tkr consulting associates

The Fulfillment Solutions Framework: Charting a Path to Success

By
Thomas K. Ryan
Principal

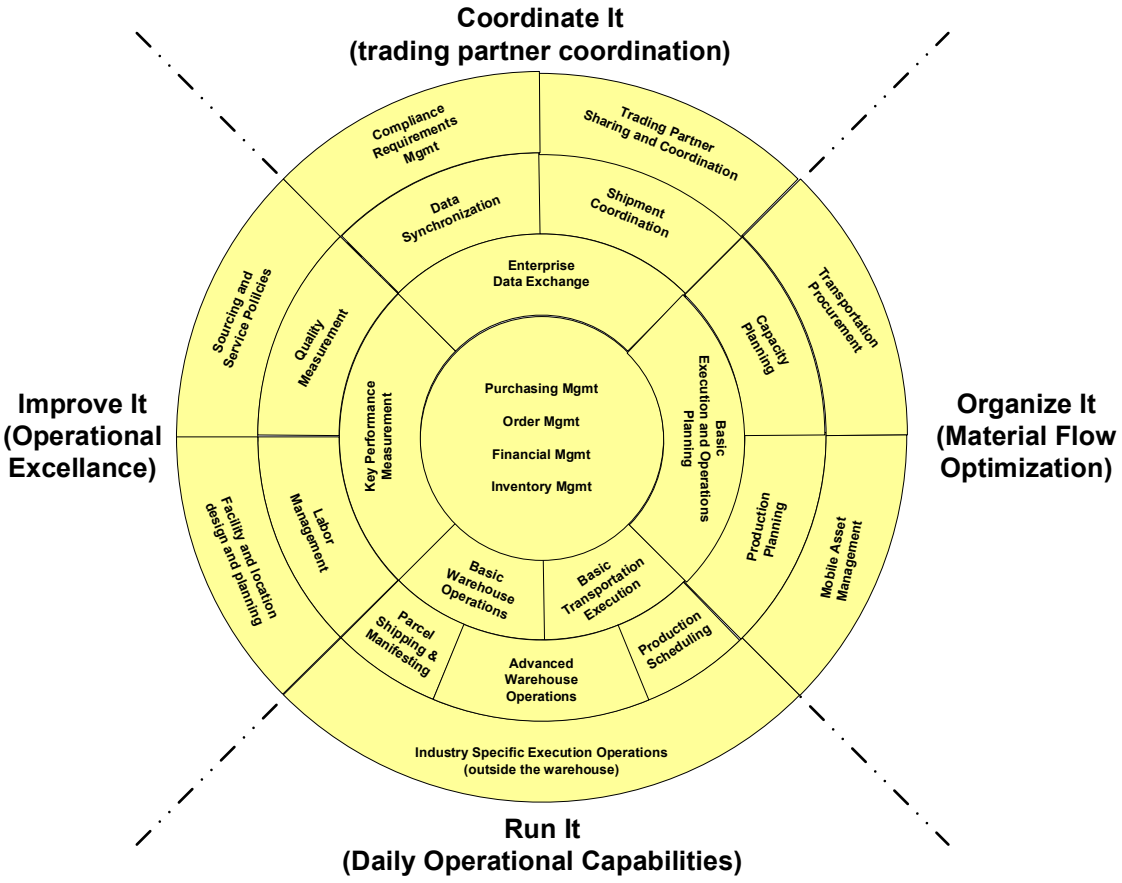
TKR Consulting Associates
103 Arbor Ave.
West Chicago, IL 60185

Phone: 630.876.0607
Email: tomryan@tkrconsulting.com

Executive Summary

Executives tasked with delivering continuous improvement within the enterprise's fulfillment and supply chain operations are always seeking the best way to chart the path to success. They are on the hunt for the next "Big Idea" that will deliver this year's victory. This constant quest is constrained by many factors, not the least of which is a clear understanding of the strategic direction of the corporation, a definitive understanding of the current state of the enterprise's fulfillment operations, and an understanding of how their operations stack up against their competitors' operations. On top of this picture of their world, executives must overlay emerging best business practices for fulfillment operations and enabling technology solutions -- and then decide which ones are worth adopting in their organization. A tool that can be used to understand the business impact of adopting new fulfillment strategies or technology is needed. We offer the Fulfillment Solutions Framework as a tool to help supply chain executives find that next "Big Idea" and chart the path to their success (see figure 1).

Figure 1: The Fulfillment Solutions Framework



Source: TKR Consulting Associates, August 2005

Table of Contents

Introduction to the Fulfillment Solutions Framework

The framework is a presentation of functional areas for which advanced supply chain process approaches and technology systems have been developed, implemented, and proven to deliver business value in multiple enterprises and industries. In some cases, specific technology solutions play key roles in achieving these advances, while in others business process changes are the primary drivers. The framework is not an all-inclusive listing, but rather it is a presentation of those functional areas that can have the greatest impact on improving, or creating, the high-performance supply chains and fulfillment operations that are at the heart of overall corporate performance. It is intended to be used by supply chain executives to measure the completeness of their fulfillment practices and supporting technologies, to determine which proven solutions exist that they can apply to their situation, and to understand the impact these solutions can have on their fulfillment operation's performance. It is designed to provide a broad model for manufacturing and distribution organizations that can be easily adjusted to an organization's specific business.

Understanding the Framework

Defining the Quadrants

The Fulfillment Solutions Framework lays out the functional areas into four sections: trading partner coordination (Coordinate It), material flow optimization (Organize It), daily operational capabilities (Run It), and operational excellence (Improve It).

Coordinate It: Trading partner coordination functions coordinate and communicate with the enterprise's supply chain trading partners (customers, suppliers, logistics service providers, etc.).

Organize It: Material flow optimization functions help the enterprise plan the use of supply chain assets (e.g., materials, people, equipment and facilities) to fulfill demand.

Run It: Daily operational capabilities manage the daily organization and execution of supply chain transactions (e.g., ordering from suppliers, manufacturing products, delivering goods to customers).

Improve It: Operational excellence functions measure, analyze, and improve the operational capabilities and structural design of the supply chain.

Measuring Business Impact

The Fulfillment Solutions Framework is not meant to be a static picture of supply chain operations. Rather, its use is meant to help companies measure the business impact of adopting a new supply chain business practice or technology. The degree of business impact is highlighted using a simple, easily applied metaphor. Specifically, each area is color coded to indicate how it contributes to business value: red is basic/required, yellow is neutral/market parity and green is advanced/differentiating.

The impact of supply chain investments on overall business performance varies greatly. Leading corporations have recognized that the measures of success with supply chain investments should focus on the improvement of external factors – customer, financial market, and even supplier related. However, not all supply chain investments should be about

competitive advantage, as corporations have to maintain their basic operating infrastructure to ensure reliable performance at today's levels. There has been much subjectivity used to evaluate the business value of particular supply chain investments and many corporations mistakenly call their supply chain investments "strategic" or believe that they provide "competitive advantage", when they are neither. We offer a simple, objective way to measure supply chain investments:

Basic Ability: *These are* ***Required*** investments where a company must maintain a standard supply chain infrastructure and implement routine operating improvements that have been widely implemented by others and are necessary for routine day-to-day functions. Examples of Required investments are inventory accuracy and automated order processing. If a company does not have these capabilities, it will fall far behind the majority of its competitors and be at a distinct disadvantage.

Neutral Ability: *These are* ***Market Parity*** investments that bring the corporation up to the industry standard performance metrics and capabilities. Typical Market Parity investments would focus on achieving industry-norm lead times, industry-norm manufacturing or warehousing unit costs, industry-norm service levels, etc. Investments in this area let companies keep pace with mainstream competition but are not differentiators.

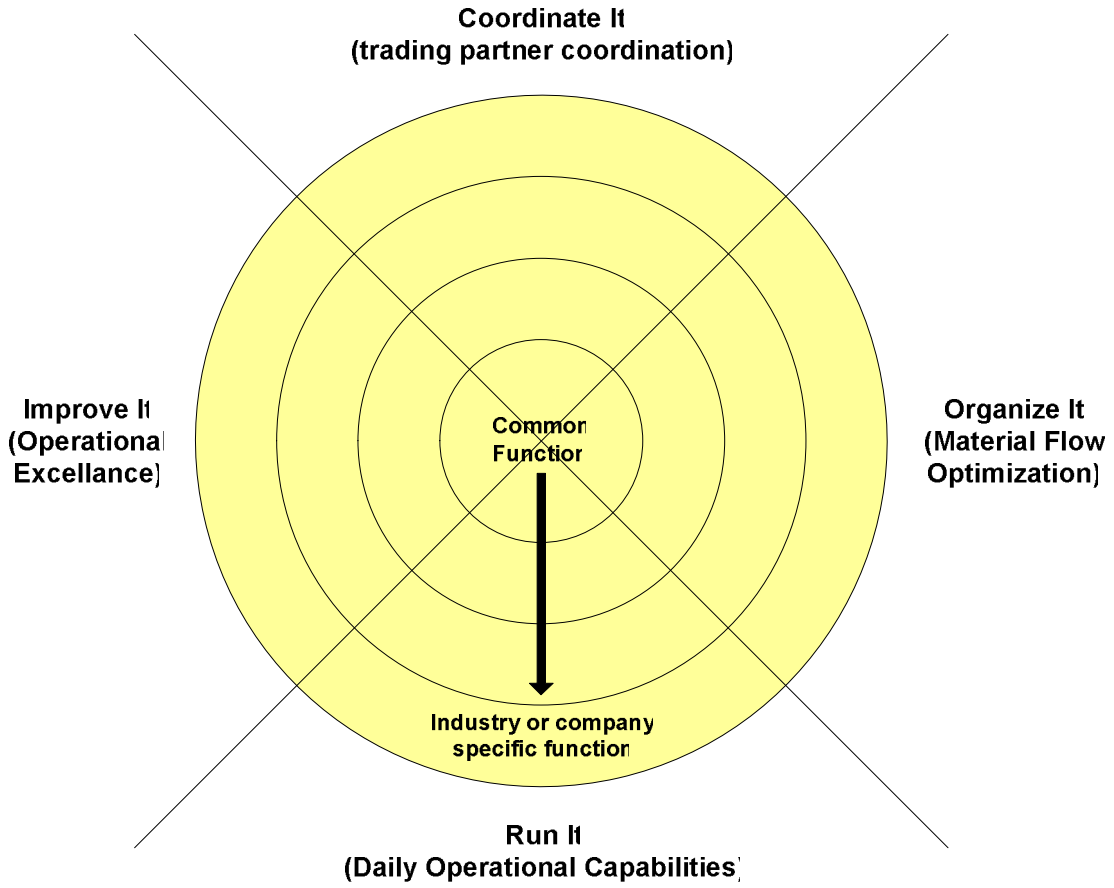
Advanced Ability: *These are* ***Differentiating*** investments that advance the corporation ahead of the competition as measured by the customer or the financial markets. Typical Differentiating investments would focus on delivering orders in half the time achieved by competitors, creating sustainable profit margins 10% to 20% higher than industry norms, achieving worker productivity 10% to 30% greater than competitors, etc. Investments in this area are truly strategic.

Commonality of Solutions

Another important point that executives need to understand about a possible solution is how often it is used by enterprises like their own. The commonality of a solution is key to making the specific fit and value determination for an enterprise. Not every area is applicable across all industries or companies, while others, with subtle tweaks, occur almost universally.

The framework's circular "bull's eye" shape positions those functional areas with the greatest commonality across many industries closest to the center of the model, at the heart of the enterprise. Those areas with the most likelihood of industry or enterprise variation are located in the outer rings (see figure 2). Thus the existence of order management and financial processes to manage the basic business transaction is universal across all industries. As a result, this function is found in the center of the framework. On the other hand, the need for and benefit derived from improving mobile asset management is applicable only to select industries. As a result, this function is found in the outer ring of the framework.

Figure 2: The Fulfillment Solutions Framework, the Rings



Source: TKR Consulting Associates, August 2005

Enterprise Use of the Framework

Use of the framework is contingent on the executive having an understanding of the direction the enterprise is pursuing, the requirements and performance metrics that the supply chain needs to meet to support the enterprise direction, and an honest evaluation of the current state of the enterprise's supply chain capabilities. With this foundation, the executive can look to the framework, see the areas that are missing or underperforming in their current portfolio, understand the relative impact improvements in these areas can have, and then select areas to investigate business process or technology enhancements. It can also be used to identify which areas of the enterprise will be impacted by a business process change or technology investment. For instance, improving transportation planning capabilities often requires adjustments to warehouse processes to deliver full economic benefits.

TKR Consulting's Use of the Framework

TKR Consulting's supply chain and fulfillment practice uses variations of this framework to explain the impact of business process strategies (e.g., lean manufacturing techniques) and enabling technologies (e.g., RFID technology). Specifically, the framework will be used to show which functions deliver -- when the technology or business process subject is applied -- basic capability, market parity within the industry, or differentiating performance from the competition and to assist enterprises understand where their own portfolio of technology and processes stand on this same metric.

While working for the Aberdeen Group, this author used the model in several reports executed during that time. Specifically it was used in Aberdeen's RFID in the Consumer Industries Benchmark Study report (see figure 3) and RFID Enabled Logistics Asset Management (see figure 4).

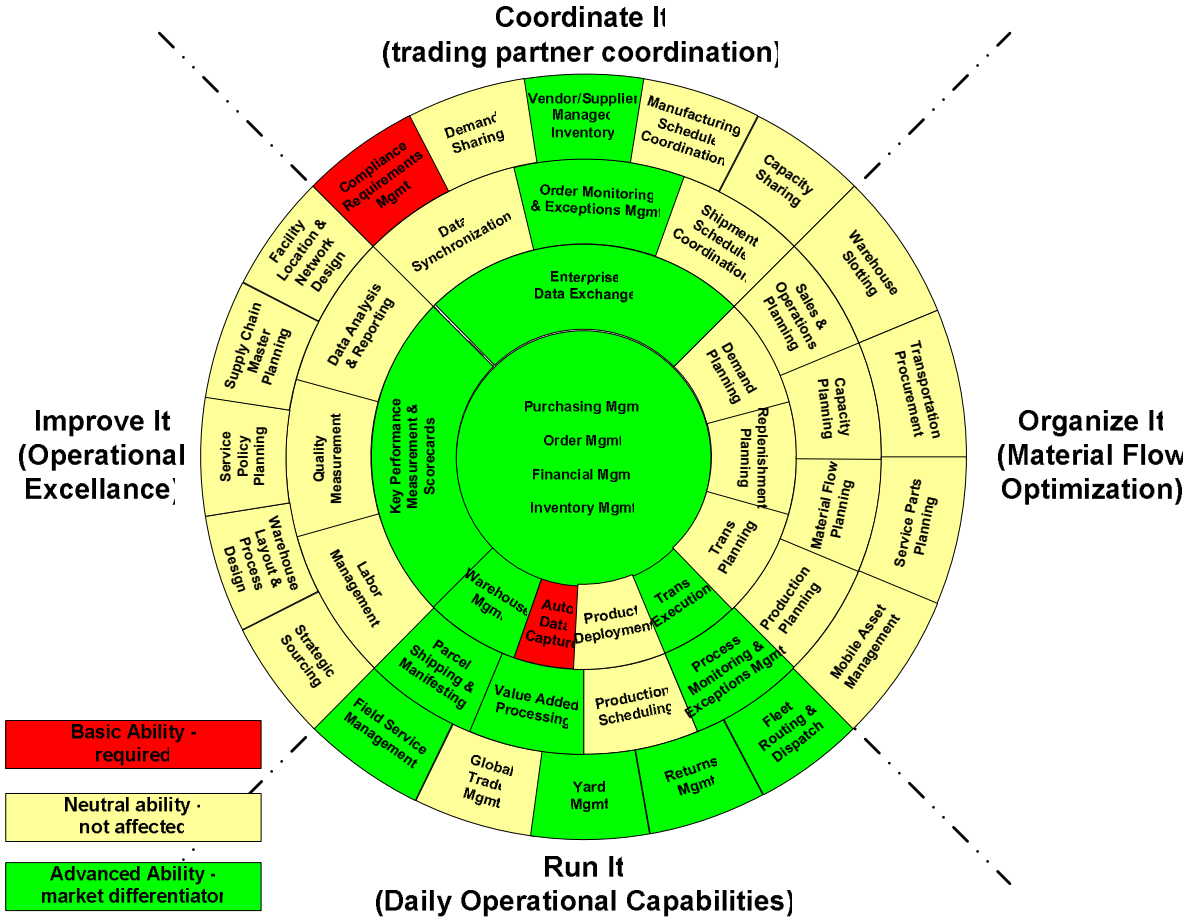
The basic framework shown in Figure 1 above has been expanded to include many more fulfillment functions in each ring of the model.

The Framework Applied to Technology Impact Evaluation

RFID in the Consumer Industries

In this RFID usage, basic capability delivers RFID retail compliance in its simplest form and is found in the capability to place a compliant, appropriately programmed RFID tag at the prescribed location on the items to be shipped. The advanced, differentiated capability is found in those functions that represent a "winner's" approach to RFID implementation. Winners are those companies that can drive cost or customer service benefits by leveraging RFID technology and the data it produces into other functional areas.

Figure 3: The Fulfillment Solutions Framework, RFID in the Consumer Industries

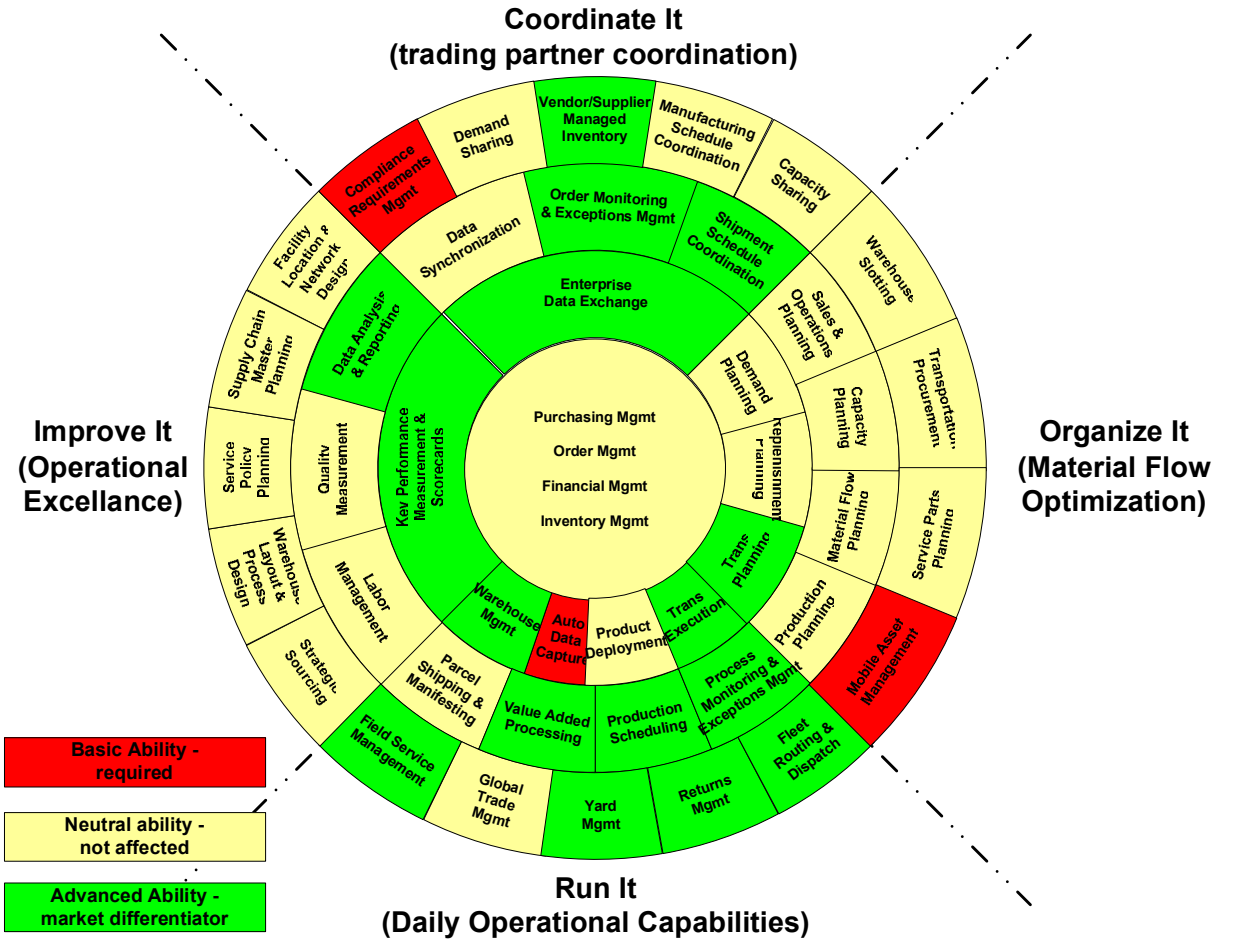


Source: TKR Consulting Associates, August 2005

RFID Enabled Logistics Asset Management

The framework can also be used to identify which areas of the company will be impacted by a business process change or technology investment designed to enhance the management of logistics assets. For instance, adding RFID tags to bins used to shuttle parts between an OEM and the assembly line allows the part number, quantity, and supplier identification to travel with the bin and enabling the IT solutions that receive the bins at the assembly plant to process the RFID data to immediately give movement instructions to the forklift operator unloading the bin will improve efficiency and accuracy within the assembly plant. It could also enable a payment transaction for the supplier based on what has been unloaded from the delivery truck, in real-time, thus improving the delivery to cash cycle for the supplier.

Figure 4: Fulfillment Solutions Framework (RFID-Enabled Asset Management)



Source: TKR Consulting Associates, August 2005

The Framework Used for Business Process Evaluation

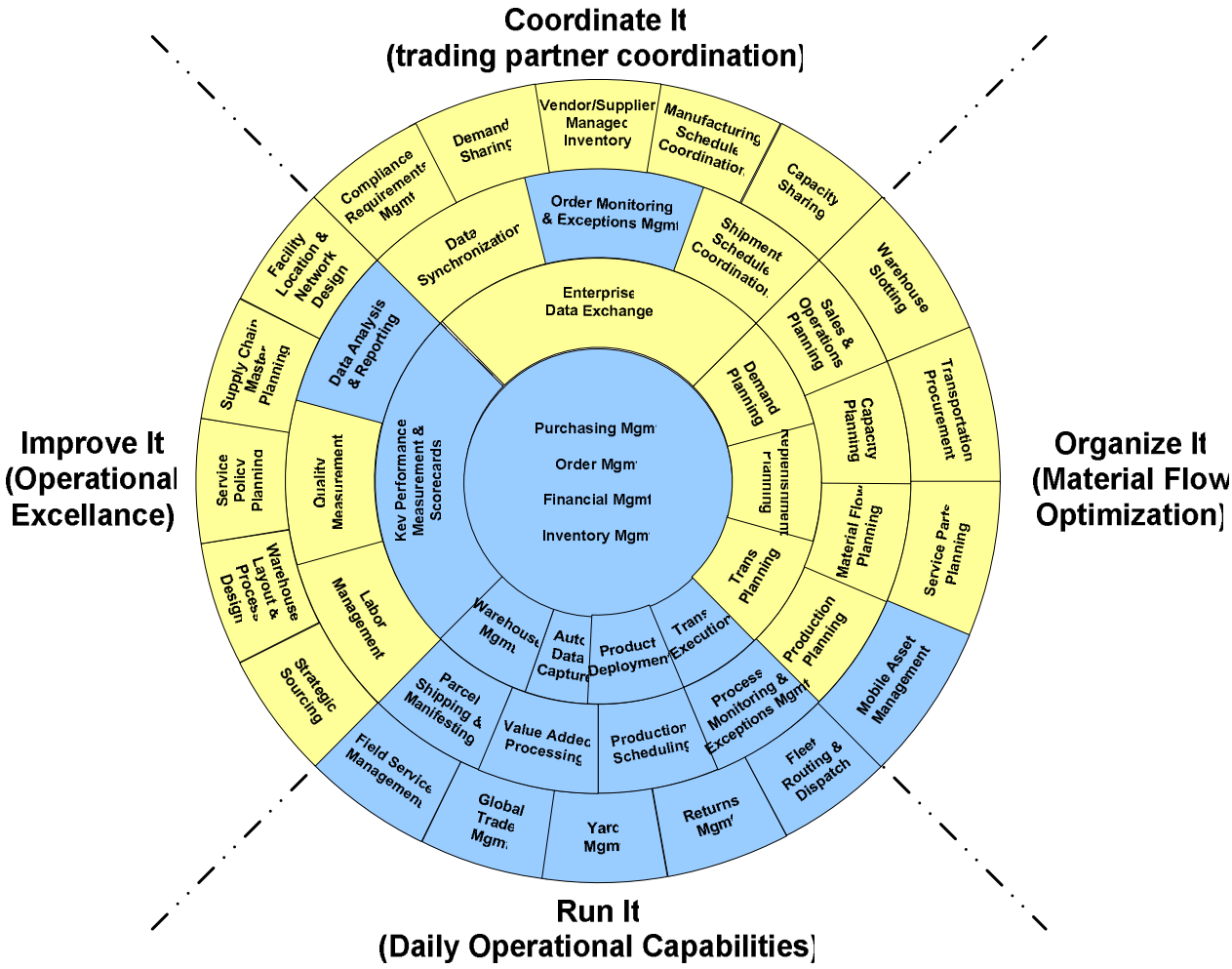
Next Generation Order Fulfillment

This use of the framework details where competitive advantage may lie when developing new methods and techniques for order fulfillment, Next Generation Order Fulfillment. Companies are seeking more flexible integrated systems that focus operational activities (warehousing, transportation, and in-transit visibility) on driving up customer satisfaction through order accuracy and fill levels, meeting or exceeding compliance mandates, and on-time deliveries. In this context, a recent Aberdeen Group study noted the following points:

- Existing solution portfolios are not doing a good job of supporting order fulfillment operations.
- Next-generation order fulfillment goes beyond strict order management and warehouse operation; it includes, for example, returns, transportation, and visibility and disruption management.
- IT solutions that delivered the greatest value were focused on customer service, effective warehouse operations, and continuous improvement programs.
- Almost 60% of the respondents are planning to make an investment in their continuous improvement programs within the next 24 months.
- Half of all respondents will make investments in solutions to improve customer service, warehouse operations, general operations, and visibility to these operational areas within the next 12 months.

In Figure 5, we have highlighted, in blue, those fulfillment solutions that are elements of new next-generation order fulfillment practices.

Figure 5: Next Generation Order Fulfillment

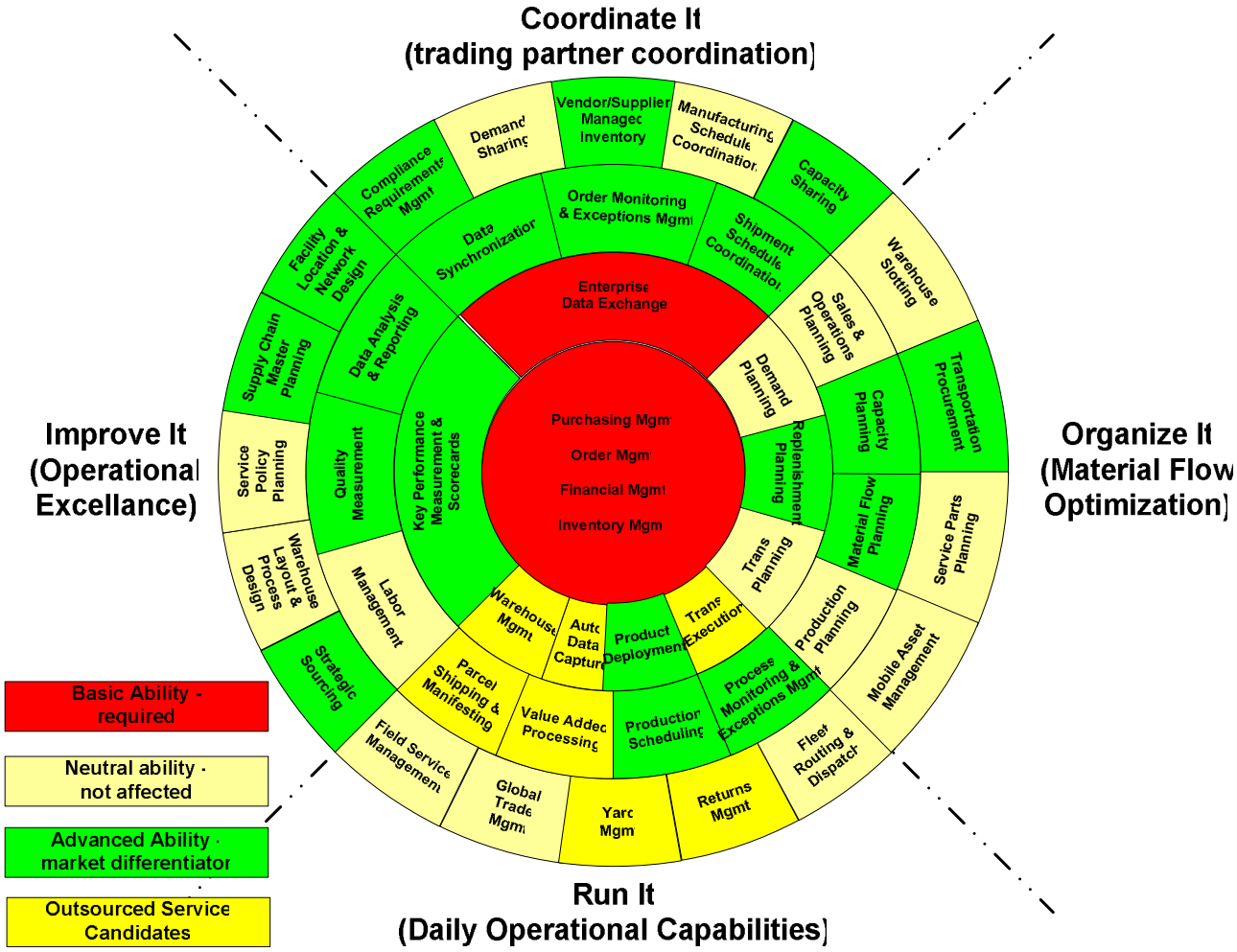


Source: TKR Consulting Associates, August 2005

3PL Outsourcing in Consumer Industries

This use of the framework details where competitive advantage may lie for enterprises looking to outsource parts of their supply chain operations to a third party logistics services provider (3PL). For example, a firm supplying goods to large "big box" retailers may decide that the compliance aspects of their business relationship is so important that they may retain within their own control the formation of the shipments (e.g. building of pallets), generation and application of barcode and/or RFID enabled carton and pallet labels, and the generation and transmission of advanced shipment notices (ASN). On the other hand, they decide to outsource the management of their transportation operations to a 3PL in order to reduce costs while adding the 3PLs domain expertise to their own "portfolio" of capabilities.

Figure 6: 3PL Outsourcing in Consumer Industries

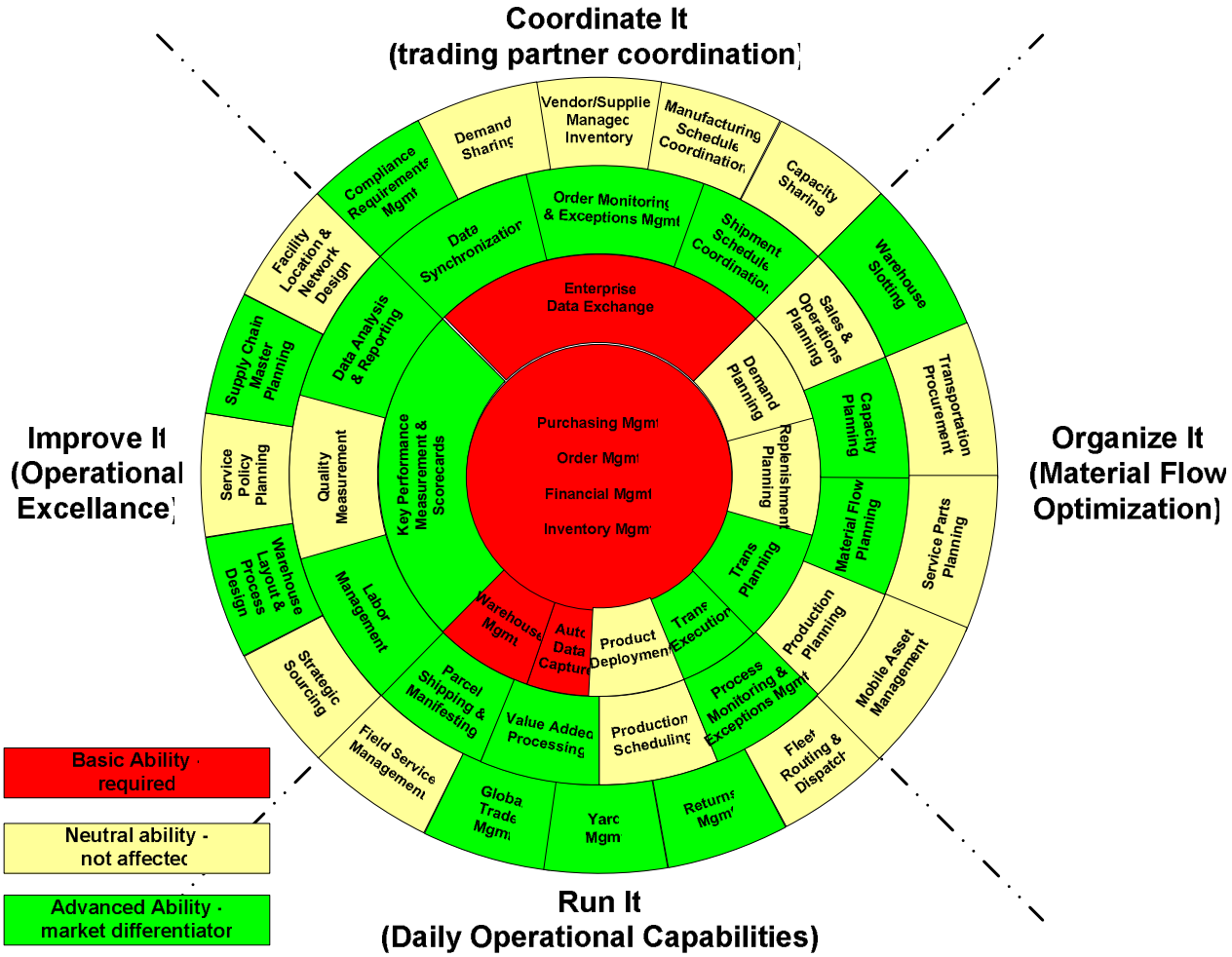


Source: TKR Consulting Associates, August 2005

Warehouse Management: Beyond the Four Walls

This use of the framework shows which functions deliver — when extended warehouse operations management strategies are applied — basic capability, market parity within the industry, or competitively differentiated performance. For instance, adding yard management and on-line dock scheduling can help insure that inventory that is in the yard is made available to fill orders and that dock throughput is increased, with the associated reduction in demurrage or wait time for trucks. Additionally, integration of the Warehouse Management System (WMS) and the enterprise's Transportation Management System (TMS) can help insure that the picking and shipping operations are synchronized with the shipment plan developed in the TMS. This helps insure on-time delivery of orders, significantly contributing to customer satisfaction.

Figure 7: Warehouse Management: Beyond the Four Walls



Source: TKR Consulting Associates, August 2005

Recommendations

Executives should evaluate their own fulfillment capabilities utilizing the fulfillment framework and assess which areas represent basic, neutral, and advanced capabilities. With this assessment in hand, executives should then apply their corporate strategies to the framework. The convergence of the current state with the strategy going forward will allow the charting of a course to success in supply chain and fulfillment operations.

It is a fact of life for most companies that the funds that can be spared for improvements and investments are not always readily available or adequate to meet "grand plans". This makes it even more imperative to have good controls in place to manage those funds and investments and to have metrics in place to insure that the desired benefits are being realized. We advocate a repeatable cycle that focuses on having a strategic direction that is executed in small chunks with metrics to measure effectiveness.

- First, use the fulfillment framework to develop a "roughly west" plan that establishes the general direction that the enterprise is going to pursue as well as the role each area will play in moving the enterprise in that general direction. Remember, "roughly west" is somewhere between northwest and southwest; but it is certainly not east. Add detail to the plan by evaluating where the greatest gain or largest pain is – select that project and then execute it. Control the scope of the project to allow it to be executed within 90 days. Such a short duration allows more immediate feedback and it is easier to get organizational commitment and focus.
- Next, measure those results. Communicate to the enterprise that the project attained its goals, the plan works, and we are on the right course. Build confidence and commitment.
- Next, re-evaluate the "roughly west" plan. Maybe what you thought would be the fourth phase should now be the second phase. Keep each phase to 90 days and execute each in turn.
- Finally, remember that no one can predict all the implications of any one strategy over a 2-3 year period but that should be the time period of the strategic plan. An additional value of the 90-day phases coupled with plan re-evaluation is that you don't need to nail down all the details or have a highly polished crystal ball. You can avoid paralyzing exercises in contingency planning and get on with leading the company "roughly west".

