##### Chapter 1

**Purchasing and Supply Management**

**Chapter Outline**

Purchasing and Supply Management

*Supply Management Terminology*

*Supply and Logistics*

The Size of the Organization’s Spend and Financial Significance

Supply Contribution

*The Operational versus Strategic*

*Contribution of Supply*

*The Direct and Indirect Contribution*

*of Supply*

The Nature of the Organization

Supply Qualifications and Associations

Challenges Ahead

*Supply Chain Management*

*Measurement*

*Risk Management*

*Sustainability*

*Growth and Influence*

*Effective Contribution to Organizational*

*Success*

The Organization of This Text

Conclusion

Questions for Review and Discussion

References

Cases

*1–1 Denniston Spices*

*1–2 Erica Carson*

##### Chapter 1 Purchasing and Supply Management Quiz Instructor Manual

|  |  |  |
| --- | --- | --- |
| C |  | Supply decisions effect:1. the income statement.
2. the balance sheet.
3. the income statement and the balance sheet.
4. neither the income statement nor the balance sheet.
5. none of the financial metrics.
 |
| B |  | On average, the dollars spent with suppliers as a percent of revenues is:  1. about equal in service organizations and manufacturing.
2. greater in manufacturing than in service organizations.
3. greater in service organizations than in manufacturing.
4. depends on the type of manufacturing process.
5. depends on the type of service.
 |
| C |  | The role of supply management is best captured by the following question:1. how can supply help suppliers decrease costs?
2. how can supply and suppliers help decrease costs?
3. how can supply and suppliers help decrease costs and increase revenues?
4. how can supply help decrease costs and increase revenues?
5. how can supply help decrease costs?
 |
| D |  | To contribute to organizational strategy, the supply department should: 1. meet expectations of internal customers.
2. execute current tasks as designed.
3. routinize and automate transactions.
4. seek opportunities to provide competitive advantage.
5. streamline the process.
 |
| E |  | The impact of supply management actions on the inventory asset base and the balance sheet is measured by the: 1. return on investment (ROI).
2. return on inventory (ROI).
3. inventory turnover (IT).
4. profit leverage effect (PLE).
5. return on assets (ROA) effect.
 |
| A |  | Performance of the supply management function can be viewed in two contexts: 1. operational and strategic.
2. operational and transactional.
3. operational and trouble-avoidance.
4. strategic and opportunistic.
5. strategic and future-oriented.
 |
| A |  | The profit-leverage effect of supply savings means that:1. a reduction in purchase spend increases profit more than an equal sales increase.
2. effective price negotiations with a supplier will lower the supplier’s profits.
3. the buyer gains leverage over suppliers when purchases are standardized.
4. efficient supply management processes will increase profits.
5. a reduction in money tied up in inventory improves profits.
 |
| B |  | As supply chains have become more global, the risk of supply disruptions has: 1. increased because other countries lack the business ethics of the U.S.
2. increased because of financial and exchange rate fluctuations.
3. stayed the same because the issues are similar wherever suppliers are located.
4. decreased because risk is spread among suppliers all over the world.
5. decreased because there are global standards for labor and safety.
 |
| E | 9. | Supply management may **indirectly** contribute to the organization’s competitive advantage by:1. reducing assets tied up in inventory.
2. reducing annual spend.
3. reducing prices paid to suppliers.
4. increasing sales to customers.
5. improving process efficiency.
 |
| D | 10. | A systems approach to managing the flow of information, materials, and services from tiers of suppliers through the buying organization to tiers of customers is:1. MRO management.
2. purchasing.
3. inventory management.
4. supply chain management.
5. strategic sourcing.
 |

True and False

|  |  |  |
| --- | --- | --- |
| T |  | Supply is of great consequence in most manufacturing organizations since the costs of purchased materials and services greatly exceed labor and other costs.  |
| T |  | Public institutions are service providers with many regulatory requirements regarding acquisition policies and procedures.  |
| F |  | Sustainability initiatives include the effective and efficient capture and disposal of upstream products from suppliers and an increase in the impact of the organization’s supply chains on the natural environment. |
| F |  | There is one best way for all organizations to organize and manage the supply function, conduct activities, and effectively integrate suppliers. |
| F |  | One of the most important steps in achieving the potential of the supply function is hiring someone from outside of the company’s industry into the top supply position. |
| F |  | Supply management has evolved from a process-oriented, strategic function to a transaction-based, tactical function. |
| F |  | Reductions in inventory investment primarily come from getting users to reduce their demand for inventoried items.  |
| T |  | Supply makes a significant contribution to organizational risk management since many supply decisions have downside risks that might impact the organization’s strategy. |
| T |  | The true test of supply’s contribution is when the chief executive officer and the management team recognize that supply and suppliers are critical to organizational success and competitive advantage. |
| F |  | Terms such as purchasing, procurement, supply, supply chain and logistics have standard definitions that are widely used across sectors and industries. |

Case 1-1: Denniston Spices

Teaching Note

IMMEDIATE ISSUE

Develop an inventory build plan that balances stock-out risks with inventory holding and inventory spoilage costs.

**BASIC ISSUES**

* Forecasting and planning
* Risk management
* Total cost of ownership analysis
* ABC analysis

**SUGGESTED STUDENT ASSIGNMENT**

1. As Amy Lin, what is your analysis of the situation at Denniston Spices?

2. What recommendations would you make to Kevin Sherman regarding the inventory build of products supplied from Whittingham Foods and why?

**POSSIBLE DISCUSSION QUESTIONS**

1. How relevant is the data from 2012 and 2013? Are you prepared to use it?

2. How would you weight the costs of stock-outs versus inventory spoilage?

3. Do you think it is reasonable for Whittingham Foods to pre-ship three months of inventory?

4. Why should Denniston Spices accept all the risks of stock-outs and inventory spoilage?

5. Is there any other data that would want before making a recommendation?

6. Where are you going to store the inventory and who is going to be responsible?

**ANALYSIS**

This is a difficult situation without any easy answers. The first place to start is with the data provided in Exhibit 1 in the case to see if it provides any clues regarding what Amy Lin should be doing. Exhibit TN1 shows provides analysis of the data in the case exhibit. The first column (Mean) provides the average demand for the five months of data in 2012 and 2013. The second column simply uses the mean to establish a three month estimate, and the third column (cost), shows the value of the purchases for three months using the mean × cost/lb. The fourth column (STDEV), shows the standard deviation of demand. This analysis shows high variance caused by the wide fluctuations in demand. The case alludes to the fact that unusual events (merger, expansion and a special project) distorted the data.

I also used the data to calculate safety stock estimates using 2 × the standard deviation + mean. These data are provided in columns 5-11. Column 7 shows three months of safety stock inventory using the standard deviation data and column 8 shows the difference between column 7 and column 1. Column 11 (3 mon/M) shows the number of months of safety stock based on two standard deviations divided by the mean (column 1). The ranges in column 11 are 8-12 months, all far above the shelf lives of the products.

It would appear that historical demand provides little useful data on which to forecast demand. The option to say “we don’t know” and throw the problem back to the supplier is not reasonable. There are plenty of examples of companies that have underestimated the supply chain problems created by ERP system implementations (see the references provided below for Hendricks and Singhal (2003) and Wailgum (2014)). Whittingham Foods is being proactive and coming to us early with a potential problem and we need to provide them with a forecast.

This is a situation where supply needs to work closely with sales to put a plan together. This is a situation where actively involving sales to put together a forecast is essential. A good place to start would be to do ABC analysis of Denniston’s customers. Focusing on the A customers, sales can contact them in order to find out what they are projecting in terms of demand during the period in question.

From Amy’s perspective, she should be focusing on the A products. For example total purchases for W9456 were $6,624 last year versus $1.5 million for W9451. Spending a lot of time on C items does not make sense. In 2013, total purchases of the eight products were approximately $3.0 million, of which two items (W9450 and W9451) represented 80% of the total costs – a textbook example of the 80/20 rule. Amy can ask sales, during their conversations with customers, to collect data for the A items. This information should help establish a range for the critical products in terms of volume and spend. Overstocking slightly on the B and C items would not be the end of the world, both in terms of carrying and spoilage costs.

Logistics Issues

An issue not specifically raised in the case, but should be discussed in class, is arrangements for storage. It is reasonable to assume that Denniston Spices does not have the ability to store an additional three months of inventory. A further question is whether Denniston Spices should be responsible for the inventory, or should Whittingham Foods be making these arrangements.

An option would be to negotiate an arrangement with Whittingham Foods for a vendor managed inventory agreement, where the supplier would take responsibility for inventory storage, including ownership. This would not preclude the need for a forecast, but would take the logistical and financial responsibility from Denniston Spices, including costs of inventory spoilage. Amy might decide to have Denniston Spices take responsibility for the approximately 240 B and C items, leaving the supplier with approximately 60 A items.

**REFERENCES**

Hendricks, K.B. and V.R. Singhal, “The effect of supply chain glitches on shareholder wealth,” *Journal of Operations Management*, vol. 21, no. 5, 2003, p. 501-522.

Wailgum, T., “10 famous ERP Disasters, Dustups and Disapointments,” CIO, March 24, 2009, <http://www.cio.com/article/486284/10_Famous_ERP_Disasters_Dustups_and_Disappointments>, accessed February 5, 2014.

**Exhibit TN 1**

**Analysis of Monthly Demand Data**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Mean (M) | 3 × M | Cost | STDEV | 2 × stdev | M + 2stdev | 3 Months | Difference | Cost | $ Difference | 3 mon/M |
|  |  |  |  |  |  | M + 2stdev | 2 stdev - M |  | 2 stdev - M | 2stdev/M |
| 103 | 310 | $27,918 | 61 | 226 | 329 | 988 | 678 | $88,949 | $61,031 | 10 |
| 3,036 | 9,107 | $819,666 | 2,978 | 8,992 | 12,028 | 36,084 | 26,976 | $3,247,551 | $2,427,885 | 12 |
|  |  |  |  |  |  |  |  |  |  |  |
| 3,284 | 9,851 | $1,921,023 | 1,508 | 6,300 | 9,584 | 28,751 | 18,899 | $5,606,419 | $3,685,396 | 9 |
| 2,589 | 7,768 | $1,514,799 | 1,024 | 4,637 | 7,226 | 21,678 | 13,910 | $4,227,153 | $2,712,354 | 8 |
|  |  |  |  |  |  |  |  |  |  |  |
| 758 | 2,275 | $147,849 | 202 | 1,161 | 1,920 | 5,759 | 3,484 | $374,335 | $226,486 | 8 |
| 371 | 1,112 | $72,267 | 104 | 579 | 950 | 2,849 | 1,737 | $185,169 | $112,902 | 8 |
|  |  |  |  |  |  |  |  |  |  |  |
| 301 | 904 | $99,396 | 102 | 506 | 807 | 2,422 | 1,518 | $266,426 | $167,030 | 8 |
| 1,291 | 3,872 | $425,898 | 846 | 2,982 | 4,272 | 12,817 | 8,946 | $1,409,921 | $984,023 | 10 |
|  |  |  |  |  |  |  |  |  |  |  |
| 51 | 154 | $36,237 | 4 | 60 | 111 | 334 | 180 | $78,423 | $42,186 | 6 |
| 26 | 78 | $18,330 | 29 | 84 | 110 | 330 | 252 | $77,623 | $59,293 | 13 |
|  |  |  |  |  |  |  |  |  |  |  |
| 6 | 17 | $1,131 | 8 | 23 | 28 | 85 | 68 | $5,553 | $4,422 | 15 |
| 426 | 1,279 | $83,148 | 174 | 774 | 1,201 | 3,602 | 2,323 | $234,148 | $151,000 | 8 |
|  |  |  |  |  |  |  |  |  |  |  |
| 48 | 144 | $17,280 | 49 | 146 | 194 | 581 | 437 | $69,689 | $52,409 | 12 |
| 18 | 55 | $6,624 | 15 | 49 | 67 | 202 | 147 | $24,210 | $17,586 | 11 |
|  |  |  |  |  |  |  |  |  |  |  |
| 74 | 221 | $26,568 | 63 | 199 | 273 | 819 | 597 | $98,248 | $71,680 | 11 |
| 56 | 169 | $20,304 | 56 | 169 | 226 | 677 | 508 | $81,244 | $60,940 | 12 |

Case 1-2: Erica Carson

Teaching Note

IMMEDIATE ISSUE

What action would you take on Killoran’s attempt to secure some check printing business?

BASIC ISSUES

1. Purchasing for a service organization.

2. The price, quality, delivery, service trade-off.

3. Supplier selection and splitting of business.

4. The purchase of services.

5. Treatment of unsolicited proposals from suppliers.

SUGGESTED STUDENT ASSIGNMENT

If you were in the position of Erica Carson, what action, if any, would you take regarding Killoran’s bid?

SUGGESTED QUESTIONS FOR DISCUSSION

1. What importance is the check printing to the bank?

2. How would you do a cost analysis on a check printing order?

3. How would you evaluate a supplier of check printing for this bank?

4. How many suppliers are desirable for check printing?

5. What alternatives are open to Erica Carson here?

6. What action will you take? Why?

DISCUSSION

Erica Carson’s first objective must be to assure that the flow of printed checks continues uninterrupted and with high quality to the bank’s customers. A delay in check forms may well mean that the customers do not use the bank’s services and create frustration on their part. Misspelled names and addresses would also cause customer frustration and reflect on the bank’s image of reliability. Since each printing order is a small custom job, special attention to detail and rapid service are of vital concern here as compared to price. It is reasonable to assume that courier charges paid by the two current suppliers are significant. The recent cost study also showed that prices paid to suppliers were fair and that their cost performance was in line. Given this background, the low bid by Killoran becomes suspect.

###### KILLORAN’S BID

As long as Killoran’s bid is unsolicited and unofficial it falls into a very special category. It seems clear from the case that Killoran’s low price is an attempt to gain at least part of the check writing business. It also appears clear that Killoran’s recovery of its costs would have to come from their promotion of “scenic checks”. What is it that Killoran proposes to do with our customers that our current printing firms are not doing? Is there a possibility that they may pursue our customers more aggressively? Is there any possibility that they might turn-off some of our existing customers? Is there also a possibility that they might be charging more for scenic checks than our current suppliers to make up for the losses on the regular check business? Provided that the answers to the above questions are not negative, there might be an advantage to our bank of having more scenic checks sold. This would mean that we would not have to pay for the standard personalized checks and it might help cut down on our annual commitment of $8 million per year. If one third of our customers who are currently using standard personalized checks would be switched to scenic checks, this might represent a saving of $2.7 million dollars per year. If such an opportunity realistically exists, perhaps the bank itself should be investigating ways and means of accomplishing this. Leaving it to a printing supplier to accomplish this task might not be in the bank’s best interest.

Purchasing personnel are always bombarded by unsolicited, unofficial quotations. How to handle these “feelers” is part of the good buyer’s art. Unless a supplier is willing to commit on paper the details of an offer it can only be assumed as non-existent. If Killoran represents a reasonable source, perhaps they should be given a chance to quote on the next round. No new suppliers such as them should be given a significant round of business until they have proven they can handle all the intricacies very well. Thus, it could be several years at least before they could be considered a sound and proven supplier.

The one exception to the above remarks deals with the possibility that Killoran might have more advanced equipment, or better systems, to handle this type of work. If so, the question can be raised as to why they were not selected for this kind of work before. Also, what was the quality of our cost analysis study that it did not reveal this kind of information?

If buyers started giving business to every supplier who came in with a low or unofficial quote, the world would be full of disappointed buyers. It is normally understood that a supplier, to take away business from well performing and established suppliers, must make it attractive enough for the buyer to switch. The easiest way to draw a buyer’s attention is with a low price. Only when that price appears to have a longer time horizon attached to it, and the back-up of all of the appropriate services necessary to satisfactory completion of the order, should the supplier be seriously considered.

In this case the service aspect is at least as important as the printing of the checks. Faultless electronic transmission of data, security, rapid response and high quality printing to assure proper machine reading of checks are all part of a complex requirement in which supplier reliability and trust are vital.