**Implementing Lean Operations in Businesses**

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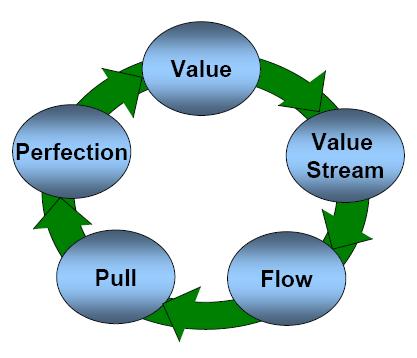
Operation Manager of Wentworth Industries

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Submitted to: Cliff Barnes

CEO of Wentworth Industries

**The Flow of Lean Operations**



**Executive Summary**

The purpose of this sample was to determine the difference between restaurants that use lean management which would be in the south, while the north did not apply to this method of doing business. This sample was performed for Cliff Barnes, CEO for Wentworth Industries, to show what lean operation is and how effect is the idea within the business. In order to determine which region had better business, three important administration controllable factors has to be taken into account, which happen to be the sales, labor cost, and food cost. These factors were then averaged into to make a total efficiency for each aspect and then compared accordingly to which region. Through the findings of this sample, the southern region restaurants received higher numbers than the northern region in each of the controllable factors stated above. The most common suggestion given through this sample would be that the north takes on executing the lean management ways within their own restaurants to make their businesses more competent.

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**Introduction and Problem Statement**

The basics of lean operations were first discovered in the early 1980s, formerly known as the just-in-time method of operating a business, which became popular in the Western industry. One business superpower that took this ideal method and made it work for their businesses was in the country, Japan. Most of the lean principles that are known in the United States today came from the Japanese manufacturing industry. This country showed other businesses that implementing this method and principles within other companies, that the abilitiy to increase the market speed, flexibilty, and quality can all be done at a lower price (Schonberger, 2009).

Lean operations, also identified as lean management, is defined as operating the most efficient and effective organization possible with the least cost and zero waste (Jones, 1996). Many benefits will arise with implementing this form of business operation. This type of operation will be beneficial for both sides of the market, the buyer and the seller. One benefit will be that the quality of a company’s product will be greater because the producer will not be wasting valuable resources. Company’s will also not have to buy large amounts of supplies to make one product. This will be beneficial for both the buyer of the supplies and the maker of the supplies. Because today’s world is a fast paced society, our busninesses will need to be up-to-speed and up-to-date to effectively and efficiently provide services for their customers.

One year ago, this lean management strategy was implemented by one of Wentworth Industries’ southern operations manager in thirty fast-food restaurants across the southern region of the United States. Wentworth Industries owns over 1,000 franchised fast-food restaurants and is wanting to compare and contrast the different operating outcomes of this type of lean operation between the southern restaurants and the northern restaurants.

**Procedures**

Thirty restaurants from both the northern and the southern regions were randomly selected to determine if there is a difference in the use of lean management strategies in the south as opposed to the north, which does not use lean management. By comparing the most important management controllable factors which are sales, labor cost, and food cost between the two regions, these factors were plugged in to get the total amount of efficiency for each factor above. In order to find the total efficiency for any of these factors, one would have to add the numbers within the column and then divide by how many numbers that were listed, which would equal the average. Therefore, the comparisons calculated for the two regions were total efficiency, labor efficiency, and food efficiency to determine which region, either the north or the south, was more efficient in the operating of the restaurant business.

**Findings**

After compiling all the data from the sample of taking thirty restaurants from the northern region and the southern region to see which one has a better operating management, there was a relative difference in all of the management controllable factors. It is clear, in all of the findings, that all the numbers for the southern restaurants were higher than that of the northern restaurants. For the total efficiency between the two regions, such as in Figure 1, it was clear to see that the southern region had a higher total efficiency of 2.759 compared to the northern region that had a total efficiency of 2.305.

As for the other total efficiencies for the other controllable factors such as food, sales, and labor there obviously was a difference in the numbers between the two regions as well. The total amount of food efficiency for the southern region was 4.932 and the food efficiency for the north was 4.672. The difference of food effectiveness between the north and the south is about 0.26. For the total average of sales in the separate regions, the south had 496,848 and the north had 477,409 in sales, which happens to be a 19,439 difference between the two amount of sales. The last convenient factor of the problem in this sample of testing management would be the difference in the labor efficiency among the two areas. As shown in Figure 2, the total efficiency for the southern region was 6.276 and the northern region was 4.194. The difference between these two amounts of labor efficiency would be at 2.082.

**Conclusions and Recommendations**

Through this random sample, it is proven in the findings that the southern region restaurants have a better concept on being a more efficient business with having lean operations within their management. The fact that a lean company can make twice as much product of twice the quality in half the time and space at half the cost with a fraction of normal work-in-process inventory happens to be a proven fact (Jones, 1996). The thirty restaurants in the south shown in the graphs and one can see in the higher numbers that this method of lean operations is working better than the thirty restaurants in the northern region that does not have this way of doing business in their businesses. The best recommendation that can be made to the northern region would be to try to implement lean management into the restaurants now and see how much more resourceful the business turns out to be.

**References**

Jones, T. L. (1996). *Implementing a Lean Management System.* Productivity Press.

Schonberger, R. ( 2009). The Skinny on Lean Management. *Sales & Marketing Management* , 3.

Swank, C. K. (2008). The Lean Service Machine. *Harvard Business Review* , 13.

**Appendix**

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| |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **Location** | **Sales** | **Labor Cost** | **Food Cost** | **Labor Eff.** | **Food Eff.** | **Total Eff.** |  |  |  |  | | N | 761843 | 159502 | 166474 | 4.776 | 4.576 | 2.337 |  | **Mean for Total Efficiency** | | | | N | 682779 | 155221 | 137578 | 4.399 | 4.963 | 2.332 |  | North | *2.305* |  | | N | 632857 | 135775 | 141540 | 4.661 | 4.471 | 2.282 |  | South | 2.759 |  | | N | 619125 | 134995 | 117027 | 4.586 | 5.290 | 2.457 |  |  |  |  | | N | 577446 | 134647 | 122043 | 4.289 | 4.731 | 2.250 |  | **Mean for Food Efficiency** | | | | N | 570922 | 127599 | 122206 | 4.474 | 4.672 | 2.285 |  | North | 4.672 |  | | N | 550360 | 124131 | 110310 | 4.434 | 4.989 | 2.348 |  | South | 4.932 |  | | N | 539704 | 123026 | 114213 | 4.387 | 4.725 | 2.275 |  |  |  |  | | N | 523712 | 122563 | 111418 | 4.273 | 4.700 | 2.238 |  | **Mean for Labor Efficiency** | | | | N | 511874 | 122041 | 108805 | 4.194 | 4.705 | 2.217 |  | North | 4.194 |  | | N | 506123 | 118435 | 112813 | 4.273 | 4.486 | 2.189 |  | South | 6.276 |  | | N | 500520 | 117526 | 97230 | 4.259 | 5.148 | 2.331 |  |  |  |  | | N | 498486 | 115252 | 98968 | 4.325 | 5.037 | 2.327 |  | **Mean for Sales** | |  | | N | 498763 | 109134 | 110723 | 4.570 | 4.505 | 2.269 |  | North | 477409 |  | | N | 473672 | 108107 | 99999 | 4.382 | 4.737 | 2.276 |  | South | 496848 |  | | N | 470047 | 102532 | 97558 | 4.584 | 4.818 | 2.349 |  |  |  |  | | N | 449007 | 101711 | 93700 | 4.415 | 4.792 | 2.298 |  |  |  |  | | N | 445438 | 98598 | 99144 | 4.518 | 4.493 | 2.253 |  |  |  |  | | N | 422129 | 97360 | 84130 | 4.336 | 5.018 | 2.326 |  |  |  |  | | N | 415661 | 94162 | 88273 | 4.414 | 4.709 | 2.278 |  |  |  |  | | N | 409941 | 89418 | 89247 | 4.585 | 4.593 | 2.294 |  |  |  |  | | N | 389883 | 81852 | 82014 | 4.763 | 4.754 | 2.379 |  |  |  |  | | N | 331002 | 79723 | 80042 | 4.152 | 4.135 | 2.072 |  |  |  |  | | N | 361367 | 77863 | 72059 | 4.641 | 5.015 | 2.410 |  |  |  |  | | N | 311060 | 63067 | 65830 | 4.932 | 4.725 | 2.413 |  |  |  |  | | N | 274573 | 62486 | 57848 | 4.394 | 4.746 | 2.282 |  |  |  |  | | N | 270677 | 60500 | 57815 | 4.474 | 4.682 | 2.288 |  |  |  |  | | N | 257331 | 55356 | 55496 | 4.649 | 4.637 | 2.321 |  |  |  |  | | N | 242931 | 46244 | 52861 | 5.253 | 4.596 | 2.451 |  |  |  |  | | N | 823033 | 180406 | 172774 | 4.562 | 4.764 | 2.330 |  |  |  |  | | S | 808300 | 119944 | 166402 | 6.739 | 4.858 | 2.823 |  |  |  |  | | S | 742222 | 119665 | 162216 | 6.202 | 4.576 | 2.633 |  |  |  |  | | S | 634495 | 100736 | 132019 | 6.299 | 4.806 | 2.726 |  |  |  |  | | S | 625983 | 94903 | 132452 | 6.596 | 4.726 | 2.753 |  |  |  |  | | S | 595317 | 94652 | 113625 | 6.290 | 5.239 | 2.858 |  |  |  |  | | S | 574149 | 90263 | 114248 | 6.361 | 5.025 | 2.807 |  |  |  |  | | S | 552149 | 89478 | 113957 | 6.171 | 4.845 | 2.714 |  |  |  |  | | S | 542566 | 87857 | 111187 | 6.176 | 4.880 | 2.726 |  |  |  |  | | S | 533724 | 87255 | 112371 | 6.117 | 4.750 | 2.674 |  |  |  |  | | S | 517335 | 87020 | 108306 | 5.945 | 4.777 | 2.649 |  |  |  |  | | S | 510674 | 81478 | 104756 | 6.268 | 4.875 | 2.742 |  |  |  |  | | S | 503046 | 80741 | 98783 | 6.230 | 5.092 | 2.802 |  |  |  |  | | S | 499491 | 79909 | 95736 | 6.251 | 5.217 | 2.844 |  |  |  |  | | S | 498288 | 79201 | 101687 | 6.291 | 4.900 | 2.755 |  |  |  |  | | S | 479573 | 78967 | 97752 | 6.073 | 4.906 | 2.714 |  |  |  |  | | S | 472768 | 76970 | 97392 | 6.142 | 4.854 | 2.711 |  |  |  |  | | S | 465778 | 74796 | 88771 | 6.227 | 5.247 | 2.848 |  |  |  |  | | S | 448522 | 74783 | 89257 | 5.998 | 5.025 | 2.734 |  |  |  |  | | S | 488951 | 72579 | 89217 | 6.737 | 5.480 | 3.022 |  |  |  |  | | S | 420970 | 68251 | 81552 | 6.168 | 5.162 | 2.810 |  |  |  |  | | S | 414349 | 66629 | 87619 | 6.219 | 4.729 | 2.686 |  |  |  |  | | S | 407607 | 66246 | 87467 | 6.153 | 4.660 | 2.652 |  |  |  |  | | S | 401276 | 63599 | 78065 | 6.309 | 5.140 | 2.833 |  |  |  |  | | S | 377747 | 59314 | 84612 | 6.369 | 4.464 | 2.625 |  |  |  |  | | S | 358217 | 57029 | 74860 | 6.281 | 4.785 | 2.716 |  |  |  |  | | S | 298840 | 51080 | 59209 | 5.850 | 5.047 | 2.710 |  |  |  |  | | S | 274310 | 41846 | 57630 | 6.555 | 4.760 | 2.758 |  |  |  |  | | S | 257351 | 40708 | 52970 | 6.322 | 4.858 | 2.747 |  |  |  |  | | S | 283452 | 39831 | 55437 | 7.116 | 5.113 | 2.975 |  |  |  |  | | S | 917985 | 157837 | 177760 | 5.816 | 5.164 | 2.735 |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |
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