

# Managing the Supply Chain – A Managers Map

## #3 in the continuing series of marketing articles

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New complexities have arrived on the seed scene with the arrival of numerous value-added seed traits. Combined with the ability to stack traits and new seed treatments, countless permutations of seed types challenge a manager's ability to successfully deliver those products to the customer. A quick review of Supply Chain Management offers managers some sound fundamentals in navigating these decisions.

In this day of GPS accuracy, we've grown accustomed to precise coordinates indicating "You Are Here." But a supply chain is not static. The relationships and flows are constantly shifting. It is essential to understand how new technology impacts your supply chain, how your customers' needs are changing and how your suppliers may be able to better meet your needs. Taking advantage of opportunities that surface as things change may be your way to remain profitable.

Some fundamentals and a few key questions help you see where you are on the supply chain management map. Supply chains show networks of firms, each working toward the goal of earning a profit while meeting the needs of the consumer. In effect, a supply chain is all activities leading to consumption of a product the consumer will desire.

Supply Chains have six dimensions: Value Creation, Product Flow, Financial Flow, Information Flow, Reward/Loss Sharing and System coordination.

**Value Creation** involves activities that contribute value to the final product. The most obvious example is the transformation of raw materials into processed materials for use in manufacturing. Other types of value creation include transportation, storage, and cleaning. A classic example of value creation is the auto assembly process, in which the various components — engine, frame, body, suspension, seats, and tires — are brought together to produce a complete car. In many industries, firms are focusing on their strengths or core competencies and hiring other firms with expertise to manage logistics, information systems, etc. These subcontractors are commonly known as third party logistics firms or 3PLs.

**Product Flow** involves coordination of the value-creation in the supply chain. The overall process involves transportation, packaging, storage, inventory management and process management — activities that are coordinated with each other. Increased efficiency is an important component of product flow. However, sometimes an efficiency measure at one point in the supply chain will create inefficiency later in the chain, negating the benefits of the original efficiency measure. For example, transportation savings arise from shipping truckloads instead of pallets. Yet, this might lead to high levels of inventory for a retailer.

**Financial Flow** is pretty self-explanatory — the buyer pays the seller for the product. Supply chains track financial flow efficiency by measuring the cash conversion cycle, which indicates how long it takes the firm to convert its activities requiring cash into cash returns. A shorter cash conversion cycle is better as it means you got paid quicker.

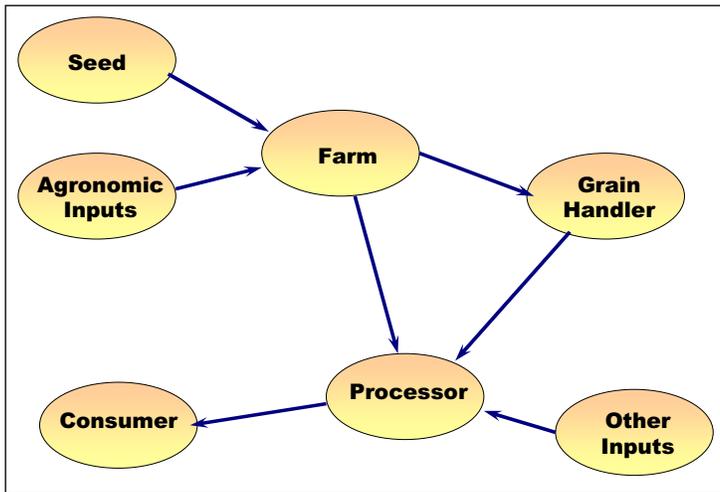
What *is* important here is the changes that are occurring. Financial flows used to involve laborious billing and check writing. A great deal of paper changed hands. With advances in information and communications technology, it is now commonplace for firms to utilize electronic transfer of funds. In addition, new services and tools, such as electronic futures trading and trading news services are available. The result is shorter cash conversion cycles, especially for larger firms who have invested heavily in advanced information systems.

**Information flow** includes everything from demand and customer needs to supply and quality availability. Members of the supply chain are constantly communicating with other members of the supply chain, upstream and downstream. However, information flow is not necessarily linear. It may leapfrog, as in the case of customer preferences about eco-friendly production being expressed directly to the supplier of raw materials.

Successful supply chains share some common characteristics:

- Information is accurate and complete, and delivered without distortion.
- Messages are sent and received in a timely fashion.
- Supply chain members are open to sharing information with each other, instead of hoarding data about their individual needs and abilities.
- Information flow is measured and analyzed to determine if the return associated with fast, accurate information covers the costs.
- Consumer preferences and needs are communicated upstream effectively. Historically, information





**Figure 1 — Making a Value Added Grain Product — This diagram shows a simplified version of the supply chain for a value-added grain product, such as high oil corn. Value-creation occurs within the ovals, and then the corn follows the arrows through the chain.**

was exchanged by way of price signals. In today's marketplace, information exchange is complex and, as shown in Figure 2, involves many agents in the supply chain interacting with each other.

**Risk Sharing:** Rewards and losses must be calculated carefully. Whenever groups come together for a common effort, the question arises as how to share risk. Business ventures, by their very nature, can result in either positive or negative returns, and thus, are risky.

As a result, some important questions must be decided: How will financial rewards and losses be shared? What incentives and disincentives are implicitly parts of the risk/reward system? As you negotiate agreements with other firms in your supply chain, you will want to consider whether the actions of other firms can impact your reputation or brand image.

**System Coordination** develops with product, money and information flowing upstream *and* downstream in a supply chain. A number of different relationships can form between supply chain members. Each relationship has implications for the other dimensions of the chain.

One of the simplest relationships is open market trading using spot prices. In a spot trade, key information of any grain transaction, quantity and quality, is transmitted using price signals. While incorporating the key price information, contracts improve coordination in a transaction by communicating other information, such as delivery time. As relationships within the supply

chain become closer, the chain becomes more vertically coordinated. Members of the supply chain may form strategic alliances, long-term business agreements in which the firms work together to accomplish a joint goal. This goal could involve increasing efficiency in internal operations.

### Supply Chain Management

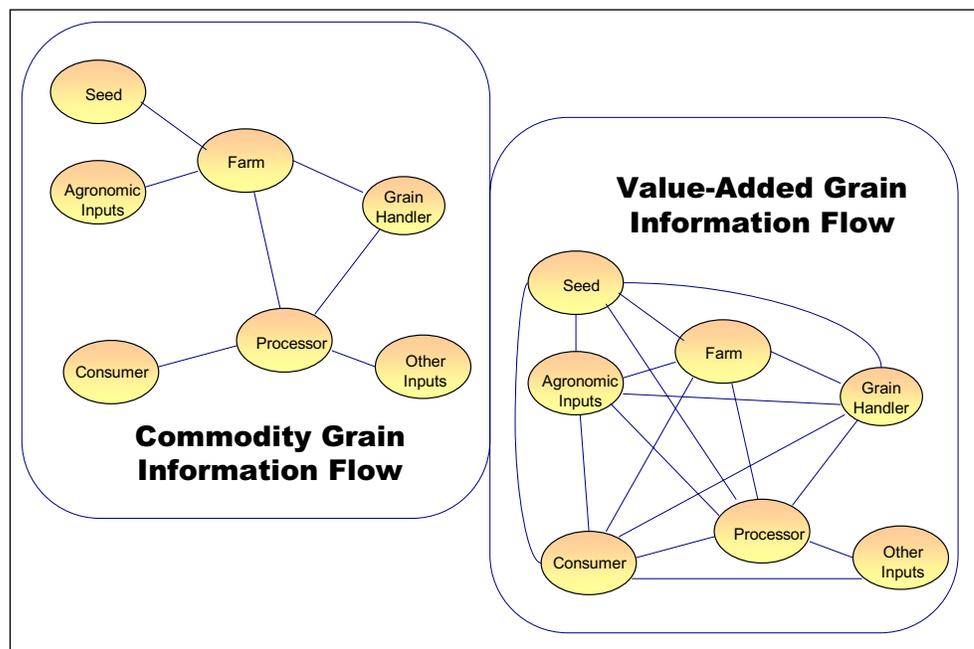
When analyzing your supply chain, some questions would be helpful to consider: Who is in your supply chain? How is your supply chain changing? Which members of the supply chain will be in business in the future? What type of competition is there among the firms in your supply chain? Will different supply chains be formed to compete for business with farmers?

As you develop answers to these various questions, you will see the impact for your marketing strategy. Supply chains are networks of firms, each working toward the goal of earning a profit while meeting the needs of the consumer.

Look toward the future with several key questions in mind as they pertain to your business: Who is critical to the chain, and whose functions will be phased out? What functions might be subcontracted to a 3PL? Which team members are strong enough to survive challenging times?

Answering these questions will help you answer the most important questions: *With whom should I align? Which team should I join?* Your goal is to be critical to the team that wins the game in the future.

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**Figure 2 — Grain Supply Chains — In the value-added grain supply chain, information flows in just about every possible direction.**