Racer Industries

Difference of Total Quality Management

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Executive Summary

Racer Industries owns over 200 manufacturing facilities across the nation. Throughout these plants, over the past five years, two different management styles have been used on the East and West coasts. The use of Total Quality Management has been implemented on the East coast and seldom used on the West coast. Racer Industries has questioned if the use of TQM is effective. A study was done on 30 random manufacturing facilities on the East and West coast.

Using the data that was collected, three graphs were designed to show the difference in efficiencies in the different plants. Each graph explains that the East coast plants are more effective than the West coast. The difference between the East and West coast in material efficiency is 2.6. It is recommended that Racer Industries uses Total Quality Management in all the manufacturing plants to enhance the effective.

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Introduction and Problem Statements

Racer Industries owns over 200 manufacturing facilities across the nation. The efficiency between the East and West coast are noticeably different. Two different management styles were used in the different facilities in both the East and West coast. Total Quality Management was fully used on the East coast, unlike the West coast. Total Quality Management was used occasionally or it wasn’t used at all. The Eastern operations manager has increased the focus on TQM, over the past 5 years, to increase the efficiency based on the data that has been collected.

“Just-in-time manufacturing can lead to huge improvements in quality and efficiency. It can also lead to higher profits and a larger return in investment,” (Crystal, 2003-2009). Just-in-time management basically means that each piece of information is given when needed. This would increase the efficiency of the total efficiency cost. This would also improve profits in the East and West coast.

According to The Definition of Accounting Terms, “Total Quality Management is the approach to quality that emphasizes continuous improvement, a philosophy of "doing it right the first time" and striving for zero defects and elimination of all waste. It is a concept of using quality methods and techniques to strategic advantage within firms,” (Business Glossary, 1999-2009). This explains how TQM is used to improve the efficiency and how it is supposed to be implied throughout different facilities.

Procedures

The Study consisted of a random sample of 30 manufacturing plants from the East and West coast. Sales, labor cost, and material cost were the initial variables collected. After the data was collected, the data was further analyzed by using a simple ratio of sales by labor cost, material cost, and material and labor cost. This data shows that TQM is effective in producing better profits.

Findings

The labor efficiency in the East coast has an average of approximately 5.4. Every dollar that is spent on labor they make $5.40. On the West coast the efficiency is lower. The average labor efficiency is 3.8 which in terms of money, they only make $3.80 on every dollar they spent. Figure 1 shows the average labor efficiencies between the East and West coast. When comparing the differences of average labor efficiency, $1.60 doesn’t seem like a huge deal. But when these numbers are compared in millions it’s a huge difference.

In Figure 2, the average material efficiency on the East coast is 5.4 and the material efficiency on the West coast is 2.8. This has the same meaning, for every dollar spent on materials the plant facilities make that much off that dollar. The difference between the East and West coast material efficiency is 2.6. Which means the East coast makes $2.60 more per dollar spent than the West coast.

Figure 3 shows that average of the average total efficiency. On the East coast average total efficiency is 2.6 and the West coast average is .9. When this is translated into dollars it would be considered as a loss or a profit. This data uses the information from sales, labor cost, and material cost. The average sales for the East coast are $514,496 and the average sales for the West coast are$265,384. This shows that the East coast number of sales was greater than the West coast, the average labor cost for the East coast is $109,006.30 and for the West coast, the average is $87,904.13. Again, the average of the East coast is greater. The Average material cost for the East coast is $104,891.80 and for the West coast, the average is $121,072.17. The East coast sales, labor cost, and material costs are all greater than the West coast.

Conclusions and Recommendation

 Racer Industries on the East coast is more efficient than the West coast in every category according to the data shown. The average total efficiency of the East coast is 2.6 and the West coast has an average total efficiency of 1.5. This would make the difference of $.9. Very seldom did the West coast plants have a higher ratio than the East. The East coast never has a ratio below one, unlike the West coast total efficiency. With this being said, the East coast plants are more efficient and productive than the West coast. Reasoning for the East coast being more productive is because the effective use of total quality management.

 To enhance the efficiency in the West coast, total quality management should be fully implied instead of partially. This would make the West coast more efficient like the East coast. “In some aspects of quality improvement, TQM and Six Sigma share the same philosophy of how to assist organizations to accomplish Total Quality. They both emphasize the importance of top-management support and leadership,” (Total Quality Through Six Sigma , 1996-2006). Using both of these approaches it is evident that continuing quality improvement is critical to long-term business success. By fully applying TQM , every manufacturing plant would become more efficient and Racer Industries would improve in every aspect through TQM.

References

*Business Glossary*. (1999-2009). Retrieved December 8, 2009, from All Business: www.allbusiness.com

Crystal, G. (2003-2009). *What is Just-In-Time Manufacturing?* Retrieved December 8, 2009, from WiseGeek: http://www.wisegeek.com/what-is-just-in-time-manufacturing.htm

*Total Quality Through Six Sigma* . (1996-2006). Retrieved December 8, 2009, from Six Sigma: http://www.pqa.net/ProdServices/sixsigma/W06002011.html

Appendix

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Location** | **Sales** | **Labor Cost** | **Material Cost** | **Labor Eff.** | **Material Eff.** | **Total Eff.** |
| E | 315787 | 159502 | 126402 | 1.980 | 2.498 | 1.105 |
| E | 500121 | 199990 | 112216 | 2.501 | 4.457 | 1.602 |
| E | 478535 | 110736 | 102019 | 4.321 | 4.691 | 2.249 |
| E | 587645 | 100121 | 122458 | 5.869 | 4.799 | 2.640 |
| E | 462545 | 97652 | 103625 | 4.737 | 4.464 | 2.298 |
| E | 577446 | 90263 | 96878 | 6.397 | 5.961 | 3.086 |
| E | 570922 | 189478 | 110259 | 3.013 | 5.178 | 1.905 |
| E | 550360 | 97857 | 108973 | 5.624 | 5.050 | 2.661 |
| E | 539704 | 78255 | 405978 | 6.897 | 1.329 | 1.115 |
| E | 517335 | 87020 | 98203 | 5.945 | 5.268 | 2.793 |
| E | 510674 | 117858 | 94587 | 4.333 | 5.399 | 2.404 |
| E | 503046 | 160714 | 98783 | 3.130 | 5.092 | 1.939 |
| E | 499491 | 168495 | 95736 | 2.964 | 5.217 | 1.890 |
| E | 498288 | 157848 | 101687 | 3.157 | 4.900 | 1.920 |
| E | 579573 | 157200 | 97752 | 3.687 | 5.929 | 2.273 |
| E | 472768 | 108454 | 97392 | 4.359 | 4.854 | 2.297 |
| E | 565778 | 101711 | 88771 | 5.563 | 6.373 | 2.970 |
| E | 584685 | 98598 | 89257 | 5.930 | 6.551 | 3.112 |
| E | 488951 | 97360 | 89217 | 5.022 | 5.480 | 2.621 |
| E | 320479 | 94162 | 81552 | 3.403 | 3.930 | 1.824 |
| E | 414349 | 89418 | 89787 | 4.634 | 4.615 | 2.312 |
| E | 407607 | 81852 | 87467 | 4.980 | 4.660 | 2.407 |
| E | 604278 | 79723 | 78065 | 7.580 | 7.741 | 3.830 |
| E | 489654 | 77863 | 72059 | 6.289 | 6.795 | 3.266 |
| E | 458217 | 63067 | 74860 | 7.266 | 6.121 | 3.322 |
| E | 498840 | 62486 | 59209 | 7.983 | 8.425 | 4.099 |
| E | 374310 | 60500 | 76898 | 6.187 | 4.868 | 2.724 |
| E | 455745 | 55356 | 85461 | 8.233 | 5.333 | 3.236 |
| E | 689751 | 46244 | 100000 | 14.915 | 6.898 | 4.716 |
| E | 917985 | 180406 | 101203 | 5.088 | 9.071 | 3.260 |
| W | 180535 | 119412 | 166474 | 1.512 | 1.084 | 0.631 |
| W | 212976 | 155221 | 137578 | 1.372 | 1.548 | 0.727 |
| W | 112111 | 135775 | 141540 | 0.826 | 0.792 | 0.404 |
| W | 235465 | 134995 | 117027 | 1.744 | 2.012 | 0.934 |
| W | 80454 | 100647 | 122043 | 0.799 | 0.659 | 0.361 |
| W | 115464 | 120599 | 122206 | 0.957 | 0.945 | 0.476 |
| W | 97854 | 124131 | 110310 | 0.788 | 0.887 | 0.417 |
| W | 385666 | 101203 | 114213 | 3.811 | 3.377 | 1.790 |
| W | 275878 | 84025 | 111418 | 3.283 | 2.476 | 1.412 |
| W | 111444 | 50474 | 108805 | 2.208 | 1.024 | 0.700 |
| W | 484795 | 112458 | 112813 | 4.311 | 4.297 | 2.152 |
| W | 479564 | 97452 | 111253 | 4.921 | 4.311 | 2.298 |
| W | 100100 | 101259 | 130248 | 0.989 | 0.769 | 0.432 |
| W | 296469 | 100135 | 110723 | 2.961 | 2.678 | 1.406 |
| W | 330451 | 76970 | 99999 | 4.293 | 3.305 | 1.867 |
| W | 410897 | 74796 | 107558 | 5.494 | 3.820 | 2.253 |
| W | 349067 | 74783 | 143561 | 4.668 | 2.431 | 1.599 |
| W | 245548 | 72579 | 99144 | 3.383 | 2.477 | 1.430 |
| W | 309313 | 68251 | 164565 | 4.532 | 1.880 | 1.329 |
| W | 220154 | 66629 | 118452 | 3.304 | 1.859 | 1.190 |
| W | 309870 | 66246 | 154897 | 4.678 | 2.000 | 1.401 |
| W | 389883 | 63599 | 100211 | 6.130 | 3.891 | 2.380 |
| W | 331002 | 59314 | 135264 | 5.581 | 2.447 | 1.701 |
| W | 264359 | 57029 | 98999 | 4.636 | 2.670 | 1.694 |
| W | 298840 | 41080 | 16878 | 7.275 | 17.706 | 5.156 |
| W | 274573 | 41846 | 112111 | 6.562 | 2.449 | 1.783 |
| W | 270677 | 40708 | 158970 | 6.649 | 1.703 | 1.356 |
| W | 257331 | 39831 | 99999 | 6.461 | 2.573 | 1.840 |
| W | 242931 | 157837 | 132132 | 1.539 | 1.839 | 0.838 |
| W | 823033 | 97840 | 172774 | 8.412 | 4.764 | 3.041 |
|  |  |  |  |  |  |  |
|  | sales | labor cost | material |  |  |  |
| east | 514496 | 109006.3 | 104891.8 |  |  |  |
| west | 265384 | 87904.13333 | 121072.1667 |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  | East | West |  |  |  |  |
| Average Labor Eff. | 5.400 | 3.378 |  |  |  |  |
| Material Eff | 5.398 | 2.822 |  |  |  |  |
| Total Eff | 2.596 | 1.500 |  |  |  |  |