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Achieving Superior Delivery Chain Management

The Role of the Data Warehouse in Building Customer Knowledge

By David Fenton

Delivery Chain Management (DCM) is more than the latest buzzword for managing customer relationships. Simply put, Delivery Chain Management is a strategy for interactively managing your customers and prospects at every touchpoint to create value, one customer at a time. As a discipline, DCM is an effective way to capture and use customer information to improve the way an organization does business. By helping to manage and leverage the knowledge gained during every customer interaction – whether it's through sales, marketing, fulfillment or service – DCM can become an organization's most powerful strategic tool.

One of the requirements for achieving superior DCM is the establishment of a planned, consistent interface with customers. DCM is about treating all customers appropriately to attract and retain the right customers for life. That may mean giving your best customers incentives to continue to do business with you.

The caveat? To make these kind of decisions, you must first know who your customers were, are and who they are going to be. You need to understand the buying patterns of your customers – to know what and how often they buy, where they live, what they need and how they think.

To understand your customers, you must be able to integrate data about your customers that is captured at various points in your organization. The data must be captured, reconciled and consolidated across business processes. No other infrastructure enables organizations to achieve this integrated view of their customers like the data warehouse. Consequently, the data warehouse is a requirement for superior

Delivery Chain Management. It's not an option. It's a must.

Why Delivery Chain Management?

Before understanding the role of the data warehouse in DCM, it is helpful to look at just what DCM is and how the delivery chain fits within the structure, mission and processes of an organization. In other words, why should we care about DCM?

DCM drives customer loyalty and profitability. In managing the delivery chain, organizations are managing their customers of the future. Whether the future is tomorrow, or six months or three years away, DCM is essential for helping organizations give customers what they want today and for understanding what they are going to want tomorrow.

From the perspective of process, DCM is one half of an organization's interactive value chain. Everything a company does to procure and manage its resources in an effort to build and deliver quality products and services can be represented by the interactive value chain (Figure 1). The value chain links the supply side of the equation, which has traditionally commanded much of an organization's focus, with the delivery side of the equation, an area that has historically been more mysterious.

For most organizations, a focus on managing the delivery side of the equation involves a strategic shift. Over recent decades, companies have focused on reducing operating costs by automating back office processes such as HR, financial management and materials management. Optimization of processes has come in the form of improving the manufacturing environment so that products go to market faster, with more

features and at a lower cost.

Optimize the supply chain. Improve cycle time. That, we thought, was the secret to success.

However, as a result of fundamental economic shifts – increased competitiveness, globalization, increased customer knowledge, increasing time pressures on the consumer – many organizations have realized that this traditional approach needs some modification. In response, they have begun focusing on the other component of their value chain – delivery – which adds value to the customer.

The Links of the Delivery Chain

Managing the delivery chain means managing the components that make up that delivery chain. In most organizations, the key components of the delivery chain are marketing, sales, service and fulfillment.

Marketing. The role of marketing within the delivery chain has changed. Marketing's purpose as a function within the delivery chain is to generate sufficient information to answer the question, "What products or services do our customers want to buy?" No longer concerned with pushing products out into the marketplace, marketing must now draw customers to products.

Traditional marketing activities – research, strategy, planning, collateral development, lead generation – are all done in vain if marketing can't effectively identify the organization's current and future customers, segment them, forecast accurately against those segments and inform the product development process so that the right product mix arrives in the marketplace at the right time for the right customer groups.



Sales. With every purchase, customers provide valuable information that can be captured and fed into the data warehouse and then accessed for decision-making purposes across the delivery chain. The sales function, therefore, plays an important role in gathering information that can be leveraged across the delivery chain. In addition to the purchase, the sales function also encompasses product and information requests, surveys, complaints and complaint resolutions. All of these interactions bring with them data – data that can be utilized by marketing to inform the organization about its current customers and to help shape offerings to the customer of the future.

With a mutually beneficial long-term relationship between the company and the customer as the number one objective of sales, a salesperson is best prepared for customer interactions when an account history, a forecast and detailed information about the prospect or customer is available. The data warehouse is a powerful tool for supporting this objective. By accessing information generated at each point in the delivery chain and stored in the data warehouse, sales can leverage customer information to construct offers tailored specifically to customer wants and needs. This positions the salesperson with the best chance for mutually profitable business – a win for the salesperson, the customer and the organization.

Fulfillment. During fulfillment, the promise an organization has made to the customer is either fulfilled or broken – the product is delivered, the utility is turned on or the software is enabled. In this way, fulfillment is the yardstick by which customers measure organizational performance. The difference between fulfilling or breaking a pledge can mean the difference between lost business and a lifetime customer.

The unique transaction that takes place during fulfillment – when completed to the satisfaction of the customer – offers additional potential for the organization. The fulfillment function offers significant opportunities for cross-selling and upselling to satisfied customers. If customers are happy with the organization's service or product, there is no

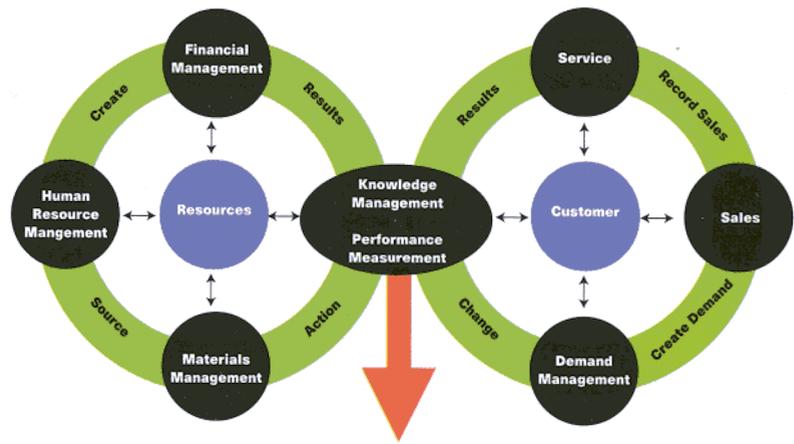


Figure 1: The interactive value chain is comprised of the supply chain and the delivery chain.

better time to sell additional services or products to complement and enhance what the customer just purchased.

Regardless of whether the customer is satisfied or dissatisfied, information on how well the organization delivered on its pledge must be captured and leveraged across the delivery chain. Effective use of this information helps to ensure that customers are treated appropriately and that future business is tailored effectively to specific customer groups. A data warehouse is an excellent tool to leverage fulfillment information.

Using the data warehouse, the organization can track performance against each customer segment. This information is critical to the evaluation of an organization's relationship with a particular customer group over time. More importantly, this information can help the organization identify strategies for future interactions with its customer groups.

Service. Like marketing, sales and fulfillment, the service function offers vast opportunities for collecting and disseminating customer information. Data gathered within the service function includes complaints and resolutions, frequency of problems, problem types, time to resolve, and so on. Using this information, organizations can effectively tailor responses to customers in all of its customer groups.

Information generated at other points along the delivery chain is also critical to assisting service representatives in tailoring their customer responses. Customer profiles, developed in marketing and fed through the delivery chain to fulfillment, provide

the service representative with the information required to ensure the proper and consistent treatment of every customer segment.

Achieving Superior Delivery Chain Management

Business Process Integration

If it seems like sales, marketing, fulfillment and service are all tightly linked in terms of sharing customer information, that's because they are. This integration of business processes is what makes delivery chain management work. By integrating business processes with customer information, an organization can achieve superior DCM.

Integrated business processes are defined as processes that don't duplicate, that don't operate in isolation and that are designed not only to fulfill their basic function, but to capture information used by other business functions as well. Integrated processes share the goals of:

- Eliminating redundancy,
- Achieving common objectives, and
- Generating and sharing information pertinent to the entire organization.

In an organization with tightly integrated business processes, the individuals within every business function understand how customers are segmented by their value to the business. They also understand what the organization's relationship is to those customer segments. Because every business function is capturing some kind of customer information during each customer interaction and because that information resides in one place – the data warehouse – it can be leveraged by the business repeatedly, over time and



across departments. The result is consistent and appropriate treatment of individual customers at every touch-point in the organization.

The data warehouse is a requirement for the integration of business processes. Decision makers across the organization rely on applications that display timely, accurate information – route planning, profiling, forecasting, procurement, and so on. In order for users to receive consistent and accurate customer information – no matter what business function they work within – their core applications must:

- Pull data from a single source – the data warehouse,
- Have the functionality that allows for information sharing among departments, and
- Allow for the execution of forecasted customer interactions.

Information Economics

If achieving integrated business processes requires that the data supporting those processes be integrated as well, then the first step is to uncover just what information must be integrated, associated costs and expected return on investment. To obtain this information, the organization must perform an information economics assessment.

An information economics assessment asks, “What is the return on investment I can expect from the utilization of integrated information?” It is comprised of the following components:

- Business Process Review
- Informational Element Definition
- Information Element Flows
- Information Outputs
- Cost of Implementation
- Financial Projection
- Environmental Analysis Overview

The exercise of identifying these components is very useful to the organization in revealing the cost and expected return. Once this assessment is complete, the organization will have accumulated the best information available for determining the potential value associated with the integration of its business processes. In the end, it is not a question of whether it is easy or difficult to achieve – it is a question of return on investment.

An Integrated Customer Profile Historical View

Once an organization has decided that it is worth the investment to integrate its business processes, work can begin in earnest. There are some basic attributes that many organizations do not know about their customers – for example, which customers provide the most revenue?

The answer is usually buried in legacy financial systems, systems that were historically designed to perform transactions – flow money, create bills, generate profit and loss statements. The IT infrastructure has generally not been designed to answer the question, “Who are my best customers?” As a result, the majority of companies in business today cannot quickly or consistently identify with whom they are doing business. Categorical analysis and grouping on basic demographic and geographic characteristics cannot be employed, and customer profiling is difficult to impossible.

But before the question “Who are my most profitable customers?” can be answered, the organization must address cost. An exercise in understanding and consolidating cost information associated with acquiring or improving IT infrastructure has to occur. Only after that cost information is consolidated can the organization continue to pursue the development of an integrated customer profile.

Once the customer analysis activities are completed, the organization will have a historical snapshot of its customers, or customer profiles. It has all the information needed to understand customer purchasing patterns, but still missing is the answer to a very important question: What will the customer buy next? Developing an understanding of customer purchasing potential is the next step in achieving a superior Delivery Chain Management organization.

Realization of Potential

The data resulting from the organization’s business process integration and customer profitability analysis must now be shaped into a future view of the customer. Once shaped, the organization can use this information to forecast customer spending potential – that is, the customers’ lifetime value.

There are two primary methods for determining customer lifetime value:

- Forecast the lifetime value of the customer as it relates to the current product offerings, or
- Forecast the lifetime value as it relates to “wallet share.” Wallet share is the percentage of a customer’s spending potential relative to the products that the organization is currently offering or could offer.

Through customer lifetime value analysis, organizations can now determine the viability of their opportunities. Instead of looking backward and asking, “What happened to me yesterday” and trying to back into their future, they can look ahead. They can allocate their resources proactively to achieve maximum customer potential.

A Technological and Cultural Shift

Establishing and supporting the delivery chain requires a significant organizational commitment – both from an IT and a cultural perspective; but it is a commitment that can yield tremendous return.

From a cultural perspective, DCM requires a shift in thinking about customers. The goal is now to establish detailed profiles of customer groups so that the organization can tailor its customer interactions appropriately. This means treating the most profitable customers differently than the least profitable customers. For an organization whose mantra has always been “excellence in service to every customer,” this can be a significant change.

The move to integrated business processes also requires an organizational shift in mind-set. The days of looking at the organization departmentally – of siloed information and narrow job descriptions – are over. A new era of information sharing and cooperation – all centered around the organization’s current and future customers – must be initiated. The organization must move to a holistic model, one where each system and function is integrated with every other system and function.

To make this shift to an integrated organization possible, technology must be employed to support the delivery

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chain. At the heart of delivery chain management is the data warehouse. It is the only mechanism that allows the achievement of the type of organizational and informational integration discussed here, and it is a requirement for an integrated infrastructure. This integrated infrastructure depends on the data in the warehouse in a myriad of ways. For example, when a salesperson calls on a current customer, the data warehouse lets them benefit from easy and timely access to the customer's complete customer service history. The salesperson can then sell additional products or services based upon that history. That is an example of one of the fundamental outputs of integrated data and the data warehouse within the DCM environment.

Does it take time, resources and effort to establish this integrated infrastructure and to achieve the necessary cultural shift and is it worth the effort? The answer is yes.

Achieving DCM is not easy, nor does superior DCM happen overnight. It requires a significant shift in the way an organization conducts business and, as such, can take time to achieve. However, an organization will realize incremental benefits as it moves toward a data warehouse-based, superior DCM environment. This new environment will deliver significant value in terms of improved customer knowledge and increased customer loyalty. In our increasingly competitive environment with customer expectations and demands rising almost daily, superior Delivery Chain Management is no longer just a good idea – it is a necessary piece of every product and service organization's business strategy. DM Review

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combined. A vendor with experience in both disciplines will deploy the solution more quickly and help you develop an architecture that meets your current needs and will accommodate your future requirements.

Choose a data warehouse platform that delivers high availability. Many business intelligence systems become mission critical, which raises the stakes for availability. For example, a stock exchange might use its business intelligence system to store all trades, both for trending and to supply to a national news channel. A call center might use the business intelligence system as the database of record when customers call.

Select tools that speed implementation and reduce cost. Several third-party vendors provide data extraction tools that support the major ERP applications (SAP, PeopleSoft, Oracle, Baan and J.D. Edwards). The data definitions in the ERP system become a foundation for the business intelligence system. To reduce costs, if you have multiple instances of an ERP system – for different countries or divisions, for example – it is advantageous to configure them the same way and to standardize tools across the different projects. In the future, it is likely that the ERP vendors will either purchase data extraction tool providers or develop their own tools. It is generally more cost-effective to purchase a pre-packaged data extraction tool than to develop your own.

Increase the velocity of information. The trend is toward real-time updates. Telephone companies that maintain call-detail records typically must extract each minute because huge volumes impose a performance penalty on the servers. Banks that maintain portfolio records also tend to update the business intelligence system each minute.

Plan for performance and growth. The more data you retain on the business intelligence system, the more trends managers can observe and analyze. However, more data usually requires more performance power. Therefore, most companies seek a balance. Some companies decide to store all open

items, retain closed items for one quarter and retain financial information for six months after end-of-year processing. Companies that want to perform trend analyses keep closed items for longer periods.

Close the loop for continual improvement. The ultimate in business intelligence for ERP is a closed-loop system, which updates the ERP system with information discovered through business intelligence or from outside sources. Building a closed-loop system usually requires custom programming, but the increase in market velocity is well worth the investment.

Conclusion

By integrating information from disparate company functions, ERP systems are a gold mine of valuable business intelligence. Unfortunately, ERP reports generally provide only a fraction of the useful information in the system. Data warehousing and business intelligence unlock the power of ERP systems by providing managers with simple, on-demand on-line analysis and push reporting; the ability to combine ERP information with external data; and alerts, actions and automated responses. By adding a Web-based interface to your ERP business intelligence, you can integrate the supply chain, speeding time to market and gaining manufacturing efficiencies.

Ultimately ERP business intelligence helps your company increase its market velocity with faster time to market, improved manufacturing and distribution processes, and more personalized customer interaction. DM Review

¹ McKenna, Regis. *Real Time*. Harvard Business School Press. 1997. P. 4.

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