Performance measurement case material business essay

This report evaluates the robustness of Inventory-Driven Cost (IDC) as a performance indicator, and, discusses the advantages, disadvantages of IDC and how it could be improved. Also, describe how IDC worked with HP's strategy and integrate different parts of HP's supply chain.

Discussions

Evaluates the robustness of IDC

The Measurement Design Template

The Measurement Design Template could help designers to identify what kind of information they are going to confirm or collect (Neely et al, 2002). The Measurement Design Template of IDC is shown in Table 1 below.

Regarding formula, when calculating the price protection costs and excess/obsolescence costs, it should only apply to the remaining volume. After sum up all of the cost elements of IDC, it could turn IDC as a percentage of revenue and annualize the rate.

The 10 Test

Test 1: Truth test

The title Inventory-driven cost (IDC) is clear enough to know that it is a measure to evaluate costs related to inventory. IDC was introduced when the PC market changed to a large-volume but low margin market (Slagmulder and Van Wassenhove, 2004). In order to improve the products' profit and develop a sustainability supply chain, HP needed to give all its managers a direct sight of the costs (Callioni et al, 2005). IDC as an indicator could help

them to track progress on improving the company's bottom line (Slagmulder and Van Wassenhove, 2004) and to improve the visibility of the true inventory cost.

Test 2: Focus test

IDC only considers the costs driven by inventory. In addition to the typical inventory holding cost, which only accounted for less than 10% of IDC in HP (Callioni et al, 2005), the other three metrics were revealed by HP's Strategic Planning and Modeling (SPaM)'s investigation, which are material devaluation costs, price protection costs, and excess/obsolescence costs (Slagmulder and Van Wassenhove, 2004).

Test 3: Relevance test

Before IDC launched, HP held high inventory at its resellers' locations to avoid the warehousing cost accounted on its own book, at the meantime, to provide a relative flexible service to its channels and customers. As a result, other costs came up and eroded HP's profit. Therefore, combining these metrics can reveal a full picture of how the real cost of each product structured.

Furthermore, in order not to shift the sight of an overall trend in IDC, HP chose to use a quarterly basis instead of monthly to avoid a single event bringing huge effect at a certain point in time (Slagmulder and Van Wassenhove, 2004).

Test 4: Consistency test

Financial team was in charge of defining rules for IDC. For consistency, there was a standard form for people to put in and follow. Furthermore, the financial team assigned a member to work with each business group to make sure that the data collected was relevant (Slagmulder and Van Wassenhove, 2004).

Test 5: Access test

HP implemented IT links with its channel partners which could report the data on a daily basis.

Test 6: Clarity test

As it is mentioned before, the worksheet was standardized for people to interpret the data in the same way.

Test 7: So-what test

The quarterly review and planning meeting was conducted by a team built up by key uses, the controller and the main supply chain manager.

Test 8: Timeliness test

Considering short product cycle, a quarterly basis measure could lose the time to take any action, although it provided a more comprehensive view on each cost item. It is suggested that at the beginning of the measure launched, using a monthly basis review to improve the supply chain network until the figure starts being stable.

Test 9: Cost test

According to the case (Slagmulder and Van Wassenhove, 2004), there was not too many investments on physical structure caused by IDC, except information sharing network between HP and its channels. Instead, HP gained a $495 million reduction in its owned inventory in 2001.

Test 10: Gaming test

The devaluation cost is quite straight forward. There is no too much room for gaming. As for price protection and return cost, these factors depend on the contract between manufacturer and distributors. The original reason for HP to have these two rules was to maintain the relationships with its distributors (Callioni et al, 2005). For new distributors, if the company lowers the rate in order to achieve a better IDC performance, it may danger the relationship with distributors. But, once the contracts have signed, the rates are almost fixed. There is also no such a big room for gaming.

The last one is obsolescence cost. This is the only cost element that is discrete (Callioni et al, 2005). It only happens when the company decides to write-off particular products (Callioni et al, 2005). This may be the only part that have a slightly change to game. For example, before shareholder meeting, the company may avoid to write-down products during this period to present a better figure of IDC for its shareholder.

Advantages and disadvantages of IDC

Key strengths

IDC as a performance measure could make it easier to managers make the decisions and redesign the supply chain network. By implementing IDC, HP

could stimulate different scenarios and have a whole picture of each cost structure (Callioni et al, 2005). It could help HP's managers to choose the lower cost option. For example, without considering IDC, the staffs may only draw attention on finding the suppliers with lowest price. But then, they may have to pay more on material devaluation for the inventory in transit pipelines (Slagmulder and Van Wassenhove, 2004).

In addition, by breaking down each metric of IDC of different products, it is straight forward to see which cost contributed to IDC most (Callioni et al, 2005). For example, in table 2, product A has a serious problem on price dropping after products shipping to resellers. For product B and C, the major issue is material devaluation. The main goal for these two products should be lower down the inventory of the components to avoid the value lost.

Shortcoming

One of the disadvantages for IDC was that it did not include the opportunity cost of lost sales. Although due to becoming a low-margin market for PC industry, the strategy of HP was rather losing some sales than holding too much inventory on hand.

Sometimes the total cost with IDC for different scenarios may not have a huge difference. Even more, one of the scenarios may have a better performance comparing to the other. It does not always mean that the one with lower cost is a better solution. The company should not make the decision only rely on the measure of IDC. It may need further consideration.

How to improved

In the gaming test, it is founded that the obsolescence costs may be controlled by people. It is better for HP to have a regular period for reviewing products and decided whether to write-down or not. It does not have to be right before any major event, such as shareholder meeting. By fixing a date, it could avoid anyone to gaming on it.

Besides, HP expects itself to have a more complete supply chain cycle. It means that they focus not only on the traditional supply chain progress, but also on the process and service level of the extended flow, such as after sales and remarketing (Slagmulder and Van Wassenhove, 2004). It is suggested that HP could put some effort on reverse logistics. The definition of reverse logistic was defined by Reverse Logistics Association (2009), " All the activity associated with a product/service after the point of sale, the ultimate goal to optimize or make more efficient aftermarket activity, thus saving money and environmental resources". The costs related to reverse logistics are far different from the forward one. Also, the methodologies of demand (volume) forecast are different. The formula may need to change and the measurement design template should also be reviewed.

The integration of supply chain and aligning with strategic priorities (based on case material)

IDC led to many strategies in HP: Build-to-order (BTO) in 1994, Channel Replenishment (CR) in 1998, Supplier-Managed Inventory (SMI) in 1998, and International Direct Ship (IDS) around 1998 to 1999 (Slagmulder and Van Wassenhove, 2004). These strategies all create improvements for HP's supply chain network and make it more efficiency.

For the upstream of the supply chain, HP switched from BTS production to BTO production, in order to improve the performance of IDC. The manufacturer operation, therefore, changed from push process to pull process. This change made HP put more attention on the inventory of raw materials and work-in-progress goods, which needed work closer to its suppliers. In order to obtain a more reactive data to achieve BTO production, HP determined to accelerate the frequency of the evaluation of " net requirements" from monthly to weekly.

Material devaluation and excess/obsolescence were two of the cost elements under IDC. For controlling the impact of these two elements further, HP took two actions: first, adopting just-in-time and asking suppliers to move closer to its factories; second, using standard parts in its product design. The result of first action was obvious. It decreased the inventory level of material and subassembly parts. Therefore, the impact of devaluation was also lower. Due to the adoption of just-in-time process, there would not be too many excess inventory needed to be write-off. As for the second action, because the inventory parts were generic, the issue of obsolescence would no longer exist. The parts in stock could be easily consumed by other product lines.

Regarding the downstream of HP's supply chain, it implemented an IT link system between itself and its channel partners. This system allowed HP to track the stock level at the resellers and channels locations. It also provided the information of production plan, sales order and backlog, which could help HP established CR project. CR project was implemented with HP's all first-tier resellers and parts of its second-tier resellers. The reason for implementing CR was also to improve the performance of IDC. Before IDC launched, the

cost of inventory was hidden by shipping the goods to resellers' locations. It ignored the price protection costs and excess costs which could cause a serious profit erosion issue.

Within the internal of the company, IDC would be valuable for product designers making decisions. They now were more aware of the consequences of their designs and costs. They would learn to evaluate product cost not only by material cost and shipping cost, but also price protection, material devaluation, and so on.

Under a high competitive market, HP's Mobile Computing Division (MCS) decided to redesign its supply chain network. It used IDC method to provide them a more comprehensive understanding of the costs of different network options. Finally, it decided to use one manufacturing factory to serve its worldwide customers without lowering its service level. The products would be shipped to its customer directly.

Conclusion

IDC has worked quite well during these years, but market keeps changing dramatically, especially recent years. The margin for PC industry keeps dropping. The appearance of smart phone and tablet has brought traditional PC and notebook industry a new challenge. How IDC could make HP continually improve would be the primary part for observation.