SIX SIGMA ON BUSINESS EXCELLENCE IN HOSIERY INDUSTRIES

P. MOHANRAJ  K. GUNASEKARAN  S. POUNDSAMY  S. BABY

1Assistant Professor in Management Studies, Nandha Arts and Science College, Erode, Tamil Nadu, India.
2Assistant Professor in Commerce, Nandha Arts and Science College, Erode, Tamil Nadu, India.
3Assistant Professor in Commerce, Nandha Arts and Science College, Erode, Tamil Nadu, India.
4Assistant Professor in Commerce, Nandha Arts and Science College, Erode, Tamil Nadu, India.

ABSTRACT

Key practices in business excellence used across functional areas in a venture include non-stop and breakthrough development, preventative management and management by facts. Some of the tools used are the Lean, balanced scorecard, Six Sigma statistical tools, process management, and Baldrige Criteria for Performance Excellence and project management. Industries are endlessly facing fierce competition and the challenge of meeting increasing demands for higher quality products at economic cost. The success of an organization is directly related to how effective its implementation of continuous improvement is. For any industry, Quality management system and six sigma are important continuous improvement methodologies. Effective understanding of these methodologies and their relationship will provide an industry with a competitive advantage. The hosiery industries in Tirupur are using the quality management system and six sigma as the core for their continuous improvement efforts. The present study aims at measuring the level of satisfaction perceived by the hosiery entrepreneurs in applying six sigma concepts in their industry. The present study deals with the Six Sigma on business excellence of hosiery industries.

Keywords: Excellence, Six sigma, Implementation, Quality management, Hosiery.

INTRODUCTION

Six sigma is a tool used to find the solution for managerial problems with the help of statistical solutions. The effectiveness of six sigma to a large extent depends on its statistical techniques of defining, measuring, analysing, improving, and controlling the critical processes in business excellence. Nowadays, the market demands increasingly complex readymade garment products in terms of specifications. The design of the readymade garments (Hosiery Products) is becoming more and more sophisticated. Therefore, quality excellence is very important in the manufacture of hosiery products. From the company’s point of view, the screening process is the most critical process that can affect the garment quality. Without proper control of the screening process, common printing problems and bleaching such as proper coloring, stretching, starching, pasting the printed materials, etc., can occur. According to the current process capability study, the sigma level of the hosiery process was not very satisfactory. Therefore, a study was conducted in the hosiery process with the objective of improving the sigma level to fulfill the expectations of global level customers.

NEED OF THE STUDY

The management of organisations in a complex and changing world presents a major challenge. Making sense of conflicting priorities, understanding the impact of the organisations actions, allocating limited resources, comparing performance with competitors and responding to customer needs are just
some of the issues management have to address. Balancing the effort of the organisation to address these and the many other issues and challenges faced can be a daunting task. Small wonder then that for many organisations there is no time to adopt a systematic approach to the challenge. The issues of the day are addressed as they occur and priorities are identified as the biggest fires for these ‘fire-fighter’ organisations. Some organisations seek solutions that avoid the complexity described above. They search for the solution, the initiative that will provide the answer and magically transform their performance and create success. Business excellence enables organisations to understand the complexities of the conflicting demands placed on them and to learn how to continuously improve the utilisation and focus of all of their resources to achieve better and better results.

STATEMENT OF THE PROBLEM

There are two main challenges that are faced by those using business excellence models, both of these are addressed by the services of the BPIR. The first challenge encountered involves the fact that the criteria in the models contain hundreds of questions requiring responses on how or what is done in particular areas of focus. These questions are designed to apply to a generic organisation as such they can be difficult to interpret to specific circumstances without spending a reasonably large amount of time reading around the model – something that many organisations with a short term focus find hard to justify. This challenge has given rise to much work for consultants on the subject. The second and main challenge encountered when using business excellence models is that none of the models provide solutions. Although understanding the criteria and responding with the organisation's practices or results should bring enlightenment relating to what the organisation should be considering, there is no specific advice given on how to improve performance. It is left up to the user to find ways to improve in the areas identified.

OBJECTIVES OF THE STUDY

1. To know the socio economic background of the respondents with reference to Hosiery industries.
2. To provide better solutions to achieve business excellence through six sigma.

RESEARCH METHODOLOGY

Research in common parlance refers to a search for knowledge. One can also define research as a scientific and systematic search for pertinent information on a specific topic. In fact, research is an art of scientific investigation. The present study used both primary as well as secondary data. The primary data was collected from the business people in Erode and Tirupur districts. Field survey technique was employed to collect the pertinent data from the 100 selected sample respondents in Erode and Tirupur districts. The respondents were selected by using simple random sampling method from the selected towns. Questionnaire was the main tool for collecting the data. The secondary data was also collected for the study. The data thus collected from the primary sources were arranged in the simple tabular statements. Regression analysis was used for the further analysis.

MULTIPLE REGRESSION ANALYSIS

A regression is a statistical tool used to find out the relationship between two or more variables. One variable is caused by the behavior of another one. The former variable is defined as independent and the later variable is defined as the dependent. When there are two or more independent variables, the analysis that describes the relationship between the two is called multiple regression analysis. The main
The objective of using this technique is to predict the variability of the dependent variable based on its co-variants with all the independent variables. It is useful to predict the level of dependent phenomenon through multiple regression analysis, if the levels of independent variables are given.

TABLE NO. 5.31
MULTIPLE REGRESSION ANALYSIS

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>Std. Error</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>19.240</td>
<td>2.405</td>
<td>8.001</td>
<td>0.000</td>
</tr>
<tr>
<td>Type of entrepreneur</td>
<td>-1.102</td>
<td>0.517</td>
<td>-2.131</td>
<td>0.033</td>
</tr>
<tr>
<td>Age</td>
<td>-1.273</td>
<td>0.372</td>
<td>-3.418</td>
<td>0.001</td>
</tr>
<tr>
<td>Marital Status</td>
<td>-1.556</td>
<td>0.686</td>
<td>-2.270</td>
<td>0.023</td>
</tr>
<tr>
<td>Educational qualification</td>
<td>-1.640</td>
<td>0.232</td>
<td>-7.056</td>
<td>0.000</td>
</tr>
<tr>
<td>Type of business</td>
<td>-0.176</td>
<td>0.141</td>
<td>-1.251</td>
<td>0.211</td>
</tr>
<tr>
<td>Annual income</td>
<td>2.466</td>
<td>0.260</td>
<td>9.498</td>
<td>0.000</td>
</tr>
<tr>
<td>Family size</td>
<td>-0.248</td>
<td>0.171</td>
<td>-1.448</td>
<td>0.148</td>
</tr>
<tr>
<td>Business turnover</td>
<td>-0.620</td>
<td>0.364</td>
<td>-1.706</td>
<td>0.088</td>
</tr>
<tr>
<td>Wealth position</td>
<td>19.040</td>
<td>2.001</td>
<td>9.498</td>
<td>0.000</td>
</tr>
<tr>
<td>Experience</td>
<td>1.924</td>
<td>0.291</td>
<td>6.603</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Model | R    | R Square | Adjusted R Square | Std. Error of the Estimate |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.475</td>
<td>0.226</td>
<td>0.219</td>
<td>7.144</td>
</tr>
</tbody>
</table>

ANOVA

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>14,753.387</td>
<td>9</td>
<td>1,639.265</td>
<td>32.118</td>
</tr>
<tr>
<td>Residual</td>
<td>50,528.897</td>
<td>990</td>
<td>51.039</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>65,282.284</td>
<td>999</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Multiple linear regression components is found statistically a good fit. It shows the eight independent variables contribute on the variation in the level of satisfaction in business excellence and statistically significant at 1% and 5% level.

The table indicates that the co-efficient of respondents’ annual income wealth position and experience are positively associated with the level of satisfaction in achieving business excellence. Further, it indicates that these variables that contribute to the level of satisfaction in achieving business excellence are statistically significant implying that their influence is stronger than the other variables.

The rate of increasing the level of satisfaction in achieving business excellence shows better results of the independent variables such as the unique change in type of entrepreneur of the respondent with 2.131, with 3.418 units change in age, with 2.270 units change in marital status, 7.056 unit change in educational qualification, with 1.251 unit change in type of business of the respondent, with 9.498 units change in annual income, with 1.448 unit change in family size, with 1.706 unit change in business turnover, with 8.421 unit change in wealth position of the respondents and with 6.603 unit change in
experience gained by the respondents in hosiery industry. The factors such as age, educational qualification, annual income wealth position and experience were significant at 1% level. Whereas, the factors such as type of entrepreneur, marital status and business turnover were significant at 5% level.

Thus, from the analysis, the following observations could be made. The level of satisfaction in achieving business excellence among the sample respondents is positively associated with annual income, wealth position and experience.

SUGGESTIONS

1. At times, a customer problem stares in the face of a company and so is the solution. However, the company continues to remain a prisoner of its ways.
2. Many large companies remain stuck in their operating models and real change comes only with the new generation of entrepreneurs.
3. Quality is mainly a matter of practice and requires implementation of proper principles.
4. Customer feedback can be a powerful input to spot areas where the company needs to work.
5. Most large companies, including Hewlett-Packard, conduct periodic satisfaction surveys among customers, channel, and employees. These serve as a useful feedback mechanism for course correction.

CONCLUSION

Six sigma has emerged as a popular approach to improvement that focuses on outputs that are critical to customers and justifies improvements by demonstrating a clear financial return for the organization. It is learned from the study that almost all the respondents are practicing six sigma concepts and producing world class quality by implementing latest ISO concepts including environmental focus. Whilst the sigma measure can well be used for general end communication and motivation purposes it should not be used in a technical sense. Technically, one is advised to aim for preferred value and minimize variation. Business excellence is the methodical use of quality management principles in business management, with the aim of improving presentation based on the principles of customer focus, stakeholder value, and process management.

REFERENCES

