A Case Study Of Parent’s Perception Towards Quality Management In Engineering Education Institutions

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Abstract: This paper aims to present the perceptions of parents on quality in technical education with reference to quality of teachers, teaching and learning process, management and leadership, and infrastructure aspects. The study was conducted to 100 parents of students studying in seven selected engineering colleges in Srikakulam and Vizianagaram District of Coastal Andhra Pradesh, India. A well-structured questionnaire has prepared to collect the data and analyzed it with SPSS. ANOVA was employed to find out the significance of difference between variable. The study brings to light the possible constraints to be faced by the stakeholders.

Keywords: Quality, Technical Education, Perception, Parents.

I. INTRODUCTION
Technical Education holds a key role in the development of the nation by creating skilled workforce, increasing productivity of industry and life style of the people. There is a huge requirement for skilled workforce with the result the demand of technical education is at its peak in India. Technical education is seen as the most employable education compared to traditional general education in India. Quality technical institutions play an important role in the economic development of a country by providing technically sound manpower which places India in the community of prosperous nations. Global competition combined with the Information technology revolution has led to shift in paradigm in engineering education. It demands technical skills, ability to create, lead and work effectively as a member of a team. Engineering decisions have to make with an understanding of socioeconomic factors. The emerging engineering graduates have to be prepared having regard to the change in demands both quantitatively and qualitatively. Technical Education all over the world is gaining importance day by day because of rapid advancements in Science and Technology and innovations in various disciplines due constant and continues research. The demand for technical qualified personnel is rapidly gaining momentum in various fields of technology. It is skillful, artful and constructive education that rises to application minded mankind who are essential for the socio-economic development of any country. As technical manpower is key to the country’s prosperity and high technology jobs are the need of the future, a high skilled workspace is required. Institutions of higher learning particularly technical institutions, where knowledge is transmitted and knowledge is created, clearly form the backbone of country’s future. The wealth and prosperity of a nation depends on the effective utilization of its human and material sources through industrialization. The use of human material for industrialization demands its education in science and technology. Industry opens up possibilities of greater fulfillment for individual. India’s enormous resources of manpower can only became an asset in the modern world, when trained and educated.

II. OBJECTIVES OF THE STUDY
- The main objective of the study is to know the perceptions of parents towards quality in technical education.

The following are the specific objectives of the study:
- To conduct exhaustive Literature Review in the area of quality in higher education in general and quality in engineering institutions in particular.
- To identify critical factors affecting the quality of technical institutions.

III. RESEARCH METHODOLOGY
The study has conducted for 100 parents of engineering students, studying in seven sample engineering colleges in Srikakulam and Vizianagaram districts of Coastal Andhra Pradesh. To collect the primary data from the sample respondents comprehensive questionnaire has designed. This questionnaire based on some important quality factors such as Management and Leadership, Infrastructure and Learning Resources, Teaching Learning Process and Evaluation which are considered as the major indicators of total quality management in technical education. The respondents were randomly selected and were asked to rank the answers on a five point Likert scale (5- Very Good, 4- Good, 3-Average, 2- Poor and 1- Very Poor). Secondary data collected through a systematic review of research papers, journals (National, International), magazines, books, government reports, AICTE approval process handbooks, and official websites etc., and the collected data was analyzed with necessary statistical and mathematical tools.

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IV. RESULTS AND DISCUSSION

### Table-1: Perceptive score differences among the sample parents by the gender

<table>
<thead>
<tr>
<th>Statement</th>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>Std. Dev</th>
<th>Std. Error</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management and Leadership &amp; Infrastructure facilities</td>
<td>Male</td>
<td>65</td>
<td>36.78</td>
<td>5.30</td>
<td>0.36</td>
<td>4.116**</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>40.97</td>
<td>4.59</td>
<td>0.78</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers and Teaching Learning process</td>
<td>Male</td>
<td>65</td>
<td>27.60</td>
<td>2.99</td>
<td>0.37</td>
<td>2.624*</td>
<td>0.012</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35</td>
<td>24.46</td>
<td>6.74</td>
<td>1.14</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** Significant @ 1% * Significant @ 5%

The Table-1 represents the perceptive score differences among the sample parents by their gender. It is observed that the average perceived score of sample female parents on ‘management and leadership & infrastructure facilities’ is 40.97 and it is found higher than the sample male parents i.e. 36.78, while the calculated t-value 4.116 is found significant at one percent level because the p-value is 0.000. It indicates that majority group of sample female respondents satisfied towards the ‘management and leadership & infrastructure facilities’. Regarding the ‘teachers and teaching learning process’ measures that the mean score of male respondents is 27.60 and it is found higher than female respondents (24.46) with these differences the calculated t-value 2.624 is found significant at five percent level because the p-value 0.012. Hence, it infers that majority of male respondents are satisfied towards the ‘teachers and teaching learning process’.

### Table-2: Perceptive score differences among the sample parents by their age group

<table>
<thead>
<tr>
<th>Statement</th>
<th>Age</th>
<th>N</th>
<th>Mean</th>
<th>Std. Dev</th>
<th>Std. Error</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management and Leadership &amp; Infrastructure facilities</td>
<td>30 - 40 years</td>
<td>19</td>
<td>39.68</td>
<td>4.88</td>
<td>1.12</td>
<td>1.108</td>
<td>0.334</td>
</tr>
<tr>
<td></td>
<td>40 - 50 years</td>
<td>55</td>
<td>37.60</td>
<td>5.42</td>
<td>0.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Above 50 years</td>
<td>26</td>
<td>35.88</td>
<td>5.78</td>
<td>1.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100</td>
<td>38.28</td>
<td>5.43</td>
<td>0.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers and Teaching Learning Process</td>
<td>30 - 40 years</td>
<td>19</td>
<td>24.84</td>
<td>4.99</td>
<td>1.15</td>
<td>4.527*</td>
<td>0.013</td>
</tr>
<tr>
<td></td>
<td>40 - 50 years</td>
<td>55</td>
<td>26.00</td>
<td>5.31</td>
<td>0.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Above 50 years</td>
<td>26</td>
<td>28.77</td>
<td>2.63</td>
<td>0.52</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100</td>
<td>25.80</td>
<td>4.86</td>
<td>0.49</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant @ 5%

The table-2 shows the perceptive score differences among the sample parents by their age group. It is found that the mean score of the age group between 30-40 years of sample parents is 39.68 which is found higher than the age groups of above 50 years and between 40-50 years (37.60) on ‘management and leadership & infrastructure facilities’, and with these differences in the mean values the tested t-value 1.108 is not found significant because the p-value 0.334 which is higher than 0.05. Therefore, it infers that the age group between 30-40 years of sample parents is more positive towards the ‘management and leadership & infrastructure facilities’. It is also found that the average perceived score of the sample parent for above 50 years age group is 28.77 and it is found higher than the age groups between 40-50 years (26.00) and 30-40 years (24.84) on ‘teachers and teaching learning process’, while the calculated t-value 4.527 is found significant at five percent level because the p-value 0.013. Hence, it can be concluded that the sample parents of above 50 years age group are satisfied towards the ‘teachers and teaching learning process’.

### Table-3: Perceptive score differences among the sample parents by their children studying year

<table>
<thead>
<tr>
<th>Statement</th>
<th>Year</th>
<th>N</th>
<th>Mean</th>
<th>Std. Dev</th>
<th>Std. Error</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management and Leadership &amp; Infrastructure facilities</td>
<td>3rd year</td>
<td>44</td>
<td>37.34</td>
<td>5.84</td>
<td>0.88</td>
<td>2.233</td>
<td>0.138</td>
</tr>
<tr>
<td></td>
<td>4th year</td>
<td>56</td>
<td>38.96</td>
<td>5.02</td>
<td>0.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100</td>
<td>38.25</td>
<td>5.43</td>
<td>0.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers and Teaching Learning Process</td>
<td>3rd year</td>
<td>44</td>
<td>27.02</td>
<td>5.08</td>
<td>0.77</td>
<td>0.907</td>
<td>0.343</td>
</tr>
<tr>
<td></td>
<td>4th year</td>
<td>56</td>
<td>26.09</td>
<td>4.69</td>
<td>0.63</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100</td>
<td>26.50</td>
<td>4.86</td>
<td>0.49</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table-3 shows that the perceptive score differences among the sample parents by their children studying year. It is observed that the average mean value of the sample parents of 4th year students is 38.96 and it is found higher than parents of 3rd year students (37.34) on ‘management and leadership & infrastructure facilities’ and with these differences in the mean values the tested t-value 2.233 is not found significant due to the p-value 0.138 is higher than 0.05. It infers that the majority group of sample parents of 4th year students is more positive towards the ‘management and leadership & infrastructure facilities’. The average perceptive score of the sample parents of 3rd year students on ‘teachers and teaching learning process’ is 27.02 and it is found higher than parents of 4th year students (26.09) while the tested t-value 0.907 is not found significant due to the p-value 0.343 which is higher than 0.05. Hence, it indicates that the dominated group of sample parents of 3rd year students are satisfied towards the ‘teachers and teaching learning process.’
The Table-4 describes the perceptive score differences of sample parents by their children studying branch. The mean values of the students of sample parents for ME, CSE, EEE, Other branches, CE and ECE branch are 40.33, 40.23 37.90, 37.58, 37.00 and 34.75 respectively on management and leadership & infrastructure facilities. With these differences in the mean values the calculated f-value 1.755 is not found significant because the p-value 0.130 which is higher than 0.05. Hence, it can be concluded that the majority group of students for sample parents studying ME branch more satisfied with management and leadership & infrastructure facilities. Regarding the teachers and teaching learning process measures that the average perceptive score of sample parents for Other branches students is 27.50 and it is found higher than the EEE (26.92), ECE (26.88), CSE (26.82), CE (26.40) and ME (22.33) while the tested f-value 1.554 is not found significant because the p-value 0.181 which is higher than 0.05. Therefore, it indicates that dominated group of sample parents of the students studying ‘Other branches’ have more satisfied for ‘teachers and teaching learning process’.

V. FINDINGS AND CONCLUSION

There was significant difference between male and female parents’ perception towards quality in management and leadership, infrastructure and learning resources, and teaching learning process and evaluation aspects. The mean score differences of sample parents by their age was not significant for “management and leadership & infrastructure facilities and significant for ‘teachers and teaching learning process aspect. The average perceptive score differences of sample parents by their children studying year is not found significant towards the quality in management and leadership aspects & infrastructure facilities and ‘teachers and teaching learning process’ aspects. The mean score differences of sample parents by their children studying branch was not significant for “management and leadership” & ‘infrastructure facilities’ and ‘teachers and teaching learning process aspects.

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