

## IPA MATRIX AS STRATEGIC TOOL TO CONSTRUCT SERVICE OFFERING IN INTERNATIONAL RELATIONS OFFICE INSTITUT TEKNOLOGI BANDUNG

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### Abstract

International education is becoming more prominent for all universities to thrive in the education industry. Thus, ensuring international students are satisfied with service quality is vital in attracting more prospective students and increasing the chance of international students to endorse the university. Unfortunately, the International Relations Office of Institut Teknologi Bandung (IRO ITB) suffers from an overwhelming workload to give the best service to international students. This research demonstrates the use of IPA Matrix complemented with qualitative data to manage their workload and simultaneously arrange ideal service offerings in the current situation. Using IPA Matrix, we categorize 18 services into four quadrants: “Keep up with the good work” (6 obligatory works and 1 voluntary service), “Concentrate here” (1 obligatory work and 1 voluntary service), “Low priority” (1 obligatory works and 4 voluntary services), and “Possible overkill” (4 voluntary services). We also identified additional services that can serve unasserted international students’ needs. We provided the recommendation for each service based on the analyses done and the regulation that applies to IRO ITB.

**Keywords:** IPA Matrix, International Student Service & Higher Education.

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### 1. Introduction

In recent years the idea of getting education from abroad is becoming more and more popular following the decreasing international barriers. Benefits offered with the implementation of international education are offered in many aspects such as education quality, innovation, cultural, and economic to the university, region, and to host country (Bozbay, Baghirov, Zhang, Rasli, & Karakasoglu, 2020; Martirosyan, Bustamante, & Saxon, 2019). Following the trend, many higher education institutions promote their international program to the world. While in the past providing education might be enough, nowadays higher education institution tried to offer unique value proposition to maintain interest of international students (de Jager & Gbadamosi, 2013). Service quality become an aspect that cannot be compromised in higher education implementation as it concerns with the main customers, the students. Najimdeen, Amzat, & Ali (2021) found that there is a significant relationship between overall university quality service and international students’ satisfaction. Ham and Hayduk (2003 in Najimdeen et al., 2021) in their study on gaining competitive advantage in high education institutions found a positive correlation between perception of service quality and student’s satisfaction. Other researches have shown that good service quality leads to not only high levels of satisfaction (Rasli et al., 2012 in Bozbay, Baghirov, Zhang, Rasli, & Karakasoglu, 2020), but also loyalty (Danjuma, 2013 in Bozbay et al., 2020). Those proof shows that managing service quality become a strategic move to strive in the industry. Thus, many higher education institutions spare their resources to make independent unit that specialized in maintaining optimal level of service for international students. And one of the examples in Indonesia is Institut Teknologi Bandung, which develop International Relations Office to specialize in serving international student throughout their enrollment in ITB’s international programs.

International Relations Office of Institut Teknologi Bandung (IRO ITB) has vital functions to act as a bridge between many international partners and students, manages documents related to international programs, distribute information about available programs from many partners, and to communicate documents related to international cooperation and affiliation. Their task ranging from reviewing the universities they want to collaborate with; communicate and coordinate about the relationship and international programs; formulize, review, and manages partnership related documents; manage and update partnership documents database; update and socialize information regarding international programs; organize events such as info sessions and international program participant selections; and collecting also organizing data about ongoing inbound and outbound programs. Other than those tasks, IRO ITB also responsible to supporting international students of immigration procedures, coordinating about accommodation for living during the programs, assisting in adapting to Indonesian culture, language, and way of living, and updating information related to immigration news and procedures. With such broad task and limited number of staffs, IRO ITB has been diagnosed with excessive workload (Garnaisa, 2022).

A study in IRO ITB identified that the excessive workload caused by many factors such as job design issues, number of programs handled, badly proportioned number of human resources available compared to other similar organizations, too large job description for every individual staff, unclear line of organization between labor and coordination, and lack of manpower (Garnaisa, 2022). Preliminary qualitative research using CRT method (can be seen in Figure 1) concludes that the core driver of many issues regarding workload is centered around the lack of distinction between obligatory and voluntary works in IRO ITB. While terminating services outside of job description is a plausible option to do, it might affect the service quality since it has an ambiguous nature. The quality of services depends on the perception of the customer of the service received, which results from a comparison between the service provided and the customer expectations (Parasuraman, Zeithaml and Berry, 1985), which makes terminating services that the international students expects can be counterproductive. Thus, this study will implement a strategic development of IRO ITB service offerings that manages the workload while maintain international students' satisfaction level.

## **2. Methodology**

### **2.1. Research and Data Collection Method**

This study employs exploratory mixed-method research using Importance-Performance Analysis (IPA) framework introduced by Martilla & James [7]. IPA consist of a pair of coordinate axis: importance (y-axis) and performance (x-axis) that divides IPA Matrix into four quadrants (Martilla and James, 1977):

- a. Concentrate here (high importance, low performance)
- b. Keep up with the good work (high importance, high performance)
- c. Low priority (low importance, low performance)
- d. Possible overkill (low importance, high performance)

Each service importance and performance were assessed, and their score will be converted into coordinate into the IPA Matrix that indicates in which quadrant they belong in.

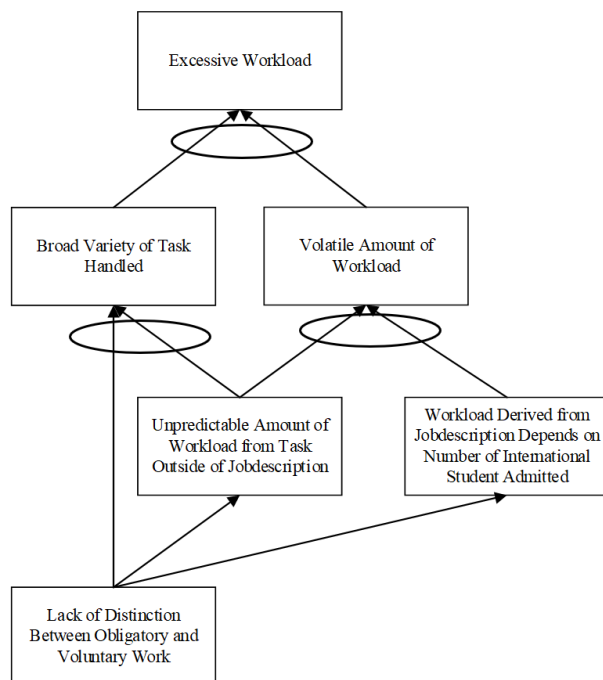


Figure 1: Current Reality Tree of Excessive Workload in IRO ITB

Quantitative questionnaire underwent Cronbach's Alpha testing for performance scale ( $\alpha=0.722$ ), importance scale ( $\alpha=0.847$ ), and additional service scale ( $\alpha=0.939$ ) and shows acceptable level of reliability. Through cross-checking process, qualitative data interpretation are compared with 3 IRO ITB's staffs interpretation and achieved total agreement that served as reliability verification. We compare quantitative and quantitized qualitative to acquire the coherence of both scale as a source of validity proofing. Using Mann-Whitney U Test, result shows no significant difference ( $U= 192.5, p= 0.339$ ) which shoes the coherence of both data.

## 2.2. Sample and Services Selection

Research conducted to international students enrolled in full-time programs with a total of 42 students. With 20% margin of error, sample of 16 is acquired. Later, 6 participants are selected to be involved in qualitative assessment where they explore their rating of IRO ITB's services with more depth.

Based on interview session with IRO ITB staffs, 18 total services are included in this research. These services include Pre-arrival, Post-arrival, Departure, Immigration Orientation and Support, Accommodation Listing, Indonesian Culture and Conversation Class, Pre-Arrival Orientation, Campus Tour/ Virtual Tour, Student Counseling, One Day Trip, Social Gathering, International Student Summit (ISS), International Student Graduation Night, Buddy (Student Companionship Program), International Day, Family immigration and Residential Support, Information Center for Foreigner, and Helping Administration Function.

This study also includes 14 unavailable services in IRO ITB to be assessed based on best practices of international student services acquired from Martirosyan, Bustamante, & Saxon (2019). Services included are Language Exchange-Conversation Partner, Conversation Hours, Language Mastery Programs, Academic Tips, Academic Tutoring, Supplemental Academic Instructions, Writing Centers, Writing Consultants, Job Search Workshop, Finance Management Workshop, Tax Preparation Workshop, Family Member Support programs, Bahasa Indonesia Classes, and Day Care.

### 3. Results

#### 3.1. IPA Matrix Analysis

Using average point of importance and performance as cut-off point for the quadrants, we acquired x-axis cut-off point at 3.88 and y-axis cut-off point at 4.3. The results are given in Table 1 and IPA Matrix presented in Figure 2.

Qualitative analysis conducted revealed that most of the services are appreciated and need by international students to some point. The data shows that most improvement can be conducted on specific aspect of the services. For obligatory works including Pre-arrival, Post-arrival, Departure, Immigration Orientation and Support, Indonesian Culture and Conversation Class, and Pre-Arrival Orientation, it is concluded that these services are vital for international students. While Accommodation Listing lacks performance compared to other obligatory works, qualitative data shows that IRO ITB only needs to enrich recommendation list with more affordable accommodation options. International Student Summit belongs in “Low priority” quadrant since it only concerns Indonesian government scholarship grantee.

For voluntary services offered, qualitative data shows most of services are perceived as less important than IRO ITB’s obligatory works. The only exception is Student Counselling and Helping other Bureaus Administration Function that will be discussed further in the next section. On the qualitative assessment, participants express that they are content with services that belong in the “possible overkill” quadrant, but they just perceive that it is not as important as IRO ITB’s obligatory works. For example, information center function not all participants are aware of the services existence, thus never using it; social gathering events are received as activity that can be done when international students have free time for recreational activity; One-day trip that perceived as not relevant to international students’ academic achievement; and extensive campus tour that can be a bit excessive and option to do campus tour by themselves can provide more flexibility.

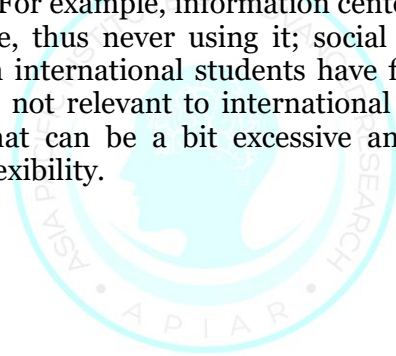


Table 1: Service Assessment Result

No.	Services	Performance	Importance	Description
A	Pre-arrival	4.667	4.867	Keep up the good work
B	Post-arrival	4.467	4.8	Keep up the good work
C	Departure	4.467	4.733	Keep up the good work
D	Immigration Orientation and Support	4.533	4.467	Keep up the good work
E	Accommodation Listing	2.933	4.667	Concentrate here
F	Indonesian Culture and Conversation Class	4.2	4.533	Keep up the good work
G	Pre-Arrival Orientation	4.4	4.733	Keep up the good work
H	Campus Tour/ Virtual Tour	4.2	4.067	Possibly overkill
I	Student Counseling	3.467	4.6	Concentrate here
J	One Day Trip	4.4	4.2	Possibly overkill
K	Social Gathering	4	4.067	Possibly overkill
L	International Summit (ISS)	2.933	3.6	Low priority
M	International Graduation Night	3.8	4.067	Low priority
N	Buddy	3.467	4	Low priority
O	International Day	2.6	3.8	Low priority
P	Family immigration and Residential Support	3.2	3.667	Low priority
Q	Information Center for Foreigner	4.067	4.133	Possibly overkill
R	Helping Administration Function	4.067	4.4	Keep up the good work

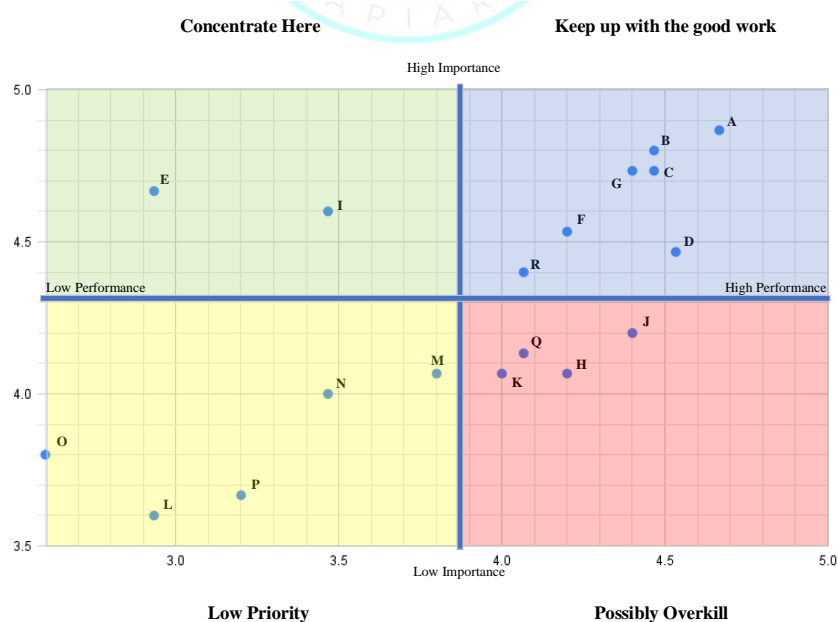


Figure 2: IPA Matrix Result

### 3.2. Additional Services Analysis

Result of 14 assessed services reveal that one category stands out among the rest which is academic support. With 3 services in this category including Academic Tips, Academic Tutoring, and Supplemental Academic Instructions, they all exceed the average importance point of existing services provided for international students at 4.3 point. Qualitative data shows that a lot of international students struggle to understand the materials presented during their class because of language barriers. These services also can help them preparing for tests and practicums. Complete result breakdown can be seen in Table 2.

Table 2: Additional Service Analysis Result

Service	Importance	Description
Mandatory Language Exchange-Conversation Partner	4	Not Considered
Mandatory Indonesian Conversation Hours	4.067	Not Considered
Mandatory Indonesian Language Mastery Programs	3.667	Not Considered
Academic Tips	4.733	Considered
Academic Tutoring	4.6	Considered
Supplemental Academic Instructions	4.333	Considered
Writing Centers	3.8	Not Considered
Writing Consultants	3.867	Not Considered
Job Search Workshop	3.4	Not Considered
Finance Management Workshop	3.533	Not Considered
Tax Preparation Workshop	3.4	Not Considered
Family Member Support programs	3.4	Not Considered
Bahasa Indonesia Classes	3.467	Not Considered
Day Care	3.4	Not Considered

## 4. Conclusion and Discussion

### 4.1. Conclusion

Based on previous analyses, we can see that obligatory works has been grouped into 3 categories: “Keep up with the good work” for 6 services including immigration services and orientation, also culture and conversation class. Accommodation listing service belongs in “Concentrate here” where IRO ITB must put extra effort to meet with international students’ expectation. Other obligatory work, which is International Student Summit, categorized as “Low priority” and should be maintained since it is obligatory for IRO ITB to keep the service intact.

For voluntary services, 4 services belong in “Low priority” category and 4 services in “Possible overkill” category. Voluntary services that placed in “Keep up with the good work” and “Concentrate here” can be considered a special case and may require special attention from IRO ITB, that will be discussed in later section. Reflecting on best practice of international education institutions and the needs of ITB international students, it is revealed that international students need another service that facilitate them in their academic adversities.

#### **4.2. Recommendation**

Based on previous analyses, there are several generic recommendations that IRO ITB can implement to their services. The main idea is to maintain or increase performance for obligatory works and reduce workload for voluntary services without compromising international students’ satisfaction. For obligatory works categorized in “Keep up with the good work”, IRO ITB should maintain their performance as those services deemed as important and the past performance already perceived as satisfactory. For voluntary events belong in “Low priority” and “Possible overkill” quadrants like International Day, International Student Graduation Night, and One-day Trip, IRO ITB needs to restructure the budget allocated to these events. If possible, other resources such as time and workforce allocated could be reduced so it could be utilized in services that deemed to be more important. Non-event services like Family Immigration and Residential Support and Social Gathering can be decreased. Since family immigration is a rare case, IRO can simply update information about immigration periodically and document it. Social gathering can be terminated from IRO ITB service offering until their usual workload has been steadily reduced to manageable level. Services like Student Counselling and Information Center for Foreigner can be delegated to other bureaus under ITB that specifically handle corresponding functions. While Student Counselling perceived to be more important than Information Center, both of them get the same treatment since this option can make sure that international students can get access to services provided by qualified officers.

#### **4.3. Special Cases and Additional Services**

As mentioned before, there are some services that orient differently compared to similar services, whether it is obligatory or voluntary services. On obligatory work, we can see International Student Summit placed on “Low priority” quadrant since it doesn’t concern whole international students. This service is part of IRO ITB obligatory work since it is mandatory for IRO ITB to send student representatives as participants. Thus, their importance rating might be considered as less important than IRO ITB’s obligation to Indonesian Ministry of Education. Other obligatory works that requires special attention is Accommodation Listing. By solely looking at IPA Matrix, IRO ITB might not get the idea on how to increase the performance of this service, but qualitative data shows that it can be done by making the list of accommodation recommendation cover broader budget so international students can get more affordable options.

On voluntary services, we can see Helping Other Bureaus Administration Function has considerably high level of importance even though they aren’t part of IRO ITB’s main responsibilities. This result shows that there are international students’ needs that the university must adheres and caters. Companionship program or Buddy program is a special case where IRO ITB delegate the task of facilitating international students’ adaptation to the volunteers involved. Qualitative study reveals that the importance and performance of this service depends on how international students involve their buddy in their everyday life, in such the relationship between volunteers and international students can vary. IRO ITB can instruct the volunteers to ask international students about what they expect of this service and try to deliver what feasible for them whether it is to practice conversation in Bahasa, sharing information about living tips, act as peer counsellor, or maybe create a study group. By doing that, not only the service will conform better with international students’ needs better, but also wouldn’t change IRO ITB’s

workload significantly. Campus tour is another example where IRO ITB can increase the performance of the service by tailoring it to international students' need without increasing their workload. By providing international students with interactive map with self-guided campus tour which they can follow as they need. Important information about vital landmark and their function must be included into the map to make sure that students that prefer to do self-guided campus tour can be equipped with as much knowledge as those who prefer to do campus tour with IRO ITB staffs.

For additional services, since currently IRO ITB doesn't have service that directly facilitate international student in academic, bringing new service will be considered into voluntary service. To take it into account, it is better for IRO ITB to consult this service implementation before anything. IRO ITB can make a meeting with Directorate of Education to talk about the issue faced by international student. This might into development of a curriculum that fit better with international students, focus on developing lecturers' competencies in teaching on international standard, or having additional classes that will serve international student. ITB executives might also put the responsibilities to IRO ITB, where IRO ITB can demand for more work force to support the operation.

#### **4.4. Discussion**

In a lot of cases, process to construct ideal services offering is a sophisticated work. Not only we must comprehend the abstract concept of consumer satisfaction, but we also have to navigate in different array of complications like resources limitation, stakeholders' interests, rules and regulations, and many more. This study tries to demonstrate that using a simple tool to support other set of data can be versatile enough to help us in shaping service offering effectively while managing other indicator such as workload and budgeting.

IPA matrix has been popularly used in numerous past research and for marketing purposes. This study has demonstrated that IPA Matrix can be a lot more insightful when accompanied by other tools. While IPA Matrix may be used intuitively, where the user only focuses on one half of the matrix and ignore the rest. By having more in-depth information about the assessed variables, we can try to manipulate them to even move their coordinate in the IPA Matrix. Thus, making IPA a strategic tool to use in a lot of study.

## References

- i. Bozbay, Z. *et al.* (2020) 'International students' service quality evaluations towards Turkish universities', *Quality Assurance in Education*, 28(3), pp. 151–164. doi: 10.1108/QAE-06-2019-0061.
- ii. Garnaisa, N. D. (2022) 'Proposed business strategies for outbound Mobility programs: A study of IRO ITB', *The Indonesian Journal of Business Administration*.
- iii. de Jager, J. and Gbadamosi, G. (2013) 'Predicting students' satisfaction through service quality in higher education', *The International Journal of Management Education*, 11(3), pp. 107–118. doi: 10.1016/j.ijme.2013.09.001.
- iv. Martilla, J. A. and James, J. C. (1977) 'Importance-Performance Analysis', *Journal of Marketing*. Sage Publication, 41(1), p. 77. doi: 10.2307/1250495.
- v. Martirosyan, N. M., Bustamante, R. M. and Saxon, D. P. (2019) 'Academic and social support services for international students: Current practices', *Journal of International Students*, 9(1), pp. 172–191. doi: 10.32674/jis.v9i1.275.
- vi. Najimdeen, A. H. A., Amzat, I. H. and Ali, H. B. M. (2021) 'The Impact of Service Quality Dimensions on Students' Satisfaction: A Study of International Students in Malaysian Public Universities', *IIUM Journal of Educational Studies*, 9(2), pp. 89–108. doi: 10.31436/ijes.v9i2.324.
- vii. Parasuraman, A., Zeithaml, V. A. and Berry, L. L. (1985) 'A Conceptual Model of Service Quality and Its Implications for Future Research', *Journal of Marketing*, 49(4), p. 41. doi: 10.2307/1251430.

