

## Using Importance Performance Analysis in Evaluating Students Satisfaction in Higher Educational Institutes

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### Abstract

*In the current highly competitive scenario, students are the consumers and in order to survive and grow higher educational institutions must understand their needs and buying behavior. A very important determinant of consumer behavior especially with reference to the service sector is the quality of service delivered. So it follows that the components of quality must be measured regularly to respond to the changes of the environment Service quality can be determined by matching the experiences with the expectations. The important question before the education sector is, from the viewpoint of their consumers, what are the basic dimensions of quality in education. A popular model of service quality is the Importance Performance Analysis, based on the concept that satisfaction is a result of a preference for an object or service and judgments of its performance. Thus, IPA seems to be the perfect way to assess different aspects of institutions features in term of customer perceptions of importance and performance. It would in turn help these institutes to design a marketing strategy by understanding the consumer buying behavior. The present research uses the IPA framework to study the importance given to and satisfaction with the various attributes of service quality of a college. It also investigates how the type of programme influences both importance and satisfaction. Results indicate which attributes are important to students and point to some interesting differences thus demonstrating how the IPA can be effectively used by colleges. Implications of the study for marketing are discussed*

**Keywords:** Service quality, IPA, Consumer Behavior, Marketing , Competition

Service Sector also called the tertiary sector is one of the important parts of the economy. The sector includes a variety of subsectors like hospitality, banking, retail and so on. A recently emerging component of the service sector is higher education. In the post globalization era this sector is facing stiff competition. In the current highly competitive scenario students are the consumers and in order to survive and grow higher educational institutions must understand their needs and buying behavior. A very important determinant of consumer behavior especially with reference to the service sector is the quality of service delivered.

The concept of quality is by its very nature enigmatic. Quality can only be described when we experience it. The importance of quality can be only be recognized when we experience the frustration because of its absence. Service quality performance is built up by customer expectation before consumption and consumer experience after consumption (Johnson and Mathews, 1997). Though the concept of service quality is derived from the concept of physical product quality (Zeithaml et al., 1988; Parasuraman et al., 1994) service features are invisible, and the production and sale occurs simultaneously (Sasser et al., 1978). As service occurs, customers also play a role in co-production (Fitzsimmons and Fitzsimmons, 2006), so it is not easy to measure the performance of a service (Lovelock, 1983; Parasuraman et al.,

1985). In the area of education it becomes even more complex and multifaceted. Improving quality is probably the most important task facing educational institutions today. This means that educational institutions are faced with the challenging task of service quality improvement with hardly any consensus on its parameters. The important question before the education sector is, from the viewpoint of their consumers, what are the basic dimensions of quality in education. In other words do students accord greater importance to infrastructure, teaching quality or extracurricular activities when they describe an institution as excellent? There appears to be little consensus as to what makes an educational institution excellent.

A commonly accepted view of quality is “quality equals customer satisfaction”. Educational institutions are today recognizing that as members of the service sector they need to pursue and deliver satisfaction to their customers – pupils and students. The source of competitive advantage comes from a satisfied student population with positive outcomes such as positive word of mouth (WOM) communication, student retention and loyalty (Arambewela and Hall, 2009). If a positive attitude is formed, positive WOM (word of mouth) promotion, student retention and loyalty are achieved, but the opposite can obtain if a negative attitude is formed (Kau and Loh, 2006; Maxham and Netemeyer, 2002). This has become important because the strategic success of a service organization depends on the ability of the service provider to enhance their images by consistently meeting or exceeding customer’s service expectation. (Berry and Parasuraman, 1998). Given the importance of service quality it follows that the components of quality must be measured regularly to respond to the changes of the environment. This becomes even more crucial because higher educational institutions are today operating in a global environment best described as turbulent and dynamic. Global and national forces are today driving changes within individual countries and their higher educational institutions.

A popular measure of service quality used in many contexts is the SERVQUAL model developed by Parasuraman, Zeithmal and Berry (1990). This measure has been used to study service quality in many contexts, such as hospitality (Saleh and Ryan, 1992), banking (Kwon and Lee, 1994; Wong and Perry, 1991), and hospitals (Youssef, 1996). In the field of education, the model has been applied to business schools (Rogotti and Pitt, 1992) and institutions of higher education (Ford et al., 1993 and McElwee and Redman, 1993). The five dimensions of SERVQUAL model include: “tangibles” (the hardware infrastructure), “reliability” (the consistency of service as promised), “responsiveness” (the ability to update, adjust or customize the contents & delivery of the service), “assurance” (the capability of the service provider) and “empathy” (a caring and customer centered soft environment).

Another model of service quality is the Importance Performance Analysis, which was introduced in the late 1970’s by Martilla and James. Importance-performance analysis is based on the concept that satisfaction is a result of a preference for an object or service and judgments of its performance (Myers & Alpert, 1968). Unlike SERVQUAL model which was best described as an absolute performance measure of consumer perceptions of service quality, the importance performance paradigm seeks to identify the underlying importance given by consumers to the various quality parameters (Sampson and Showalter 1999). Customer satisfaction derives from the quality of the product and service experience in comparison to the previously held expectations (Garbarino & Johnson, 1999). For an organization to ensure customers are satisfied it is essential for them to know the importance customers place on the individual components of the service experience and how the service performs in relation to those components.

Importance Performance Analysis is effective in making comparison between the importance consumers place on an attribute and performance in relation to that attribute (Fallon & Schofield, 2006; Martilla & James, 1977; Yavas & Babakus, 2003) and is a recognized approach for the management of customer satisfaction which in turn leads to different buying behavior (Matzler, Sauerwein, & Heischmidt, 2002). Importance–performance analysis not only provides comparison of the dimensions, but also facilitates a matrix evaluation of the differences between the dimensions, allowing managers to identify areas where they need to revise resource allocation (Matzler et al., 2002). This method has proven to be a generally applicable tool which is relatively easy to administer and interpret resulting in extensive use among researchers and managers in various fields, and is a way to promote the development of effective marketing programs, because it facilitates the interpretation of data and increases usefulness in making strategic decisions (Slack, 1994; Matzler et al., 2003; Kitcharoen, 2004; Abalo et al., 2007; Silva & Fernandes, 2010). This analysis helps in identifying the strengths and weaknesses of a service by making a comparison between the consumer’s evaluation of a particular attribute and the relative importance of the attribute.

**IPA Framework**

The IPA is a simple and useful method. It helps to map performance in relation to consumer importance thus enabling to identify areas of over performance and under performance. The IPA schemes involve assessing the different aspects of organizations on a 2X2 grid, where each quadrant can be summarized into specific suggestions for the management. In this four quadrants the importance is on the x-axis and performance in the y-axis. The IPA matrix is shown below:

POSSIBLE OVER KILL <i>QUADRANT II</i>	KEEP UP THE GOOD WORK <i>QUADRANT I</i>
LOW PRIORITY <i>QUADRANT III</i>	CONCENTRATE HERE <i>QUADRANT IV</i>

The use of IPA is a step-by-step process. The first stage is to decide the attribute to measure. The second stage is to separate the importance and performance measures. Once these are calculated the means are plotted on the vertical and horizontal axes of the grid. The fourth stage is to analyze the grid. The four quadrants in importance-performance analysis are characterized as (Martilla & James, 1977, p. 78):

- “- A. Concentrate here - high importance, low performance: requires immediate attention for improvement and are major weaknesses;
- B. Keep up with the good work - high importance, high performance: indicate opportunities for achieving or maintaining competitive advantage and are major strengths;
- C. Low priority - low importance, low performance: are minor weaknesses and do not require additional effort;
- D. Possible overkill - low importance, high performance: indicate that business resources committed to these attributes would be overkill and should be deployed elsewhere”.

Thus, we see that IPA helps to give a better understanding of customer satisfaction as it helps to evaluate the importance of various attribute with respect to the performance of that attribute. IPA thereby helps us to understand the parameters that consumers will consider while making a buying decision. It also guides the marketer to develop a marketing strategy as it depicts the strengths and weakness of the organization. Importance Performance Analysis is extremely relevant and useful to service quality and the field of services marketing because it provides the dimensions to measure the various attributes of a service .It also help to understand the relative importance of the attribute with respect to the customer. Finally it lets organization know its performance with reference to each attribute.Hence Importance Performance Analysis has been applied in number of diverse settings namely to measure service quality in food service industry (Gwo Hshuing Tzang, Hung Fan Chang, 2011) convention facility but restricted to hotel industry (Bonn etal, 1994 ; Hinkin & Traccy, 2003) and healthcare marketing (e.g Dolonnnsky & Caputo,1991 Hawes & Rao 1985).

However, there has been little work done using IPA in education. Global competition is forcing educational institutes to increase their competitive advantage. Hence, they are faced with the challenge of building excellence and quality into their institutions and keeping their student customers satisfied without really knowing the parameters of excellence, service quality and satisfaction. Educational institutions including undergraduate colleges are today feeling the need to understand the student pulse and devise-marketing strategies to survive in the globalized and privatized education sector.Thus IPA seems to be the perfect way to assess different aspects of any institutions features in term of customer perceptions of performance and the importance of these performances. It would in turn help these institutes to design a marketing strategy by understanding the consumer buying behavior. This study addresses two research questions namely,” how effectively do colleges perform in relation to student satisfaction?” and “how is student satisfaction influenced by the type of programme then student is pursuing?”

### **Methodology:**

The IPA format was used to assess student’s perception for the college. A structured questionnaire was prepared which assessed student satisfaction on 8 attributes mentioned below as well as overall level of satisfaction with the college. Selection of the attributes was made based on previous literature.

- 1) **College Infrastructure** –This attribute comprised of 4 factors namely size of the campus college building, its cleanliness, basic amenities and the overall appearance.
- 2) **Class Infrastructure** – This attribute included 4 factors namely the seating arrangement in the classroom of benches, lighting and ventilation, traditional teaching aids and availability of audio visual facilities.
- 3) **Opportunity for academic and personal growth** – This incorporated 7 factors including variety of courses offered, convenience and ease of admission procedure, arrangement for guest lectures, extra- curricular activities organized, financial support given by the college to academically bright students placement assistance and career guidance and counselling facilities.
- 4) **Library Facilities** – This included 8 factors namely size of library, seating arrangements, timings, procedure for issue of books, E resources, number of reference books, availability of current issues of journals and magazines, politeness and helpfulness of library staff.

5) **Gymkhana and Sports Facility** – This attribute included 4 factors namely quality of gymkhana equipments, experience of gymkhana staff, sporting activities organized financial assistances provided to participate in sports.

6) **Canteen Facilities** – This incorporated 5 factors, quality of food, variety of food, price of food seating arrangements and cleanliness and hygiene.

7) **Quality of Teaching Faculty** – This attribute included 3 factors namely subject knowledge expertise of faculty, teaching skills of faculty and helpfulness of staff.

8) **Quality of Non-Teaching/Administrative Staff** – This incorporated 3 factors namely promptness of the service rendered by the administrative staff, politeness and helpfulness of the administrative staff and accuracy of the services

Respondents were asked to rate each of the factors mentioned under each attribute on a 5 point Likert Scale from 1-Very unsatisfactory to 5-Very Satisfactory. Respondents were also asked to rate their overall satisfaction with the college on a 5 point Likert Scale from 1-Very unsatisfactory to 5-Very Satisfactory.

The sample consisted of 213 male and female students studying in the final year of a three year degree course from the same college. The students were however from different programmes namely Bachelor of Accounting and Finance (n=21), Bachelor of Science with Information Technology (n=43), Bachelor of Management Studies (n=39) and Bachelor of Commerce (n=110). The sample covered 40 percent of the total class strength of these classes. The students selected were final year students as they already had spent three years with the college so they have had sufficient opportunity to experience each of the attributes and factors measured and would have developed a perception about them as well as an overall impression about the college. The students were approached during regular class hours and requested to fill up the questionnaire.

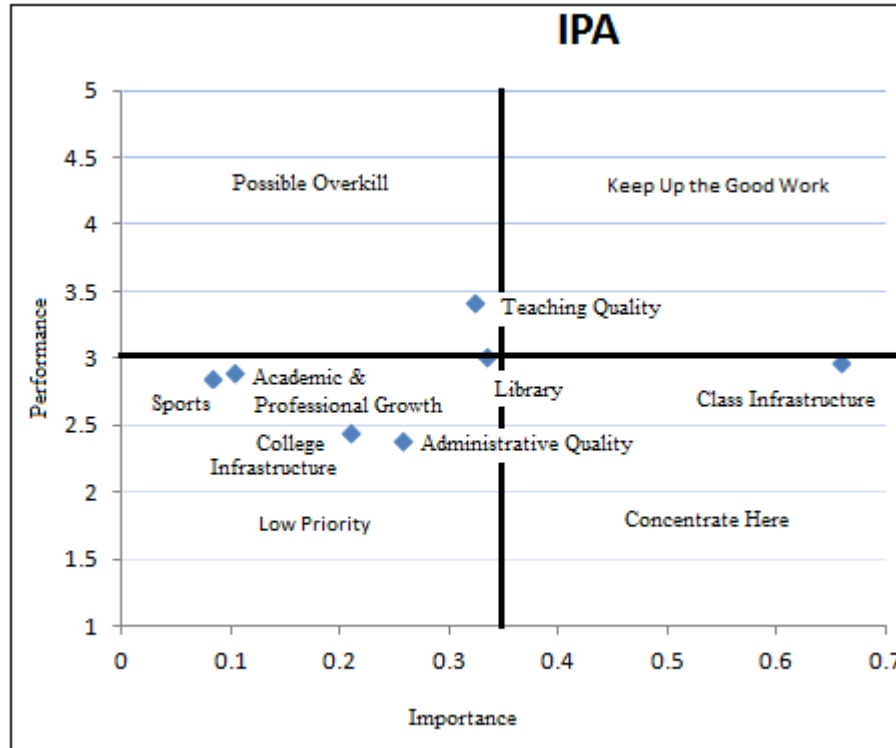
### **Data Analysis and Results:**

The data were analysed in order to obtain the IPA scheme, descriptive statistics and correlation analysis were used. Perceived performance on each attribute was obtained by summing up the ratings of each of the factors under a given attribute and then calculating the average scores. Correlation coefficient between single factors and the overall perceived satisfaction was calculated. These correlation coefficients were used as measures of importance. A high correlation between the satisfaction ratings on a given attribute and overall satisfaction indicates greater importance accorded to the given factor. Importance Performance matrices were prepared for each graduation programme separately and the college as a whole. The IPA scheme the average performance score was plotted on the Y axis and the importance score on the X axis.

Results for the Bachelor of Accounting and Finance programme indicated that two attributes namely library facilities (Mean score =3.01) and teaching (Mean score =3.41) are given more importance by the students. In the IPA scheme the quadrant “low priority” includes the attributes, sports, opportunities for academic and personal growth, college infrastructure and quality of administrative staff. This indicates that for the students of this programme though the performance of the college for these attributes is low it really does not affect them, as the relative importance for these is also low for them. Students appear to be rather undecided on the importance to be given to the library and this attribute lies on the border of “possible overkill” and “low priority” quadrants. The quadrant “concentrate here” includes class infrastructure indicating that this is a high importance but low performance attribute. This is a serious concern for the college management because student dissatisfaction

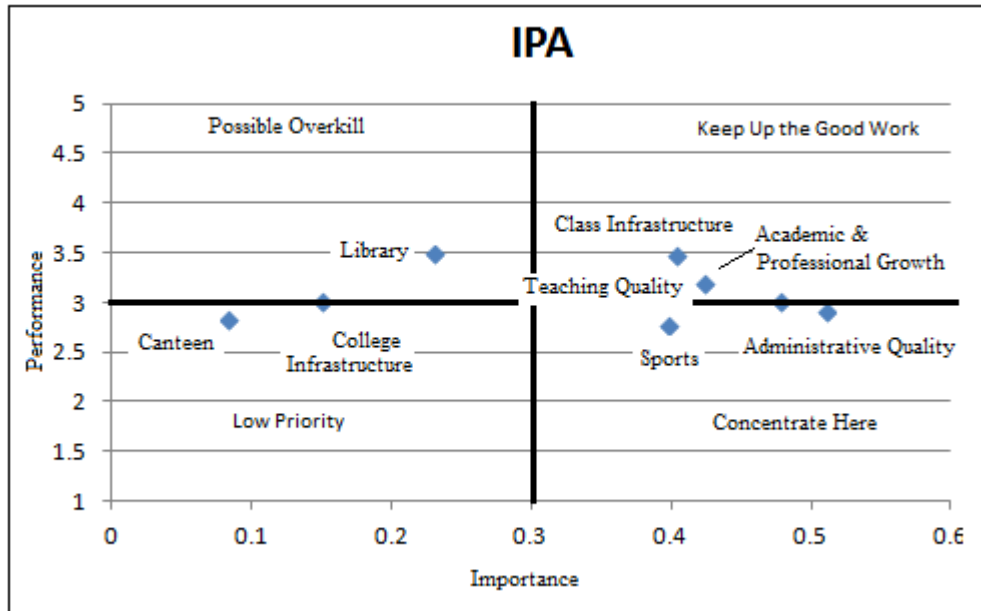
with the class infrastructure will spread a bad word of mouth publicity thus negating the positive effects that accrue from the marketing strategy of the college. This is not a desirable situation especially in a competitive scenario. The fact that, teaching quality lies in the high performance quadrant indicates that the quality of teaching faculty is the strength of the college. Overall, this matrix suggests a need to change the approach towards both building excellence into educational institutions as well as marketing them.

**MATRIX -1(Bachelor Of Accounting and Finance)**



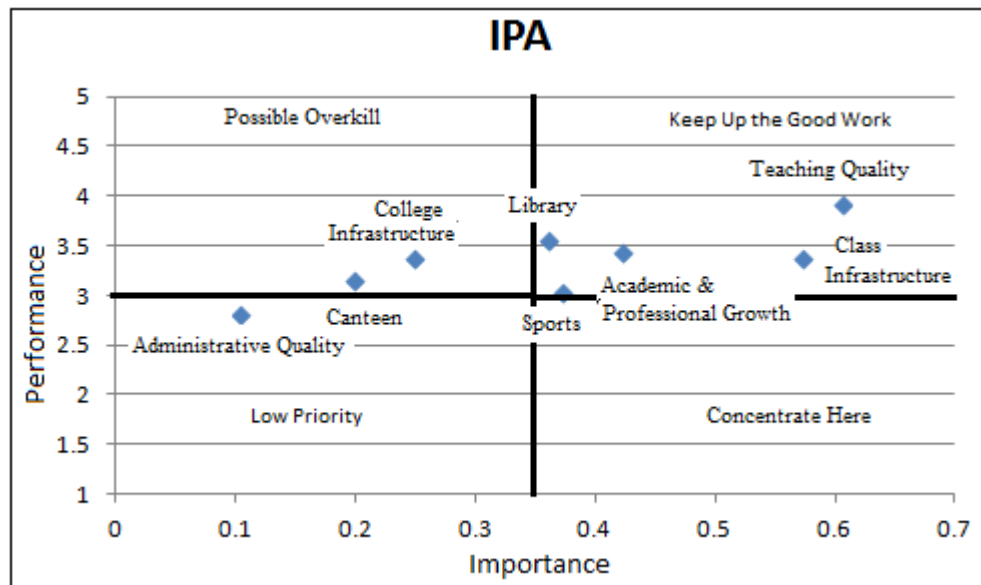
Results for the Bachelor of Science with Information Technology programme shows a slightly different picture. This matrix indicates that though there are various attributes that are given importance the students give highest importance to library facilities (Mean score = 3.49). In this case the first quadrant “low priority” includes only the item canteen. College infrastructure again lies between “low priority” and “possible overkill” quadrants, which indicate that students don’t pay much importance to it besides the authorities, are maintaining a moderately good infrastructure so the college authorities need not pay any more attention to it. The quadrant “possible overkill” includes the attribute library facilities, which means though library is of less importance to the students but the performance is satisfactory and needs no improvement. The quadrant “keep up good work” includes class infrastructure and teaching. Opportunities for academic and personal growth lies in the middle of the quadrants “keep up good work” and “concentrate here” which shows though the performance is low but importance is high. The quadrant “concentrate here” contains the quality of the administrative staff and sports. This matrix is different from that of Bachelor of Accounting and Finance indicating the fact that even within the same institution the experiences of students is different and this is because their expectations and priorities are different. In other words the importance given to different factors is different. From this it follows that marketing strategies must be based on an understanding of these differences and the IPA is an ideal approach for the same.

**MATRIX-II (Bachelor of Science with Information Technology)**



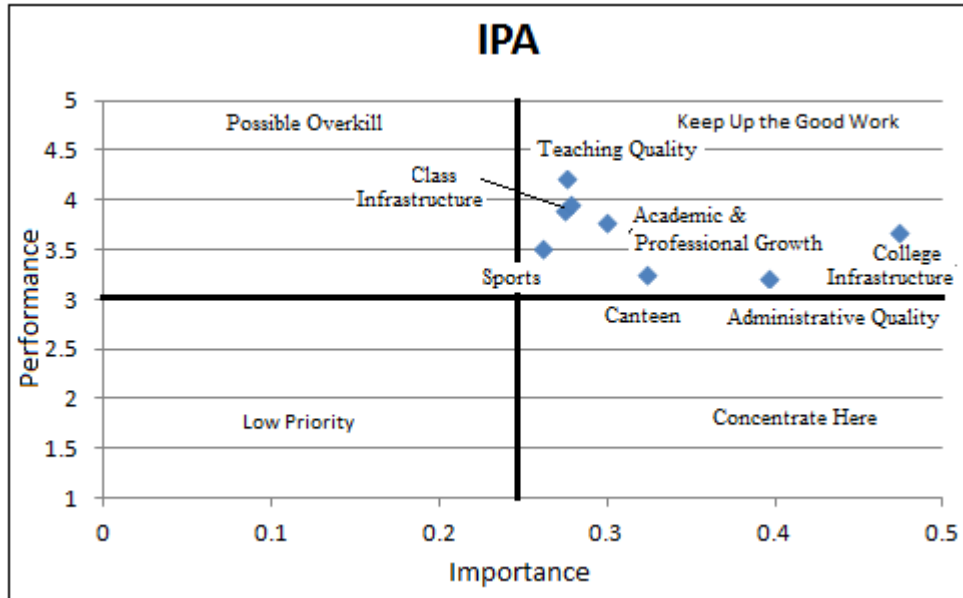
The Bachelor of Management Studies matrix shows that for these students quality of teaching faculty is of utmost importance (Mean score =3.91). In this case the quadrant” keep up the good work” contains most of the attributes like library, opportunities for academic and personal growth, sports, class infrastructure and quality of teaching staff which is a very positive indication. This matrix is indicative of a higher level of satisfaction. The quadrant “possible overkill” includes canteen facilities and college infrastructure. The quadrant” low priority” reflects only the quality of the administrative staff. As discussed earlier the differences in the matrices are indicative of the different expectations of students.

**MATRIX-III (Bachelor of Management Studies)**



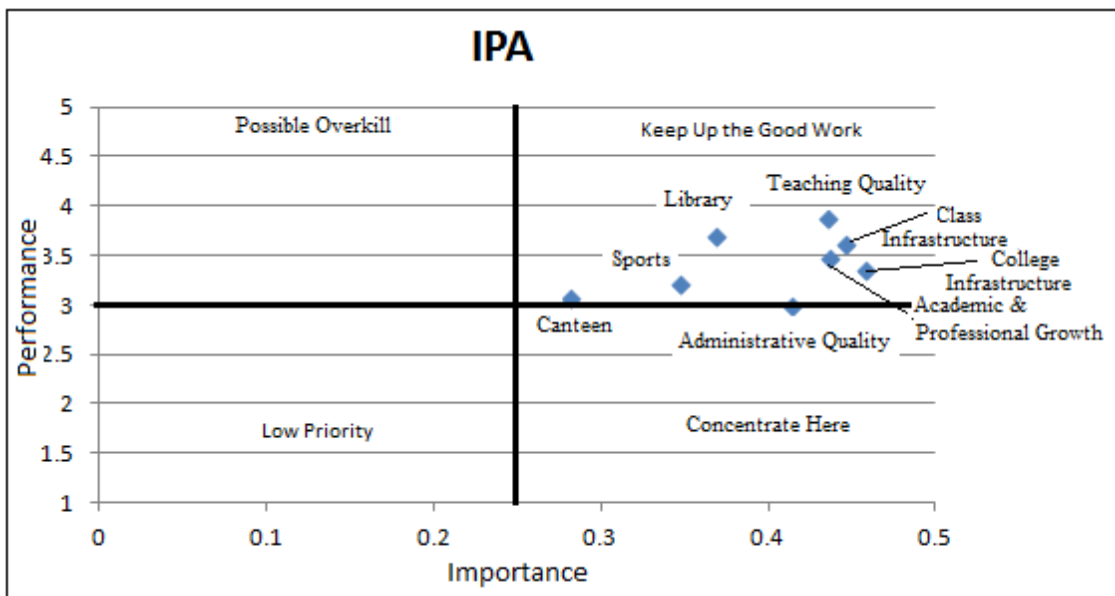
The Bachelor of Commerce matrix indicates highest level of satisfaction. This matrix shows that the students are very satisfied with the college facilities as all the attributes fall in the quadrant “keep up the good work”.

**MATRIX –IV(The Bachelor of Commerce)**



In the combined matrix most of the items fall in the quadrant “keeps up the good work” this is because the results are skewed in the direction of the Bachelor of Commerce results because of the composition of the sample. As indicated earlier students from this programme constitute the majority. The only attributes that lies in between the quadrant “concentrate here “ and keep up the good work” are canteen facilities and quality of Administrative Staff which suggests that though the importance is high the performance of these items are very low.

**MATRIX-V (Combined)**





### **Conclusions and Implications:**

This study has significant implications for educational institutions in a competitive scenario. The purpose of this study was twofold. On the one hand this study highlights the significance and relevance of IPA in understanding the importance given to the various attributes that constitute excellence in an educational institution. On the other, it also highlights individual differences in expectations and its impact on satisfaction thus emphasizing the need for different marketing strategies. From the college point of view the results give a clear indication of the areas that the college authorities must consider and pay attention while framing a strategy to build excellence with a view to improving customer (student) satisfaction. The results show that irrespective of the programme the factors that students give importance to are quality of teaching staff, library facilities, classroom infrastructure and opportunities for academic and professional growth. Though the performance of the college is high on these factors the college should try to maintain it. The college authorities need to concentrate on areas like canteen facilities, library facilities and college infrastructure as though the importance of these areas' is high but performance is low. Thus, this study indicates that we see that in a college students not only look out for better academic facilities but other non-academic facilities also play a major role in achieving satisfaction. A satisfied customer will in turn spread a positive word of mouth. This is the most important promotional mix for educational institutes. The attributes that are rated high in importance should be considered as relevant tools for bench marking.

This study will help the colleges to decide the areas where they should concentrate in order to achieve customer satisfaction which in turn will help to understand the customer buying pattern better. However a limitation of this study is that it is restricted to one college. Other colleges can easily apply the same technique to develop quality institutions. Thus in this competitive world these educational institutions can also survive better by understanding the preferences and buying pattern of their prospective customers.

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