CIPS KNOWLEDGE

Demand Management

Demand management is a complex and multidimensional task, requiring much more than simply making consumer sales data available to the whole chain (Taylor and Fearne, 2006)

This knowledge paper is supportive of Procurement professionals operating at Professional level of the CIPS Global Standard

01 CPD HOURS

CIPS members can record one CPD hour

Demand management

Introduction

Management of demand is increasingly recognised as a key issue in improving the efficiency of supply chain operations (Croxton et al., 2001). It balances customer requirements with the capabilities of the supply chain (Lambert, 2008). Demand management requires the coordination of many activities, including demand forecasting, reducing variability, increasing flexibility and synchronising supply, demand, production, procurement and distribution (Lambert, 2008; Vollmann et al., 2004).

An important consideration in demand management is the type of demand: independent or dependent. Independent demand is influenced by the market conditions and is not related to production decisions. It can be estimated and usually demonstrates a continuous and definable pattern. Discontinuous dependent demand can be forecasted and depends on product decisions for its components (CIPS: Demand planning).

Work in the area of demand management has been done in both the academic and practitioner fields, with the main focus on how to improve demand management. Other areas include early work on demand amplification by Forrester (1958) and Burbidge (1961), and more recent initiatives in 'Efficient Consumer Response' (ECF) (Corsten and Kumar, 2003) and 'Collaborative Planning Forecasting and Replenishment' (CPFR) (Seifert, 2004).

Definition

Demand management is a process within an organisation which "enables that organisation to tailor its capacity ... to meet variations in demand or ... to manage the level of demand using marketing or supply chain management strategies" (CIPS: Demand planning:2).

Successful Application

Demand management implementation often faces a few common challenges. One of them is the 'poor understanding of automated algorithms', in other words a poor understanding of how the parameters have been set in long implemented replenishment systems. Another challenge is a 'tricky art and science balancing act'. For example, the top 50 global brands including Procter & Gamble and Unilever invest more than $100bn annually in trade funds to promote sales of their merchandise. Their account teams work with retailers to create complicated demand modelling to determine the timing, level, and location of promotions. For those who only plan to implement collaborative demand forecasting issues setting these processes can be challenging. Finally, there are 'elusive and uncoordinated demand signals'. Manufacturers often like to use detailed point of sale (POS) data to match the rate of production to demand. But in reality fewer than one in five manufacturers has any data structure or an established process for receiving, storing and using point of sale data from retailers (Lawrie, 2007b:2).

Steps to Successful Application

- Define relevant data required to manage demand, followed by systematic and accurate recording of this data.
- Undertake demand assessment and explore the ways it can be synchronised more effectively with supply.
- Establish long term commitment and planning.

- Strategically assess promotional activity and its impact on the variability of demand. In most chains end-user demand is the least variable element of demand within the supply chain. This analysis can give an indication of the real costs and problems if the policy is to be continued.
- Perform tactical planning and execution of the demand management strategy, paying particular attention to the 'micro-management' of demand (e.g. daily order patterns within the weekly trading cycle, timing of order transmission between retailers and processors).

Taylor and Fearne (2006)

Hints and Tips

- Transparent allocation and replenishment is important for promoting confidence and facilitating continuous improvement when reserving manufacturing, transportation and warehousing capacity and allocating inventory in the supply network to meet expected demand (Lawrie et al., 2007b).
- Inaccurate forecasting can have a negative impact on supply chain efficiency. Therefore, it is important to understand strategies that reduce such inefficiency and the success of demand management (Katz et al., 2003; Taylor and Fearne, 2006).
- To implement demand management effectively, firms must understand the effect of supply chain service parameters on system-generated replenishment orders, together with the capacity of their supply networks and the impact of each item's demand velocity and handling characteristics (Lawrie et al., 2007b).
- There is a need for collaborative demand forecasting, where firms reach a consensus, both internally and with their value chain partners on the expected level, timing, mix and location of demand. This data should form a common foundation for merchandising, logistics and budgeting processes (Lawrie, 2007b).
- To meet financial goals companies need to monitor their sell through rate against their forecasts, and use pricing and promotions to stimulate demand (Lawrie et al., 2007b).

Potential Advantages

- Successfully anticipating and planning demand can provide competitive advantage (CIPS: Demand planning).
- Improvement of demand forecasting is a key factor for improving supply chain operations (Aghazadeh, 2004).
- Demand management can generate revenues by behaving proactively and driving the market through proactive approach (Canever et al., 2008).

Performance Monitoring

- Forecasting assessment, e.g. changes in forecasting frequency (Lawrie et al., 2007b).
- Assessment of allocation and replenishment (Lawrie et al., 2007b).
- Assessing demand shaping: e.g. changes in efforts to improve data quality for demand shaping (Lawrie et al., 2007b).

Case Studies

- The Campbell's Soup winter promotion became a famous example of inefficient demand management. The marketing department of the company decided in the winter to promote its chicken noodle soup, predicting a seasonal spike in demand. However, Campbell's failed to meet the demand because there was no capability or stock in place to meet it. As a result the cost of

access production and inventory requirements exceeded revenue from sales (Simchi-Levi et al., 2002).

- Zara achieved a sales growth of 20% between 1991 and 1997 and scored the highest among its competitors with a profit margin of 10%. The company made extensive use of sales and demographics data to create new products on a rolling basis, priced its products aggressive- ly, and quickly made products obsolete in response to market signals. Zara's Demand-Based Management sophistication enabled it to introduce new products every week, or 12,000 new products annually (Lee, 2001).
- In the mid-90s, Volvo had an excessive inventory of green cars in the middle of the year. To alter this inventory, its sales and marketing group decided to offer special deals and dis- counts on green cars to distributors. Sales increased, causing the supply chain planning group to make a decision to increase the production of green cars to meet mounting demand. As a result Volvo was left with a huge inventory of unsold green cars, because its team did not recognise that the increase in sales was caused by deals, not the fact that customers finally liked green cars (Lee, 2001).

Further Reading/References

CIPS Source Downloads

- CIPS: Demand planning

Web Resources

- Demand management as IT area (includes discussion) ://blogs.msdn.com/b/nickmalik/archive/2010/08/12/when-demand-management-is-confused-with-alignment.aspx
- A New Model for IT Demand Management ://www.cio.com/article/144850/A_New_Model_for_IT_Demand_Management
- Lessons in Demand Management https://scm.ncsu.edu/scm-articles/article/lessons-in-demand-management

Books

- Demand Management Best Practices, Crum & Palmatier, ISBN 978-1932159011
- Demand Management with SAP, Foti & Chimni, ISBN 978-1592292677
- Matching Supply with Demand, Cachon & Terwiesch, ISBN 978-0071263313
- Sales Forecasting Management, Mentzer & Moon, ISBN 978-1412905718
- Service Parts Management, Altay & Litteral, ISBN 978-0857290380

References

- Aghazadeh, S. (2004) Improving Logistics Operations Across the Food Industry Supply Chain.
- International Journal of Contemporary Hospitality Management, Vol.16(4), pp.263-268.
- Burbidge, J.L. (1961) The New Approach to Production. Production Engineer, Vol.40(12), pp.769-784.
- Canever, M.D., van Trijp, H.C.M. and Beers, G. (2008) The Emergent Demand Chain Management: Key Features and Illustration from the Beef Business. Supply Chain Management: An International Journal, Vol.13(2), pp.104-115.
- CIPS: Demand Planning.
- Corsten, D. and Kumar, N. (2003) Profits in the Pie of the Beholder. Harvard Business Review, May.
- Croxton, K.L., Garcia-Dastugue, S., Lambert, D. and Rogers, D. (2001) The Supply Chain Management Process. The International Journal of Logistics Management, Vol.12(2), pp.13-36.
- Forrester, J. (1958) Industrial Dynamics: A Major Breakthrough for Decision Makers.
- Harvard Business Review, July-August.
- Geary, D., Disney, S. and Towill, D.R. (2006). On Bullwhip in Supply Chains: Historical Review, Present Practice and Expected Future impact. International Journal of Production Research, Vol.101(1), 2-18.
- Holweg, M., Disney, S., Holmstrom, J. and Smaros, J. (2005) Supply Chain Collaboration: Making Sense of the Strategy Continuum. European Journal of Management, Vol.23(2), pp.170-181.
- Katz, J., Pagell, M. and Bloodgood, J. (2003) Strategies of Supply Communities. Supply Chain
- Management: An International Journal, Vol.8(4), pp.291-302.
- Lambert, D. (2008) Supply Chain Management: Processes, Partnerships, Performance.
- Supply Chain Management Institute.
- Lawrie, G., Leaver, S. and Gaynor, E. (2007a) Case study: A North American Grocery Chain Adopts Transparent Allocation and Replenishment. Forrester Research. October 16th.
- Lawrie, G., Leaver, S. and Gaynor, E (2007b) Best practices: Demand Management. September 13th. [online] Available at: (www.justenough.com/pdf/Forrester Best Practices Demand Management 2007-10-26.pdf) [Accessed 14 November 2011].
- Lee, H.L. (2001) Ultimate Enterprise Value Creation: Using Demand-based Management.
- Stanford Global Supply Chain Management Forum, SGSCMF- W1-2001, September [online]Available at: (www.gsb.stanford.edu/scforum/documents/Ultimate_Ent_Value_Creation_whtppr.pdf) [Accessed 14 November 2011].
- Seifert, D. (2004) Collaborative, Planning, Forecast and Replenishment: How to Create a Supply Chain Advantage. AMACOM: New York, NY.
- Simchi-Levi, D., Kaminsky, P. and Simchi-Levi, E. (2002) Designing and Managing the Supply Chain: Concepts, Strategies, and Case Studies, 2nd ed. Irwin.
- Taylor, D.H. and Fearne, A. (2006) Towards the Framework for Improvement in the Management of Demand in Agri-food Supply Chains. Supply Chain Management. An International Journal, Vol.11(5), pp.379-384.
- Vollmann, T., Berry, W. and Whybark, C. (2004), Manufacturing Planning and Control Systems, 5th ed., McGraw-Hill: New York, NY.

Video

- GE Energy demand management
  ://www.youtube.com/watch?feature=player_embedded&v=wtP2sCb9nHk