

Siemens electric motor works essay sample



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The Electric Motor Works (EMW) was Siemens's primary producer of low wattage alternating current (A/C) motors, which sales volume was contributed by 80% of standard motors and 20% of customized motors. Although the firm had started to alter their program and had expanded the business in 1974, they still could not decline the price sufficiently to compete with the lower labour rate in Eastern Bloc competitors. Instead of mass production, EMW changed their strategy to manufacture efficiently various customized motors. As a result, they received 90% of orders were for custom motors whereas standard motors still took around 50% of total annual output in 1987. The firm also identified problems in traditional volume based costing system which could not reflect processing of order and special components accurately. With the new costing system which subtracted activity based cost from support related overhead, the firm could recognise profitable orders and consume resource efficiently.

Problems and Issues: The first problem in 1970s is that EMW could not reduce their cost sufficiently to compete with Eastern Bloc manufacturers. Although Siemens was one of the world's largest corporation, numerous production facilities had been destroyed in World War II. Their manufacture of electric motors highly depended on EMW. This issue made the firm have difficulty to achieve economic scale and to decline the cost of standard A/C motors. In addition, they stored the standard motors and shipped when orders were received, which warehouse expense might be one of the reasons why they could not decrease the cost. Secondly, the changed product costing systems divided overhead cost into materials, production, and support related overhead.

However, there were three different production processes in the new strategy, the components were produced either by machine, or manual, or both. The departmental rate in manufactured overhead was using unsuitable cost driver, and it might contribute to under- or over- allocated overhead. Thirdly, they needed more accurate costs for decision making, as EMW had increased product diversity and indirect cost, and faced more competition in the market. In 1987, EMW redesigned their costing system by using activity based costing system for support related overhead. They removed cost activity related to order and special components processing from supported department, and assigned into two new cost pools. This allowed the firm to identify profitable orders, but they also lost some of them to competitors, and resulted in huge amount of opportunity cost. The 115% of capacity run by factory might represent that they were over consumption per unit, and they probably could not continue to use more than their practical capacity for long term.

Analysis: In the traditional costing systems, the support related overhead was 35% of other manufacturing cost. This might only be suitable for standard motors because the base motor and special components actually should cost different support related overhead. If the system ignored the difference, it would result in over-allocated overhead on the order with more special components, and under- allocated overhead on the order with standard motors. Especially when increase the number of units in each order, the manufacturing cost grows rapidly. This was due to multiplying the amount of non- volume cost, which related to number of order rather than the number

of units in an order. As a result, the wrong pricing might affect their profit and competitiveness.

On the other hand, in new costing system which subtracted the cost of order processing and special components from engineering and administrative cost. The order processing rate was 210.29 which was calculated by 13,800,000 divided by the number of order (65,625), and the rate of special components was 60 which was 19,500 divided by the number of times process (325,000). These were only depend on the type of order, and would not have huge fluctuation when number of units change in an order. The new costing system contributed to more accurate cost related to custom order, and especially helpful as there were 90% of orders are customised motors. Which also allowed the firm to recognise more profitable order. However, they ignored the opportunity cost when they lost DM550 million in the orders which they abandoned. In addition, there were 90% of orders from custom motor, about 50% of the total annual output were standard motors.

As the customized order would generate certain amount of cost in order and special components, the firm should consider whether the profit from custom motors could cover the cost of it. In terms of profit, the firm accepted DM450 million revenue, which should invest DM50 million in implementation of new strategy and deducted by total cost. The remained amount was DM38.5 million income profit in 1987. Using the revenue less variable cost (300.3 million) to know the contribution margin (\$237.62/unit), and calculate break-even point ($\$111.2 \text{ million} / \237.62 per unit), it is apparent that the firm actually sold 1.35% of the break-even point. Although the order processing,

special components and annual investment cost a great amount, the new strategy and costing system truly made the firm profitable.