HIGHER EDUCATION SERVICE QUALITY ANALYSIS USING STUDENT SATISFACTION INVENTORY DIMENSIONS A CASE STUDY OF WIDYATAMA UNIVERSITY STUDENTS

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ABSTRACT

Customer service is a subject heavily emphasized in business, but not in higher education (HE) institutions. Eventually, HE institutions can be classified as a "service industry" in producing improved quality human capital for the nation. The process of students from the "input" as freshmen, to transform into "output" as graduates, is dependant heavily on institutions' abilities in providing them customer satisfaction. Hence, private HE institutions are urged to provide education services, which are committed to customer satisfaction.

This research is done on 752 respondents at Widyatama, a private university in Bandung, to find out its HE service quality. Questionnaires are based on Student Satisfaction Inventory (SSI), used worldwide and nationwide in Europe and USA. The dimensions utilized here are based on: a) level of importance, b) satisfaction level, and c) performance gap between the importance and satisfaction levels. The results are then analyzed separately for the total respondents, and respondents of each faculty at Widyatama university. Trend analysis on increase/decrease of importance and satisfaction levels and performance gap from data of year 2000 up to year 2003, is also done through comparisons in Pareto Diagrams.

Research results show that both at university and faculty levels, students perceived Academic Advising, Campus Climate and Campus Life as three major dimensions of Importance and Satisfaction. Whereas from the ranks of highest average, students mentioned: Campus Support service (6.459), Registration Effectiveness (6.448), Recruitment and Financial Aid (6.391) as Importance dimensions. Campus Climate (4.864), Campus Life (4.780), Service Excellence (4.694) as Satisfaction dimensions, Registration Effectiveness (2.594), Campus Support Service (2.146), Concern for the Individual (2.102) as Performance Gap dimensions. Suggestion for improvements mainly for variables within first quadrant of Importance Satisfaction Matrix.

Keywords: Customer Satisfaction, Student Satisfaction Inventory (SSI), Importance Level, Satisfaction Level Performance Gap, Importance Satisfaction Matrix.

1. INTRODUCTION

Higher education plays important role in enhancing quality of resourceful human beings of a nation, since higher education is one key chain in national education chains of system. Moreover, post education after high school becomes more demanded, due to the unability of high school graduates to fullfil professional skill and knowledge needed in the employment, either in government or business institutions.
Indonesian higher education consists of public universities which some of them are privatized, such as ITB, UI, UGM, IPB, etc., also private universities which develop immensely, especially in big cities in Java Island,

The success of private sectors in executing higher education through private universities (Perguruan Tinggi Swasta/PTS) is needed and evaluated by the stakeholders, such as: government, society, and others, including students and the related units of the higher educations. Evaluation will be referred to the competence and persistence as well as commitment of the PTS in executing the mission of higher education which is known as three obligations of higher education (Tri Dharma Perguruan Tinggi), i.e.: a. Executing education and teaching programs. b. Doing useful research. c. Contributing to the society. Government evaluation will confirm acreditation status of PTS in the success of executing Tri Dharma of higher education, which can be viewed from the willingness of the society in employing the outputs of their graduates, as response to the Tri Dharma.
Never the less, generally private universities can not deny the needs to fulfill their commercial purposes. Therefore they are often categorized as service industry in education sector, which product and service qualities have to be committed towards customers' satisfaction.

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2. RESEARCH OBJECTIVES

a) To reveal the importance level, satisfaction level, and performance gap of service quality dimensions at Widyatama University, segmented by students body and also by faculty.
b) To explore if there is a significant difference among students' opinions on service quality, related to their admission years.
c) To suggest managerial program at Widyatama University, to improve service quality of the university to their stakeholders.

3. RESEARCH METHODOLOGY

Variables in this research are identified by using dimensions on Student Satisfaction Inventory (SSI) which used widely for research on service quality in higher education, which is developped by USA Group Noel-Levitz (Elliot and Healy, 2001). The dimensions and their variables utilized as research attributes are as follows:

Table 1. Research Dimensions and Number of Variables

No.	Dimensions	Variables
1	Academic Advising	V1 to V4
2	Campus Climate	V5 to V11
3	Campus Life	V12 to V20
4	Campus Support Service	V21 to V22
5	Concern for the Individual	V34 to V37
6	Instructional Effectiveness	V38 to V45
7	Recruitment and Financial Aid Effectiveness	V54 to V57
8	Registration Effectiveness	V58 to V61
9	Campus Safety and Security	V62 to V66
10	Service Excellence	V67 to V71
11	Student Centeredness	V72 to V75

Research were grouped into three subjects of measurements, i.e.:

a) Importance
It is importance level according to the respondents' opinions toward every variables of higher education service quality.

b) Satisfaction
It is satisfaction level according to the respondents' opinions toward every variables of higher education service quality.

c) Performance Gap
It is the difference (gap) between importance and satisfaction levels, which results can be utilized as an analysis in deciding improvements priorities.

Questionnaires were set out of the 11 dimensions, which represented by 75 questions, with distributions of questions are as per Table 1 above. Respondents were asked to circle their answers on the Likert's scale, ranging from 1 to 7 as per example on measuring Importance Level as per Table 2. below:

Table 2. Likert's Scale Details

Your Opinion on Importance Level						
Very Unimportant	Not Important	Les Important	Netral	A Little Important	Important	Very Important
1	2	3	4	5	6	7

4. DATA COLLECTION

Questionnaires were sent to 752 students in the Widyatama university, which was distributed into the five faculties, namely: Economics, Business and Management, Engineering, Visual Communication Design, and Language faculties. Results of the data collection is as per Table. 3.

Table 3. Preliminary & Final Research through Questionnaires

Details of Questionnaires	Preliminary Research	Final Research
Number of valid questionnaires	33	507
Number of invalid questionnaires	8	107
Not returned questionnaires	9	138
Total distributed questionnaires	50	752

5. DATA ANALYSIS

5.1 Validity Testing

Based on critical number table for Pearson correlation, at degree of freedom = 538 and $\alpha = 5\%$, $r_{critical}$ is 0,0848. Testing were done on data of importance and satisfaction levels of the 507 respondents. SPSS Output on corrected item-total correlation showed importance as well as satisfaction level which is bigger than 0,0848, which can be assumed that the questionnaire items are valid.

5.2 Reliability Testing

Kaplan and Sacuzzo (1993) claimed that measurement tools can be considered reliable, when Alpha (α) value reaches 0.7. Both items' Alpha (α) values reach 0,97, thus both items'questionnaires can be intepreted as very reliable.

Table 4. Alpha Value on Importance and Satisfaction Levels

Item	Alpha (α) Cronbach
Importance level	0,9762
Satisfaction level	0,9782

5.3 ANOVA (F-Test)

Anova was done to find out the significant difference of opinions on each repondents' group based on certain characteristics, i.e.: Faculty respondents (students) and Year of Entry so that certain characteristics can be revealed through equality of group means test at $\alpha = 5\%$.

5.4 Rank Analysis of Importance Level, Satisfaction Level, Performance Gap for each Dimensions Based on Total Respondent's Data

Table 5. Rank Results of Total Respondents' Data

Rank of Importance Level		Rank of Satisfaction Level		Rank of Performance Gap	
Campus Support Service	6.459	**Campus Climate**	**4.864**	Registration Effectiveness	**2.594**
Registration Effectiveness	**6.448**	**Campus Life**	**4.780**	Campus Support Service	**2.146**
Recruitment and Financial Aid	6.391	Service Excellence	4.694	Concern for The Individual	2.102
Student Centerdnesss	6.383	Campus Safety and Security	4.665	Student Centerdnesss	2.020
Campus Safety and Security	6.367	Recruitment and Financial Aid	4.406	Instructional Effectiveness	1.988
Instructional Effectiveness	6.367	Instructional Effectiveness	4.379	Recruitment and Financial Aid	1.985
Service Excellence	6.327	Student Centerdnesss	4.363	Campus Safety and Security	1.703
Campus Climate	6.195	Academic Advising	4.322	Academic Advising	1.698
Concern for The Individual	6.177	Campus Support Service	4.313	Service Excellence	1.633
Campus Life	6.120	Concern for The Individual	4.075	**Campus Life**	**1.340**
Academic Advising	6.020	Registration Effectiveness	3.854	**Campus Climate**	**1.331**

Table 5. above shows the ranks of each dimensions in importance and satisfaction level, as well as the performance gap calculation based on both levels.

When respondents were asked for their opinions on the important dimensions, in general they mentioned: Campus Support Service, Registration Effectiveness, Recruitment and Financial Aid. But two out of these three dimensions (Campus Support Service and Registration Effectiveness) at their performance gaps, were shown to be unsatisfying (>2.00).

Whereas with the same 507 respondents' data, it is revealed that the best three dimensions with lowest performance gaps (<1.64) are : Campus Climate, Campus Life, Service Excellence. Although in terms of importance level, these three dimensions do not seem to be perceived as very important. These shows that these three dimensions were already in satisfying conditions.

The difference of respondents'opinion, and their performance gap on each dimensions, can be shown as comparisons in Pareto Chart 1, on respondents who were classified by their entry year from the years 2000 to 2003. It shows clearly the trend of the increasing value of performance gap for the students of younger entry year. Almost every dimensions show the reducing performance gaps, the longer the students have stayed in the university of Widyatama.

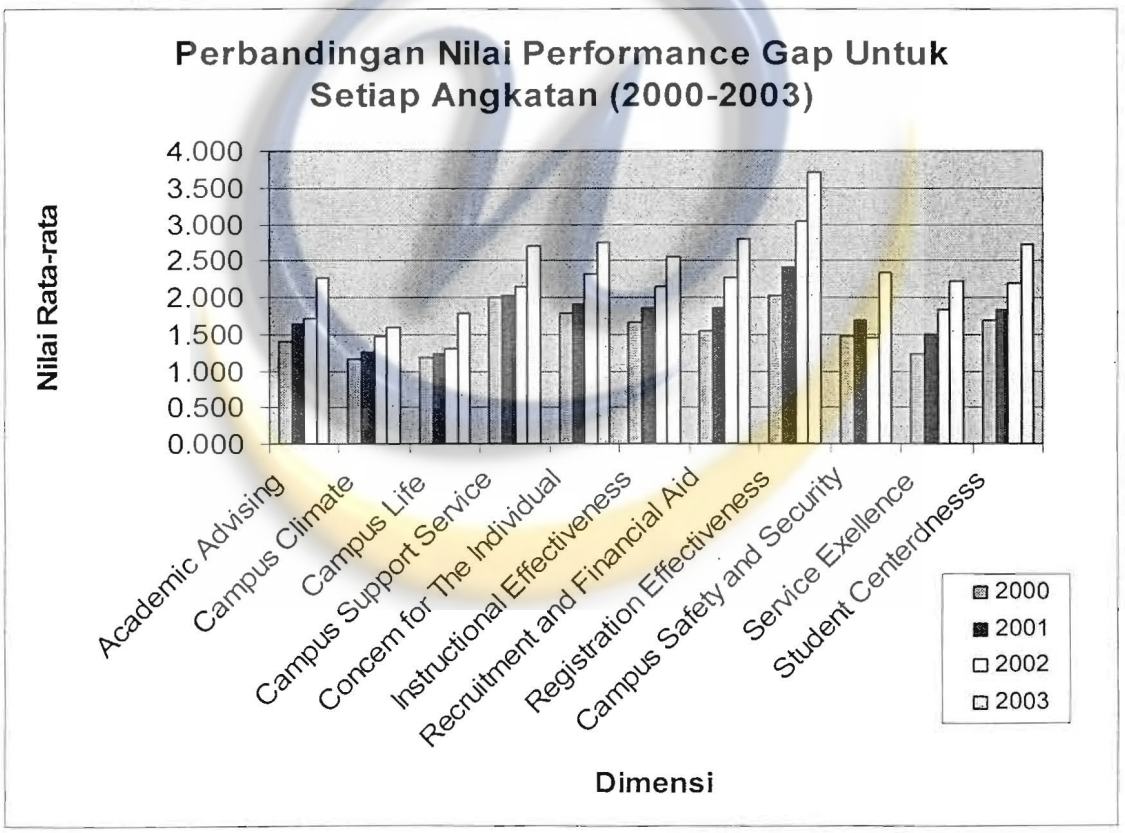

Chart 1. Comparisons of Performance Gap Value for entry from 2000 to 2003

5.5 Rank Analysis of Importance Level, Satisfaction Level, Performance Gap for Campus Climate Dimensions Based on Total Respondent's Data

Students perceived Widyatama Campus has favorable climate, in terms of Community perception on Widyatama University (V7), and Freedom to do positive activities (V9), which shown over 6.30 of the average Likert's scale of the Satisfaction dimension, and over 6.30 in the Importance-Satisfaction Dimension as per Chart 2 on page 264.

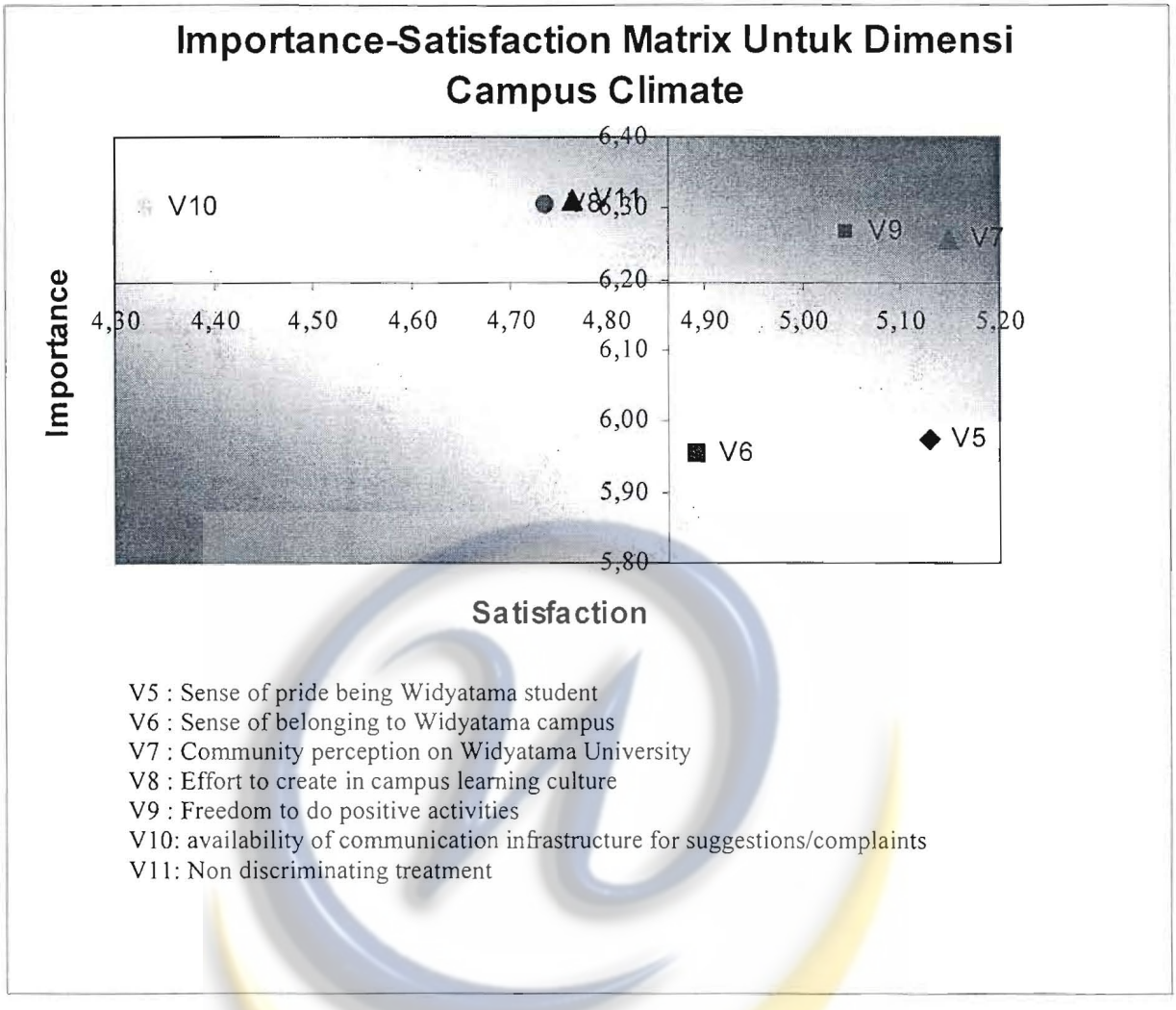

Chart 2. I-S Matrix for Campus Climate Dimension

5.6 Rank Analysis of Importance Level, Satisfaction Level, Performance Gap for Campus Life Dimensions Based on Total Respondent's Data

Campus Life of Widyatama University was also perceived as satisfying for the students. Chart 3. displays that most of the students are satisfiy about Support to student activity unit (V13), the spiritual activities (V14), Support to student creative activities such as art performance, band, sport tournament, etc. (V15), as well as Support to academic activities, such as seminar, scientific competition (V16), which they perceived as important for the students.

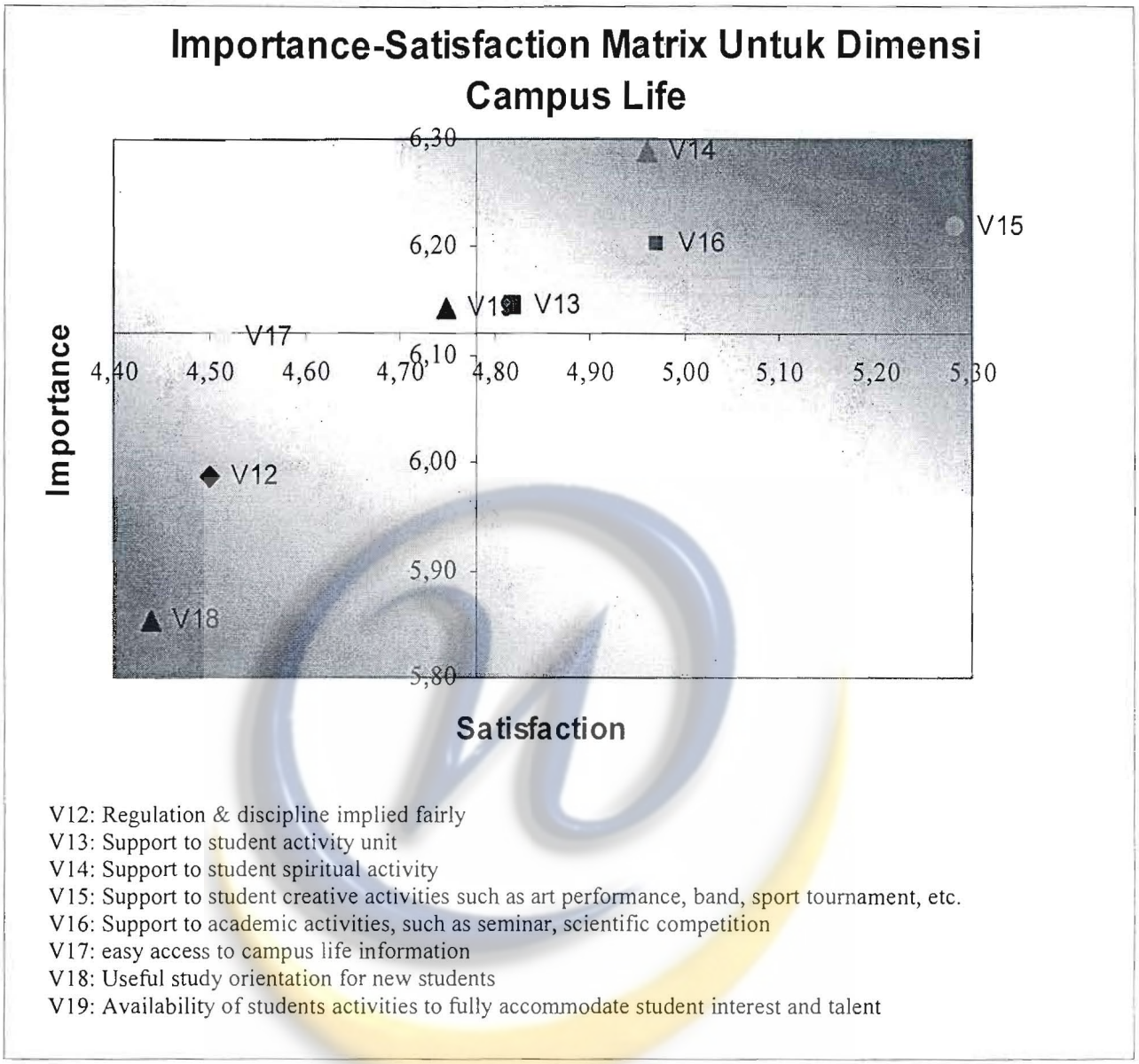

Chart 3. I-S Matrix for Campus Life Dimension

5.7 Rank Analysis of Importance Level, Satisfaction Level, Performance Gap for Registration Effectiveness Dimensions Based on Total Respondent's Data

However, Registration Effectiveness was revealed as unsatisfying dimensions. Students perceived this dimension was important. They have same opinion, regardless their entry years, from 2000 to 2003.

Most students found unclear Schedule and Registration Information as well as complicated registration process which made the students seems to have bad perception on these particular variables. More over students perceived also that is important for registration staffs to assist student in a more satisfying way. Opportunity to change study plan was revealed to be important and need to be provided to student..According to their needs.

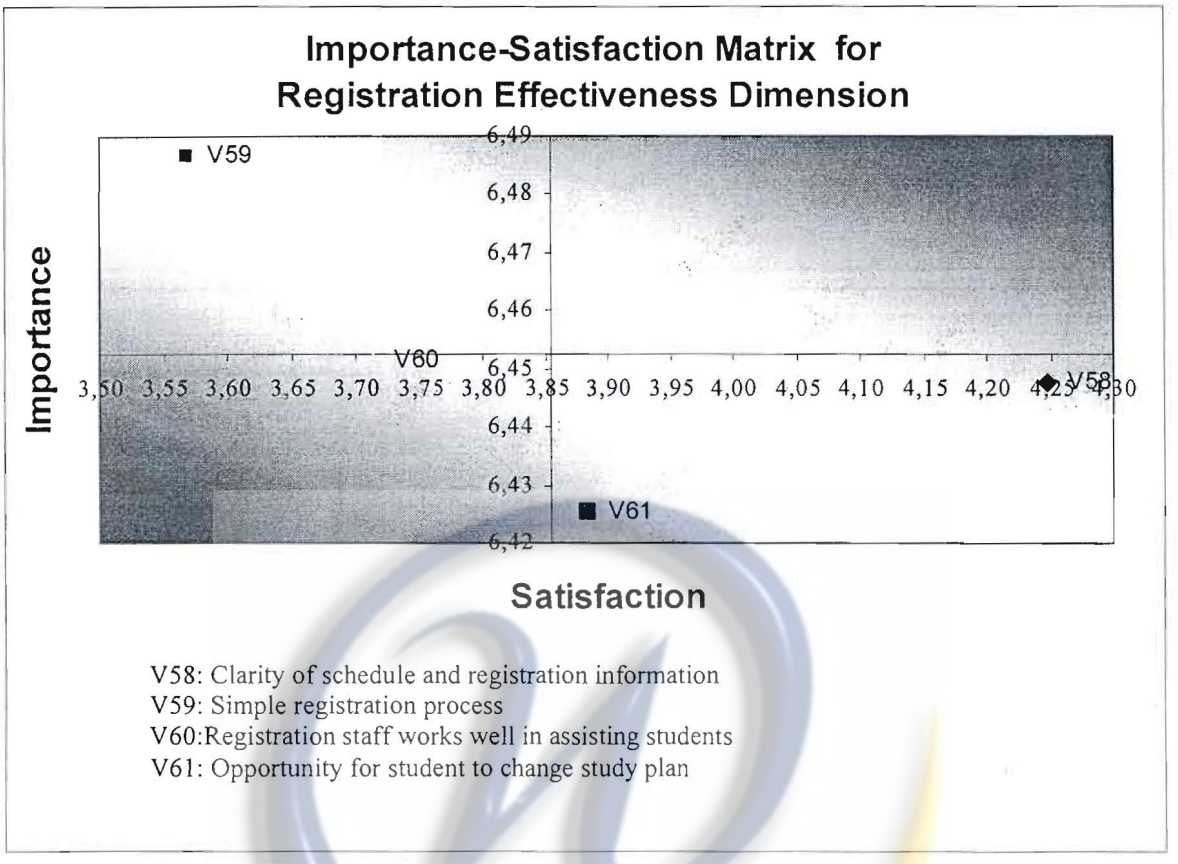

Chart 4. I-S Matrix for Registration Effectiveness Dimension

6. CONCLUSION

From the calculation and analylsis above, the research findings reveal the following points:

a. There were significant differences among students' opinions on service quality, related to their admission years. The longer they studied there, the smaller the performance gaps they have, or in other words, the students have a better opinions on the service quality of the university, compared to when they first came as freshmen (chart 1);
b. Widyatama students seem enjoying Campus Climate, this due to the community's good perception on Widyatama university as well as the freedom of doing positive activities in campus (chart 2);
c. Widyatama support to student activities either spiritual or creative activities, makes the students enjoy the campus life where they interact with other students (chart 3). Activities are not just including acedemic once such as seminars and scientific competitions which are serious events, but also activities such as art performance, band, sport tournaments which students eventually performed very distinctly, this all make them the campus life are in accordance with the university's motto "a friendly campus for future professionals";
d. Despite the positive perceptions of most students in the university, It is also indeed revealed very clearly, that the Widyatama University still have to to improve their service quality for their stakeholders, especially their students, in term of developping a better registration procedures, there is tendency that show the needs of the university to consider ilmprovements in their service quality, by taking into considerations of what was revealed in the importance performance mattrix, so that the university will perform better in their service quality.
e. In order to enhance the overall quality of services to the stake holders especially the students, from their entry as freshmen, namely starting from registration, the procedure of providing services have to be carefully thought of. Information Technology is suggested to be applied in the registration process. Furthermore, the registration staffs at the front-line, who face the stakeholders directly, need to be trained

to represent the university in a proper way, since they will be assessed by the stakeholders as the representatives of Widyatama University.

f. Other dimensions have to be considered also quiete attentively, to enable Widyatama University to be proactive in fulfilling the customers's needs.

7. SUGGESTION FOR FURTHER RESEARCH

Developing this research through transforming ordinal/interval scale into ratio scale, as well as statistical testing over longitudinal studies, to reveal the significance differences on the different values of the respondents' opinions, will enable a more accurate analysis as well as strategy of improvements to be taken by the university.

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