - 3.50	19	16	8	12	9	3	67	43.51
	>3.50 - 4.00	21	22	12	9	3	7	74	48.05
Subtotal		47	40	21	22	12	12	154	100
Length of Study	≤42 bulan	1	1	0	0	0	0	2	1.29
	>42 - 48 bulan	27	17	13	15	8	6	86	55.84
	>48 - 54 bulan	12	17	5	6	4	6	50	32.46
	>54 - 60 bulan	3	3	2	0	0	0	8	5.19
	>60 bulan	4	2	1	1	0	0	8	5.19
Subtotal		47	40	21	22	12	12	154	100
Place of Residence	Bali	1	0	0	0	1	0	2	1.30
	Banten	7	3	2	4	3	0	19	12.34
	Jakarta	12	14	10	10	1	3	50	32.47
	Jawa Barat	18	18	4	2	2	1	45	29.22
	Jawa Tengah	4	2	0	2	0	3	11	7.14
	Jawa Timur	1	0	0	0	0	0	1	0.65
	Kalimantan Barat	0	0	0	0	0	1	1	0.65
	Kalimantan Selatan	1	0	0	0	1	1	3	1.95
	Kalimantan Tengah	1	0	0	0	0	0	1	0.65
	Kalimantan Timur	0	0	0	2	0	1	3	1.95
	Kepulauan Riau	1	1	1	0	0	0	3	1.95
	Nusa Tenggara Barat	0	0	0	1	0	1	2	1.30
	Onslow, Australia	0	1	0	0	0	0	1	0.65
	Riau	0	0	0	0	1	0	1	0.65
	Sulawesi Selatan	0	0	0	0	2	1	3	1.95
	Sulawesi Tengah	0	0	0	1	0	0	1	0.65
	Sulawesi Tenggara	0	1	1	0	0	0	2	1.30
	Sumatera Barat	0	0	3	0	0	0	3	1.95
Sumatera Selatan	0	0	0	0	1	0	1	0.65	
Tennessee, USA	1	0	0	0	0	0	1	0.65	
Subtotal		47	40	21	22	12	12	154	100
Source of Tuition Funding	BAZNAS Scholarship	0	0	0	1	0	0	1	0.65
	BCA Scholarship	1	0	0	0	0	0	1	0.65
	Bidikmisi/KIP Scholarship	5	10	4	4	0	1	24	15.58
	KJMU Scholarship	1	1	0	1	0	0	3	1.95
	PPA Scholarship	1	1	0	0	2	0	4	2.60
	Tanoto Foundation Scholarship	0	0	1	0	0	0	1	0.65
	Unggulan Scholarship	0	0	0	1	0	0	1	0.65
	Regional Government Scholarship	2	1	0	1	0	1	5	3.25
	Self-Funded / Family-Funded	36	27	16	14	10	10	113	73.38
Bright Scholarship	1	0	0	0	0	0	1	0.65	
Subtotal		47	40	21	22	12	12	154	100
Job Search Duration	≤6 Months	35	33	15	16	10	9	118	76.62
	>6 - 12 Months	9	7	5	5	1	2	29	18.83
	>12 - 18 Months	1	0	1	1	1	0	4	2.60
	>18 Months	2	0	0	0	0	1	3	1.95
Subtotal		47	40	21	22	12	12	154	100

Characteristics		First Take Home Pay						Total	%Total
		≤UMK	>UMK s/d UMK+25%	>UMK+25% s/d UMK+50%	>UMK+50% s/d UMK+75%	>UMK+75% s/d UMK+100%	>UMK+100%		
Job Search Method	Working at the same place as during college	1	1	0	0	0	0	2	1.30
	Contacted by a company	4	1	3	3	1	0	12	7.79
	Through newspaper / magazine / brochure advertisements	0	2	1	1	0	0	4	2.60
	Through job placement or internship	1	1	0	0	0	1	3	1.95
	Through connections (e.g., lecturers, parents, relatives, friends, etc.)	2	6	1	0	3	0	12	7.79
	Applying to a company without knowing available job	5	1	0	0	1	0	7	4.55
	Building a network while still in college	6	6	4	3	0	3	22	14.29
	Obtaining Information from the Faculty / University Career Development Center	0	0	0	2	0	1	3	1.95
	Searching via internet / online advertisements	20	10	8	4	3	5	50	32.47
	Contacting a commercial / private employment agency	5	3	2	5	1	1	17	11.04
	Contacting the student affairs / alumni relations office	2	4	1	3	2	1	13	8.44
Attending a job fair / exhibition	1	5	1	1	1	0	9	5.84	
Subtotal	47	40	21	22	12	12	154	100	
Factors Considered When Choosing The First Job	Benefits (housing, transportation, overtime pay)	5	8	2	3	1	0	19	12.34
	Salary	15	6	3	3		0	29	18.83
	Distance from home	1	3	3	0	2	1	9	5.84
	Career / position	9	3	1	4	1	1	19	12.34
	Comfort	2	5	1	3	1	2	13	8.44
	Scholarship opportunities	2	1	0	1	0	0	5	3.25
	Gaining experience	4	8	6	6	3	4	31	20.13
	Passion / Interest	8	4	4	1	1	4	22	14.29
Job challenges	1	2	1	1	2	0	7	4.55	
Subtotal	47	40	21	22	12	12	154	100	
First Job Position	Assistant Manager	3	0	1	2	1	1	8	5.19
	Director	0	1	0	0	0	0	1	0.65
	Freelance	1	0	1	0	0	0	2	1.30
	Intern	8	2	0	0	0	0	10	6.49
	Management Trainee	1	1	1	1	1	0	5	3.25
	Manager	2	1	0	1	0	1	5	3.25
	Staff	31	35	17	16	8	10	117	75.97
	Supervisor	1	0	1	2	2	0	6	3.90
Subtotal	47	40	21	22	12	12	154	100	
Current Job Position	Assistant Manager	4	2	2	3	1	2	14	9.09
	Department Head	1	1	0	2	0	0	4	2.60
	Director	1	0	0	0	0	0	1	0.65
	Freelance	0	0	1	0	0	0	1	0.65
	Intern	3	0	0	0	0	0	3	1.95
	Management Trainee	0	1	3	0	1	0	5	3.25
	Manager	1	1	0	1	2	2	7	4.55
	Senior merchandiser	0	0	0	1	0	0	1	0.65
	Specialist	0	1	0	0	0	0	1	0.65
	Staff	35	31	12	14	7	8	107	69.48
Supervisor	2	3	3	1	1	0	10	6.49	
Subtotal	47	40	21	22	12	12	154	100	
Type of Company	State-Owned Enterprises (SOEs) / Regional-Owned Enterprises (ROEs)	9	5	7	5	4	3	33	21.43
	Government Agencies	10	6	5	3	1	1	26	16.88
	Institutions / Organizations	1	0	0	1	0	0	2	1.30
	Multinational Companies	3	0	1	1	0	3	8	5.19
	Non-Profit Organizations / Non-Governmental Organizations (NGOs)	2	1	0	0	0	0	3	1.95
	Private Companies (National/International)	22	28	8	12	7	5	82	53.25
Subtotal	47	40	21	22	12	12	154	100	

Characteristics		First Take Home Pay						Total	%Total
		≤UMK	>UMK s/d UMK+25%	>UMK+25% s/d UMK+50%	>UMK+50% s/d UMK+75%	>UMK+75% s/d UMK+100%	>UMK+100%		
Company Level	Local / Regional / Unincorporated Private Business	3	4	3	0	0	0	10	6.49
	Multinational / International	8	12	7	5	3	5	40	25.97
	National / Legally Incorporated Private Business	36	24	11	17	9	7	105	67.53
Subtotal		47	40	21	22	12	12	154	100
Current Take Home Pay	≤UMK	14	4	0	0	0	0	18	11.69
	>UMK s/d UMK+25%	10	7	1	0	0	0	26	16.88
	>UMK+25% s/d UMK+50%	7	7	7	6	1	0	28	18.18
	>UMK+50% s/d UMK+75%	5	3	7	6	1	0	22	14.29
	>UMK+75% s/d UMK+100%	4	4	4	5	4	0	21	13.64
	>UMK+100%	7	15	2	5	0	12	39	25.32
Subtotal		47	40	21	22	12	12	154	100
Current Take Home Pay	<1,5 UMP	29	22	13	20	12	10	106	68.83
	1,5 UMP	9	8	4	1	0	2	24	15.58
	>1,5 UMP	9	10	4	1	0	0	24	15.58
Subtotal		47	40	21	22	12	12	154	100
Workplace Challenges	Adaptation	3	0	0	1	0	0	4	2.60
	Company Culture	3	2	1	2	0	0	8	5.19
	Communication Skills	11	11	6	3	5	2	38	24.68
	Foreign Language Proficiency	9	5	3	4	2	2	25	16.23
	Self-Confidence	8	11	4	8	2	4	37	24.03
	Skills	5	0	1	1	1	0	8	5.19
	Workplace Location	4	4	6	2	0	2	18	11.69
	Appearance	2	2	0	1	2	1	8	5.19
	Work Experience	0	2	0	0	0	0	2	1.30
Academic Achievement (GPA)	2	3	0	0	0	1	6	3.90	
Subtotal		47	40	21	22	12	12	154	100

Table 3 shows that most respondents were female (94 people) and primarily from cohort 53 (2016). The majority had a GPA of >3.50–4.00, a study duration of >42–48 months, and resided in Jakarta. Most financed their studies independently (73.38%) and obtained their first job within ≤6 months, typically through the internet/online advertisements. The main consideration in choosing their first job was to gain experience. The most common initial and current position was staff, although some had been promoted. Most respondents worked in private companies (53.25%), particularly in national/private legal entities (104 people). The current take-home pay was mostly >100% above the regional minimum wage (UMK), while the first salary was mostly <1.5 times the provincial minimum wage (UMP). The most frequently reported workplace challenge was communication skills.

3.2. Validity Test Results

Microsoft Excel was used as a tool for validity testing. The validity test was conducted on the questions regarding learning activities and alumni competencies based on the graduate learning outcomes. The results of the validity test are presented in Table 4.

Table 4. Validity Test Result

Variable	Indicator	r-value	r-value table	Description
Learning Activities	AB1	0.679	0.432	Valid
	AB2	0.800	0.432	Valid
	AB3	0.455	0.432	Valid
	AB4	0.477	0.432	Valid
	AB5	0.881	0.432	Valid
	AB6	0.827	0.432	Valid
Competencies	KP1	0.592	0.432	Valid

	KP2	0.656	0.432	Valid
	KP3	0.697	0.432	Valid
	KP4	0.564	0.432	Valid
	KP5	0.672	0.432	Valid
	KP6	0.552	0.432	Valid
	KP7	0.719	0.432	Valid
	KP8	0.707	0.432	Valid
	KP9	0.595	0.432	Valid
	KP10	0.722	0.432	Valid

The validity test was conducted by comparing the calculated r-value with the r-value table. In this study, the table r-value was 0.432. Table 4 shows that the calculated r-values obtained ranged from 0.455 to 0.881, all above the table r-value, indicating that the data are valid.

3.3. Reliability Test Results

Reliability testing can be conducted once validity testing has been completed. The reliability test was carried out on the questions regarding learning activities and alumni competencies based on graduate learning outcomes. The results of the reliability test are presented in Table 5.

Table 5. Reliability Test Result

Variable	Indicator	Variance	Cronbach's Alpha	Critical Value	Description
Learning Activities	AB1	1.108	0.774	0.6	Reliabel
	AB2	0.736			
	AB3	0.260			
	AB4	0.920			
	AB5	0.790			
	AB6	0.695			
Competencies	KP1	0.658	0.842	0.6	Reliabel
	KP2	0.600			
	KP3	0.323			
	KP4	0.314			
	KP5	0.374			
	KP6	0.537			
	KP7	0.617			
	KP8	0.667			
	KP9	0.667			
	KP10	0.600			

The results are considered reliable when Cronbach's alpha is above 0.6. Table 5 shows that Cronbach's alpha in this study ranged from 0.774 to 0.842, indicating that the data are reliable.

3.4. Learning Activities Beneficial to Alumni

The learning activities conducted by the IPB Department of Management include lectures, Community Service Program (KKN), internships, skripsi, fieldwork (practicum/responsi), and capstone projects (for batch 57 only). Respondents rated these activities on a scale from 1 to 5, where 1 indicates very low usefulness and 5 indicates very high usefulness. The learning activities considered beneficial for alumni of the Department of Management are presented in Table 6.

Table 6. Benefits of Learning Activities in the Department of Management

Code	Learning Activity	Respondent Answer					Mode (4,5) (%)	Description
		1	2	3	4	5		
		SK	K	C	B	SB		

		(%)	(%)	(%)	(%)	(%)		
AB1	Lectures	0	2.6	21.4	45.5	30.5	76.0	High
AB2	Community Service Program (KKN)	7.1	9.1	41.5	26.6	15.6	42.2	Moderate
AB3	Internships	2.6	2.6	10.4	28.6	55.8	84.4	Very High
AB4	Skripsi	3.2	5.1	25.3	43.5	22.7	66.2	High
AB5	Fieldwork (Practicum / Responsi)	1.9	5.1	31.2	36.4	25.3	61.7	High
AB6	Capstone Projects (for Batch 57 Only)	0	0	23.5	35.2	41.1	76.3	High

Table 6 shows that the majority of alumni indicated that the benefits gained from learning activities conducted in the Department of Management were generally high. These learning activities include lectures, skripsi, fieldwork (practicum / responsi), and capstone projects (for batch 57 only). The activity considered most beneficial is the internship, which provides students with direct experience of working in an industry or company. One learning activity that was rated as moderately beneficial is the Community Service Program (KKN), due to a mismatch between the activities carried out during KKN and the core competencies developed in the field of management.

3.5. Competencies Mastered Based on Graduate Learning Outcomes of the Department of Management

The competencies included in the graduate learning outcomes of the Department of Management are oral and written communication skills, the ability to build commitment with integrity, professional ethics, the ability to work independently or in teams, information technology application skills, creativity and innovation, the ability to apply management functions (human resources, production-operations, finance, and marketing), problem-solving and decision-making skills, the ability to implement integrated strategic management, and competitiveness. Respondents rated these competencies on a scale from 1 to 5, where 1 indicates very low mastery and 5 indicates very high mastery. The level of competency mastery of Department of Management alumni based on graduate learning outcomes is presented in Table 7.

Table 7. Level of Competency Mastery Based on Graduate Learning Outcomes

Code	Competency	Respondent Answer					Mode (4,5) (%)	Description
		1	2	3	4	5		
		SR (%)	R (%)	N (%)	T (%)	ST (%)		
KP1	Oral and written communication skills	0	0	22.7	55.8	21.4	77.2	High
KP2	The ability to build commitment with integrity	0	0	12.3	51.9	35.7	87.6	Very High
KP3	Professional ethics	0	0	11.0	48.1	40.9	89.0	Very High
KP4	The ability to work independently or in teams	0	0	6.5	51.9	41.5	93.4	Very High
KP5	Information technology application skills	0	0	20.8	53.2	26.0	79.2	High
KP6	Creativity and innovation	0	2.5	22.8	37.0	37.7	74.7	High
KP7	The ability to apply management functions (human resources, production-operations, finance, and marketing)	0	1.3	20.8	52.6	25.3	77.9	High

KP8	Problem-solving and decision-making skills	0	1.3	15.0	49.3	34.4	83.7	Very High
KP9	The ability to implement integrated strategic management	0	1.3	24.0	48.7	26.0	74.7	High
KP10	Competitiveness	0.6	1.9	18.8	47.4	31.1	78.5	High

Table 7 shows the level of competency mastery of alumni from the Department of Management based on the graduate learning outcomes. Alumni reported that they have effectively mastered the competencies expected from the Department of Management, as indicated by the mode values showing that all competencies are rated as high or very high. Alumni demonstrated very high mastery in building commitment with integrity, professional ethics, the ability to work independently or in teams, and problem-solving and decision-making skills. They showed high mastery in oral and written communication, information technology application, creativity and innovation, application of management functions (human resources, production-operations, finance, and marketing), implementation of integrated strategic management, and competitiveness. Some alumni assigned scores of 1 (very low) and 2 (low), reflecting individual perceptions likely influenced by personal experiences. Although these data points are outliers, the Department of Management should consider them as valuable input for evaluation purposes.

3.6. Relevance of Competencies Possessed by Department of Management Alumni After Receiving the Certificate of Graduation (SKL) to Labor Market Needs

The competencies possessed by alumni after receiving the Certificate of Graduation (SKL) may differ from the competencies required by companies in the labor market. The competencies used in this study were derived from BAN-PT and adjusted to the Department of Management. These competencies include understanding ethics, field-specific expertise, English proficiency, information technology usage, communication skills, teamwork abilities, and self-development. The average alumni competencies and the average labor market requirements for these competencies are presented in Table 8.

Table 8. Average Alumni Competencies and Labor Market Requirements

No	Competency	Average Alumni Competency	Average Labor Market Requirement
1	Understanding Ethics	4.25	4.49
2	Field-Specific Expertise	3.86	4.10
3	English Proficiency	3.60	4.14
4	Information Technology Usage	4.01	4.34
5	Communication Skills	3.97	4.49
6	Teamwork Abilities	4.10	4.49
7	Self-Development	4.02	4.40

Table 10 shows that the average competency level of alumni based on BAN-PT standards ranges from 3.60 to 4.25, while the average requirements in the workplace range from 4.10 to 4.49. The highest average competency among alumni is ethical understanding, whereas the lowest is English proficiency. The highest workplace requirements are ethical understanding, communication skills, and teamwork ability. Meanwhile, the lowest workplace requirement is expertise based on the field of study. The relevance between the competencies possessed by the Department of Management IPB alumni after receiving the SKL and the requirements in the workplace is presented in Table 9.

Table 9. Relevance of Alumni Competencies After Receiving the SKL to Labor Market Needs

Labor Market Needs					Competency	Alumni Competencies After Receiving the SKL					Gap
Very Unimportant – Very Important						Very Poor – Very Good					
1	2	3	4	5		1	2	3	4	5	
			4.14		3) English Proficiency			3.6			-0.54
			4.49		5) Communication Skills			3.97			-0.52
			4.49		6) Teamwork Abilities				4.10		-0.39
			4.40		7) Self-Development				4.02		-0.38
			4.34		4) Information Technology Usage				4.01		-0.33
			4.49		1) Understanding Ethics				4.25		-0.24
			4.10		2) Field-Specific Expertise			3.86			-0.24

Table 9 shows that all competencies are required in the labor market, as indicated by the negative gap between alumni competencies after receiving the SKL and industry requirements. The largest gap is in English proficiency (0.54), since many alumni work in national companies where Indonesian is primarily used. It is recommended that the IPB Department of Management strengthen practical English learning. The smallest gap (0.24) is in understanding ethics and field-specific expertise; although these are relatively well met, they still need development due to their importance for performance and confidence in the workplace.

To examine the relevance between the competencies possessed by alumni after receiving the SKL and the requirements of the labor market, an Importance-Performance Analysis (IPA) can be used. The values in the Cartesian diagram are taken from Table 10. This analysis is illustrated with a Cartesian diagram presented in Figure 4.

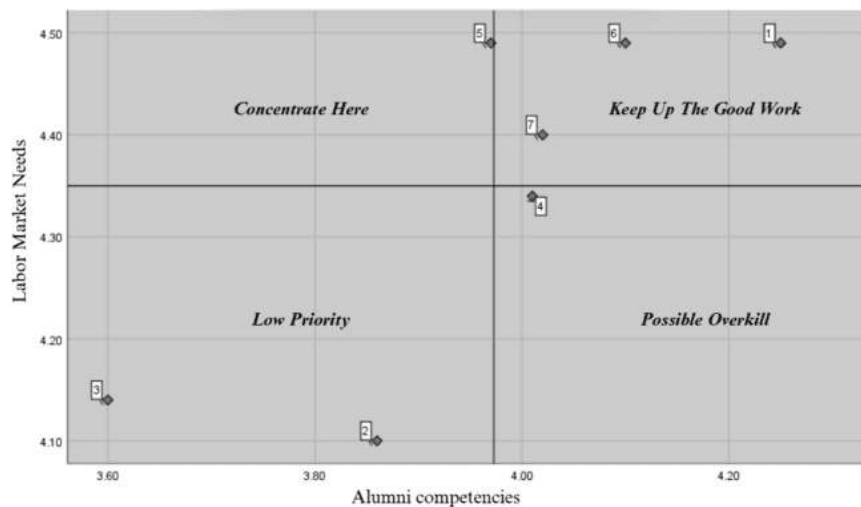


Figure 4. Cartesian diagram

Figure 4 presents the Cartesian diagram with competencies adjusted according to BAN-PT. The IPB Department of Management needs to develop communication competencies (Quadrant I – concentrate here) through oral and written learning strategies. Communication is an important factor in improving employee performance, thereby resulting in high productivity and the achievement of organizational goals[13]. Recommended efforts include active learning such as presentations, debates, role-plays, case studies, managerial analysis assignments, business proposals, and opinion articles. These activities aim to train students to convey ideas clearly, logically, and persuasively, as well as to practice active listening. Collaboration with practitioners or alumni for seminars/training in business communication, negotiation, and public speaking is also important. Additionally, integrating cross-

cultural communication and English into the curriculum is highly recommended to prepare students for the global workforce.

3.7. Alumni Preferences Toward the Department of Management as a Platform for Competency Development

To assess alumni preferences toward the IPB Department of Management as a learning institution, the Net Promoter Score (NPS) was used. NPS is a measurement method that assesses customers' willingness to recommend a service to others, thereby reflecting customer loyalty [14]. NPS categorizes respondents into three groups: promoters, passives, and detractors. The results obtained from NPS are expected to serve as a tool for the Department of Management to improve its quality. The classification of respondents based on NPS is presented in Table 10.

Table 10. Respondent Classification

Category	Number of People	Percentage (%)
<i>Promoters</i>	70	45.5
<i>Passives</i>	72	46.8
<i>Detractors</i>	12	7.8
Total	154	100

Table 10 shows the respondents categorized as promoters, passives, and detractors. The largest group of alumni falls into the passives category, totaling 72 people or 46.8%. The number of alumni classified as promoters is 70 people or 45.5%, while detractors amount to 12 people or 7.8%. The IPB Department of Management needs to improve its quality because a significant portion of alumni are still in the passives category. Passives are respondents who choose to remain neutral and do not give negative ratings to the Department of Management, but their loyalty is not strong. Therefore, it is important for the Department to convert passives into promoters to increase the NPS score. There are four reasons why alumni become promoters: relevant course material for the workplace, broad career prospects, high-quality learning methods, and adequate facilities. The most cited reason is the relevance of course material to the workplace, mentioned by 64% or 45 respondents. The four suggestions from alumni classified as detractors are: adding practice-based learning methods, grouping students according to their interests, integrating technology in every class, and creating a mandatory internship program. The most cited suggestion from detractor alumni is the addition of practice-based learning methods, mentioned by 33% or 4 respondents.

The NPS value is obtained by subtracting the percentage of detractors from the percentage of promoters. The NPS calculation is as follows:

$$\text{NPS} = \% \text{promoters} - \% \text{detractors}$$

$$\text{NPS} = 45,5\% - 7,8\%$$

$$\text{NPS} = 37,7\%$$

Based on the data analysis, the NPS value obtained is 37.7%, calculated from the difference between the percentage of promoters (45.5%) and detractors (7.8%). This NPS value of 37.7% can be interpreted as an indicator of good loyalty, reflecting positive satisfaction and loyalty. Nevertheless, the presence of detractors remains a concern, as they have the potential to give negative feedback about the institution's image if not addressed. Detractors who display negative emotional attitudes are usually reluctant to make repeat purchases and may share negative experiences with others, which can adversely affect the company's reputation [15].

3.8. Managerial Implications

The managerial implications are formulated based on the results of descriptive analysis, IPA, NPS, and open-ended questions. SIPOC, which stands for suppliers, input, process, output, and customers, is a diagram that outlines the essential factors for process improvement[16]. The strategic roles that the IPB Department of Management can undertake are presented in a SIPOC diagram in Figure 5.

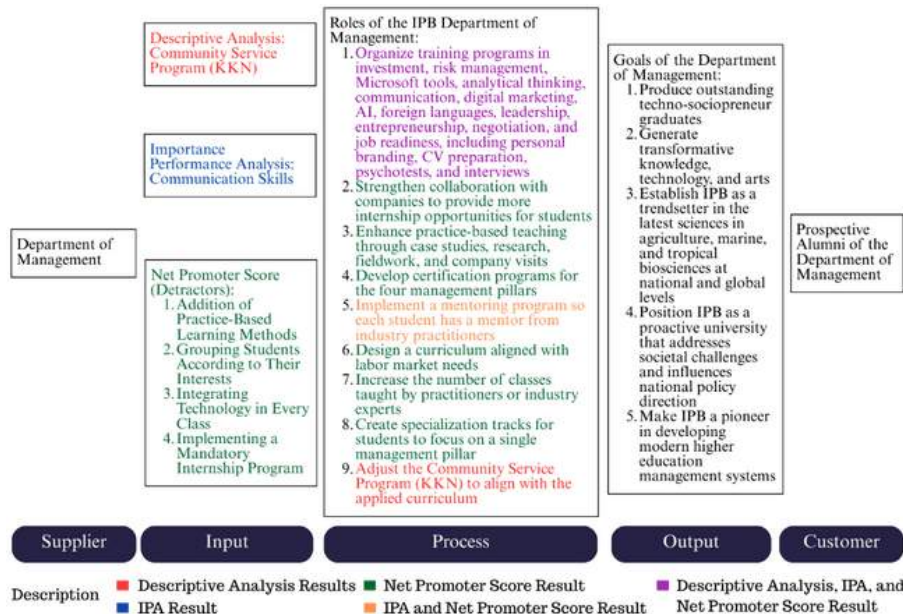


Figure 5. SIPOC Diagram

Based on Figure 5, the strategic role of the IPB Department of Management in improving the quality of its alumni is illustrated. As the supplier, the Department of Management is responsible for designing and implementing academic programs and policies that support student development. The inputs are derived from descriptive analysis, IPA, and NPS results. The descriptive analysis shows that the Community Service Program (KKN) is a learning activity that alumni do not yet consider highly beneficial. The IPA results indicate that communication skills fall into the “concentrate here” quadrant, requiring immediate improvement. The NPS results reveal suggestions from detractors, including adding practice-based learning methods, grouping students according to their interests, integrating technology in every class, and implementing a mandatory internship program.

Based on the open-ended questions, most alumni suggested implementing an internship program to enhance skills needed in the workplace. These skills include investment, risk management, Microsoft, analytical thinking, public speaking, digital marketing, AI, foreign languages, leadership, entrepreneurship, and negotiation. This program is considered a strategic means to prepare prospective graduates with competencies aligned with labor market demands. By participating in internships within real professional environments, students gain opportunities to apply the knowledge acquired in college, understand corporate work culture, and develop both technical and relevant soft skills. Consequently, this program is expected to bridge the gap between theory and practice while increasing graduates’ competitiveness in the job market. In addition, there is another program that can serve as a competency development platform by the Department of Management, namely the Teaching Lab University for Excellence in Network and Talent Advancement (TALENTA). The TALENTA program poster is presented in Figure 6.

TALENTA TEACHING LAB UNIVERSITY FOR EXCELLENCE IN NETWORK AND TALENT ADVANCEMENT

IPB University Departemen Manajemen

Learning Outcomes

- LO1: Able to apply management functions, including marketing, production-operations, finance, and human resources, in accordance with current management principles within the context of organizational management
- LO2: Able to apply various management methods/tools and information technology to solve organizational problems with a sustainable development perspective
- LO3: Able to develop objective, independent, critical, and systematic thinking, as well as creativity and innovation, by enhancing sociotechnopreneurial capabilities
- LO4: Able to make decisions and solve problems, as well as manage risks through value creation in facing uncertain business environments
- LO5: Able to apply integrated strategic management
- LO6: Able to compete and excel at both national and global levels
- LO7: Able to communicate effectively both orally and in writing, build commitment, demonstrate professional integrity and ethics, and work independently or in teams across various situations

Organizational Units at IPB University

- Vice Rector I - Education and Student Affairs (WR 1)
 - Directorate of Academic Administration & New Student Admissions (WR 1.1)
 - Directorate of Education Transformation and Learning Technology (WR 1.2)
 - Directorate of Student Affairs (WR 1.3)
 - Directorate of General Competency Education (WR 1.4)
 - Directorate of International Education (WR 1.5)
 - Student Dormitory Management Unit (WR 1.6)
- Vice Rector II - Resource Resilience and Infrastructure (WR 2)
 - Directorate of Finance (WR 2.1)
 - Directorate of Human Resources (WR 2.2)
 - Directorate of Campus Planning and Sustainable Development (WR 2.3)
 - Directorate of General Affairs and Infrastructure (WR 2.4)
 - Directorate of IPB Sukabumi Campus Management (WR 2.5)
 - Health Unit (WR 2.6)
 - Procurement Unit (WR 2.7)
 - IPB Jonggol Innovation Valley Unit (WR 2.8)
- Vice Rector III - Research, Innovation, and Agromaritime Community Development (WR 3)
 - Directorate of Research and Innovation (WR 3.1)
 - Directorate of Agromaritime Community Development (WR 3.2)
 - Directorate of Strategic Studies and Academic Reputation (WR 3.3)
 - Integrated Laboratory and Leading Research Unit (WR 3.4)
 - Farmer and Fisher Center Unit (WR 3.5)
 - Research Ethics Committee (WR 3.6)
- Vice Rector IV - Global Connectivity, Collaboration, and Alumni Affairs (WR 4)
 - Directorate of Global Connectivity (WR 4.1)
 - Directorate of Collaboration, Communication, and Marketing (WR 4.2)
 - Directorate of Career Development, Entrepreneurship & Alumni Relations (WR 4.3)
 - Waqf & Social Funds Unit (WR 4.4)

Other Units:

- Legal Bureau (SI 1)
- Quality Management Office (SI 2)
- Risk Management Office (SI 3)
- Leadership Secretary Office (SI 4)
- Internal Audit Office (KAI)
- Investment and Business Agency (BISNIS)
- Science and Technology Area Institute (LKST)
- Institute of Leadership and Executive Education (LKPE)
- Information Management and Digital Transformation Institute (LMITD)
- International Research Institute for Maritime Affairs, Fisheries, and Aquaculture (LRI 1)
- International Research Institute for Advanced Technology (LRI 2)
- International Research Institute for Environment and Climate Change (LRI 3)
- International Research Institute for Food, Nutrition, and Health (LRI 4)
- International Research Institute for Social, Economic, and Regional Development (LRI 5)
- Commercial Business Unit (SUK)
 - PT Bogor Life Science and Technology (SUK 1)
 - PT IPB Dana Lestari (SUK 2)

No.	Skill	Course	Organizational Unit	Learning Outcome
1.	Investment	Investment Management (MAN139)	WR 1.6, WR 2.1, BISNIS, LKST, LMITD, SUK 1, SUK 2	LO1, LO4, LO5
2.	Risk Management	Opportunity and Risk Management (MAN130)	WR 2.1, WR 2.3, WR 2.3, WR 2.7, WR 3.3, SI 3, SUK 1, SUK 2	LO2, LO4, LO5
3.	Microsoft	Management (MAN101)	WR 1.1, WR 1.2, WR 1.3, WR 2.2, SI 2, LMITD, SUK 1, SUK 2	LO1, LO2, LO7
4.	Analytical Thinking	Strategic Management (MAN130)	WR 1.4, WR 2.3, WR 2.4, WR 2.6, WR 2.7, WR 2.8, WR 3.1, WR 3.2, WR 3.3, WR 3.4, WR 3.5, SI 1, LRI 1, LRI 2, LRI 3, LRI 4, LRI 5, SUK 1, SUK 2	LO1, LO2, LO3, LO4, LO5
5.	Public Speaking	Professional Ethics and Communication (MAN102)	WR 1.4, WR 2.3, WR 2.4, WR 2.6, WR 2.7, WR 2.8, WR 3.1, WR 3.2, WR 3.3, WR 3.4, WR 3.5, SI 1, LRI 1, LRI 2, LRI 3, LRI 4, LRI 5, SUK 1, SUK 2	LO6, LO7
6.	Digital Marketing	E-Commerce and Digital Marketing (MAN 132)	WR 2.5, WR 4.2, WR 4.3, WR 4.4, SUK 1, SUK 2	LO1, LO2, LO3, LO6
7.	Artificial Intelligence (AI)	Production and Operations Management (MAN123)	WR 1.2, WR 2.6, WR 2.7, WR 4.1, LKST, LRI 1, LRI 2, LRI 3, LRI 4, LRI 5, SUK 1, SUK 2	LO2, LO3
8.	Foreign Languages	Marketing Management (MAN122)	WR 1.5, WR 2.6, WR 3.3, WR 4.1, WR 4.3, WR 4.4, LRI 1, LRI 2, LRI 3, LRI 4, LRI 5, SUK 1, SUK 2	LO6, LO7
9.	Leadership	Organizational Behavior and Leadership (MAN124)	WR 1.3, WR 1.4, WR 1.5, WR 1.6, WR 2.2, WR 2.3, WR 3.2, WR 4.3, LKPE, SUK 1, SUK 2	LO1, LO3, LO4, LO5, LO6, LO7
10.	Entrepreneurship	Project Management (MAN130)	WR 1.3, WR 2.5, WR 2.6, WR 3.1, WR 3.4, WR 3.5, WR 4.2, WR 4.3, BISNIS, SUK 1, SUK 2	LO3
11.	Negotiation	Marketing Management (MAN122)	WR 2.2, WR 2.3, WR 2.5, WR 3.2, WR 3.5, WR 4.2, LKPE, SUK 1, SUK 2	LO7

Figure 6. TALENTA Program Poster

TALENTA is a program designed to integrate the skills required in the job market with academic courses and the learning outcomes of the Department of Management through collaboration with various work units at IPB University. Through this program, Management students have the opportunity to directly develop the skills needed in the professional world. Based on open-ended responses, the skills alumni identified as essential in the workplace include investment, risk management, Microsoft proficiency, analytical thinking, communication, digital marketing, AI, foreign languages, leadership, entrepreneurship, and negotiation. Another goal of this program is to provide students with opportunities to have mentors and to strengthen relationships with university work units. All work units at IPB University can serve as laboratories for Management Department students to develop skills required in the professional world. However, several units cannot be used as laboratories due to their confidential nature. These units are the Research Ethics Committee, the Secretariat of Leadership, and the Internal Audit Office. PT Bogor Life Science and Technology (BLST) and PT IPB Dana Lestari are the most suitable work units for developing the full range of competencies directly and providing internship experiences for students, as they are established companies and business entities. This allows students to gain practical experience equivalent to working in a corporate environment.

4. CONCLUSION

Based on the analysis conducted in this study, the following conclusions can be drawn that the learning activity that provides the greatest benefit to alumni of the Department of Management is internships. Other learning activities that offer high benefits include lectures, undergraduate theses, practicums/tutorials, and capstone projects (specifically for cohort 57). One activity that provides moderate benefits is the community service program (KKN). Alumni of the Department of Management

demonstrate high to very high proficiency in the ten competencies expected from the program learning outcomes. The competency that should be prioritized by the Department of Management, IPB University, is communication skills, as this competency falls within the “concentrate here” quadrant. Out of 154 alumni of the Department of Management, 70 are categorized as promoters and 12 as detractors. These figures indicate that the alumni show high loyalty to the Department of Management and recommend it as a platform for developing competencies.

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