



Critical Issues

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SUPPLY ORGANIZATIONAL STRUCTURES

P. FRASER JOHNSON
RICHARD IVEY SCHOOL OF BUSINESS
THE UNIVERSITY OF WESTERN ONTARIO

EXECUTIVE OVERVIEW

Organizational Structures and the Competitive Environment

- The manner in which corporate organizational resources are deployed reflects the business strategy of senior management in response to existing competitive pressures, such as cost, technology, and market uncertainty.
- Organizational structures change as business strategies change to reflect new competitive realities. (See Figure 1, page 2.)

Supply's Structure, Roles, and Responsibilities

- Differences exist in supply organizations' structures, roles, and responsibilities. These differences reflect the business strategies at each company and the contribution that the supply organization is expected to deliver.
- Although supply organizations have different names, each is expected to play an important role within the company and to deliver value to the bottom line.

Organizational Models

- Organizational centralization should be thought of in terms of the amount of spend controlled by corporate purchasing, not in terms of where the purchasing staff is located geographically.
- Four common organizational models:
 - ▲ Decentralized based on business units
 - ▲ Decentralized regionally
 - ▲ Decentralized based on major categories of purchases
 - ▲ Centralized

Issues Related to Organizational Design

- Organizational costs are a significant investment. The supply organization should provide value in exchange for this organizational investment. Low-cost supply does not necessarily represent the best value proposition.
- Functional structures, such as supply, must be consistent with the overall corporate structure.
- Several methods of integration are available, including teaming, purchasing councils, and consortia.
- Consideration of supply chain management practices from a business process orientation can be beneficial.
- Technology is an important enabler for cost reductions, efficiency gains, internal and external integration, and performance measurement.
- World-class organizations have formal programs in place that invest in the training and development of their supply professionals.
- Regardless of the structure, the supply structure is expected to deliver value to the organization
- Measuring and benchmarking supply performance is difficult and requires a detailed understanding of the measures being used.
- Organizational change is a constant theme.

SUPPLY ORGANIZATIONAL STRUCTURES

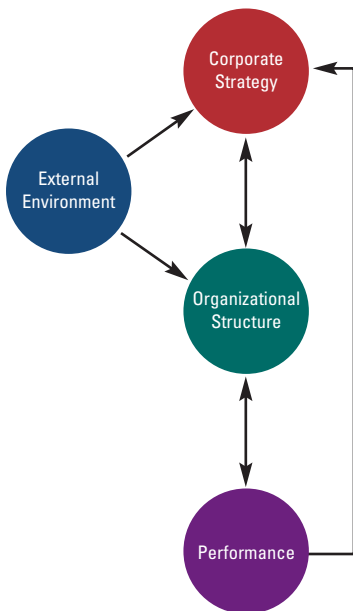
INTRODUCTION This white paper resulted from presentations and discussions at a CAPS Research Best/Good Practices Forum hosted by MasterFoods U.S.A. on May 14 and 15, 2003. The topic of the forum was supply organizational structures, with an emphasis on organizational design, technology applications, process improvements, and employee training and development.

The following companies participated in the forum: General Mills, MasterFoods U.S.A., Novartis, The St. Paul Companies, and United Technologies Corporation. These companies provided a diversity of industry context to the discussions. Table 1 lists the participating organizations and provides a brief overview of each.

TABLE 1: PARTICIPATING ORGANIZATIONS

COMPANY	PRIMARY BUSINESS
General Mills	A consumer products company with brands across a wide range of food categories, including cereals, snack foods and baking products. Total revenues of approximately \$11 billion.
MasterFoods U.S.A.	A consumer products company that produces snack food, pet food, and main meal food. Total employment of approximately 7,500 people.
Novartis	An international company that develops, manufactures, and distributes pharmaceuticals and consumer health products. Total revenues of approximately \$21 billion.
The St. Paul Companies	A provider of commercial property liability and specialty insurance. Total revenues of approximately \$9 billion.
United Technologies Corp.	A global technology corporation manufacturing products in the aerospace and building products industries. Total revenues of approximately \$28 billion.

FIGURE 1: ORGANIZATIONAL DESIGN



WHAT IS IN A NAME? The manner in which corporate organizational resources are deployed reflects the business strategy of senior management in response to existing competitive pressures, such as cost, technology, and market uncertainty. Organizational structures change as business strategies change to reflect new competitive realities. This relationship is reflected in Figure 1.

The selection of a particular organizational structure will influence how well a firm is positioned to compete and ultimately, its performance. Firms in the same industry, competing for the same customers, may select completely different structures, but be equally successful. The challenge is balancing external factors with the internal capabilities of the organization.



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Change is commonplace as executives realign structure, roles, and responsibilities to fit the business objectives and priorities.

Innovations in information technology, competitive pressures to reduce overheads, and programs designed to provide employees with more independence when making decisions have contributed to the development of new and innovative approaches to organizational design. The supply function is on the forefront of organizational evolution and it is a logical candidate for integration with other functions. Meanwhile the trade-offs between centralized and decentralized supply structures are constantly under scrutiny.

The challenge of every supply organization should be to support corporate goals and strategies. For example, the mission of the Commercial Division at MasterFoods is to: “Ensure continual supply of quality goods and services which deliver a sustainable competitive business advantage, consistent with the overall needs of the business.”

Effective deployment of resources within the supply organization and the supplier network is necessary to make this objective a reality. Consequently, the organizational structure of the supply function, and its roles and responsibilities, reflect the overall corporate structure and the unique circumstances within the company. There is no standard “cookie cutter” approach to supply organizational design. Change is commonplace as executives realign structure, roles, and responsibilities to fit the business objectives and priorities.

Among the firms participating at the forum, several differences existed with respect to the supply organizations’ structures, roles, and responsibilities. These differences reflected the business strategies at each company and the contribution that the supply organization was expected to deliver. No two companies at the forum used the same name for its supply organization, yet each was expected to play an important role within the company and to deliver value to the bottom line. For example, the Commercial Division at MasterFoods is responsible for everything bought at the company on a worldwide basis. Commercial Division associates are relied upon to manage MasterFoods’ risk through strategic sourcing, contracting, hedging techniques, and supplier diversity to ensure maximum value for money in the procurement of all goods and services. The important role of the Commercial Division at MasterFoods reflected the maxim of the company’s founder: “What is well bought is well sold.”

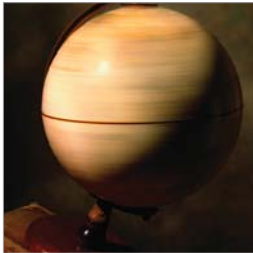


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ORGANIZATIONAL STRUCTURE Organizational structures can take a variety of forms. In the past, centralized organizational structures were regarded as those in which the purchasing staff was in a single physical location, typically the head office. Meanwhile, decentralized structures placed supply within the business units or plants. Today, physical location may have little to do with reporting relationships. The ability to place corporate supply managers with key user groups has been supported through technological developments. *There was general consensus among the group that organizational centralization should be thought of in terms of the amount of spend controlled by corporate purchasing, not in terms of where the purchasing staff was located geographically.*



Decentralization can occur on four levels. The first is the *business unit* level. For example, United Technologies has a number of business units, including Pratt & Whitney, Hamilton Sunstrand, Sikorsky, Otis, and Carrier. Each business unit has a separate supply group, which is supported by a 55-person corporate supply group. This structure allows the divisional supply organizations to focus on their division's specific needs, so that priorities and resources can be established on a business-unit level. Meanwhile, common requirements and corporatewide initiatives can be addressed through the corporate purchasing group.



A second approach is *regional decentralization*. Because of differences across geographic regions, some large companies combine plants or strategic business units (SBUs) under a regional structure. MasterFoods is an example of a regional structure, with responsibility for the North American business development teams. The Commercial Division reflects the regional corporate structure.



A third approach separates *major categories of purchases*. The significance of indirect purchases at Novartis warrants the separation of direct and indirect strategic sourcing organizations. The indirect strategic purchasing group is able to adopt processes and metrics that reflect the characteristics of its spend categories. Regional decentralization is also easier to facilitate for indirect purchases, since the strategic sourcing group on the direct side requires centralization and standardization of supply.

The fourth approach, a *centralized model*, can still incorporate certain features that provide flexibility and responsiveness. Such organizations do not necessarily resemble the single site, centralized purchasing organizations of decades past. Co-location with user groups and separation of strategic purchasing and materials management activities can allow a centrally coordinated reporting structure to be geographically dispersed. Communication, control, and coordination are facilitated through information technology. General Mills has adopted a centralized corporate structure, including a worldwide sourcing group. Its organizational structure is divided across major spend



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Much like the returns they contemplate when investing in a new piece of equipment, the senior management must continually weigh the costs and benefits of its organizational resources

categories, such as commodities, capital & MRO, ingredients & packaging, and marketing & indirect—each with a global mandate.

While approaches to organizational structure vary, three underlying themes exist. First, functional structures, such as supply, *must be consistent with the overall corporate structure*. The elements of an organizational structure are supportive and reinforcing, much like a bio/ecosystem, and the relationship between supply with the other main functions must be carefully balanced. Any changes in one element require accompanying changes in others. Therefore, when attempting to understand why a particular supply organizational structure has been adopted, it is useful to examine this issue from the perspective of the overall corporate structure.

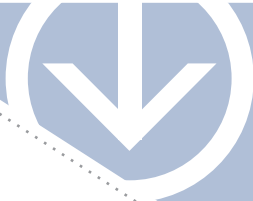
Second, *change is a constant theme*. Occasionally there are major changes in structure or wholesale changes in responsibilities. However, there is almost constant change resulting from the “tinkering” that occurs in an organization. These minor changes are a result of senior management initiatives, new leadership, consultant studies, and industry trends, to name only a few. In the end, organizations don’t remain static for very long, and successful managers must be adept at handling and managing change.

A third theme relates to the *objectives of the supply organizations*. The investment in people represents a significant cost. Much like the returns they contemplate when investing in a new piece of equipment, the senior management must continually weigh the costs and benefits of its organizational resources. *The discussion at the forum recognized that organizational costs are a significant investment and that the supply organization should provide value in exchange for that organizational investment. Low-cost supply does not necessarily represent the best value proposition.*

VALUE-BASED METRICS A major challenge facing the firms that participated in the forum was establishing appropriate metrics, or as proposed by General Mills: “Measuring total value to get total value.” The participants discussed two aspects related to metrics.

The first aspect related to *consistency between supply activities and performance measures*. For example, the CPO at Novartis changed the metrics of the strategic sourcing group to reflect the indirect nature of the spend that it managed.

A second aspect, and one that the participants at the forum identified as an area for further collaboration, was *benchmarking*. Several of the forum participants also take part in CAPS Research benchmarking projects. Although these projects include companies from similar industry segments, sometimes making meaningful comparisons can be difficult. For example, using the metric “supply costs as a percentage of total revenue” presents certain problems. Potential differences between companies include the meas-



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urement (i.e., costs included and excluded and accuracy of the data) and cost-benefit analysis. Comparing only costs can be deceiving—a company with a higher cost of supply might be delivering proportionally higher value. Similarly, differences could exist among companies with respect to the level of spend influenced by supply. Once again, focusing on cost alone ignores the larger picture of value provided. *In order to address the issue of the cost-value relationship, it was agreed that several of the firms would cooperate to provide a detailed analysis related to organizational benchmarking.*

INTEGRATION Integration can take many forms. Internally, integration can help overcome functional silos that sometimes add costs and time to key business processes, such as new product development. Integration can also be externally focused and involve suppliers, customers, or both. *Several methods of integration were discussed at the forum, including teaming, purchasing councils, and consortia.*

Teams can be an important element of the approach taken to manage supply chain activities strategically, and they can offer one mechanism for implementing broad organizational integration between supply and other functional areas. Each company at the forum had some experience with cross-functional teams. Furthermore, various forms of teams can be used to structure formal integration both between functional areas (internal) and across suppliers (external). Two areas cited for cross-functional team use at the forum were new product development and cost reduction initiatives.

To foster internal strategic business alignment, General Mills has recently created a position titled Director of Sourcing Operations (DSO). DSOs work with cross-functional business unit teams comprised of areas, such as marketing, R&D, manufacturing, and distribution, on important strategic initiatives. The DSOs bring a sourcing focus and provide a leadership role.

While teaming has traditionally been used to support the acquisition of direct materials and services, applications in indirect spend categories have become more commonplace. United Technologies, through its UT500 program, used cross-functional teams as part of a major corporate cost reduction initiative. It used cross-functional teams to focus on usage, price/cost, and processes, to reduce costs and improve efficiencies in non-product/general procurement. Since the program launch in April 2001, the corporation as a whole significantly improved, and to date estimated savings for the program have exceeded the original goal of \$500 million. Due to the success of UT500 in North America, a similar program, UT€100, was launched in Europe in July 2002.

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Cross-functional teams focus integration efforts at various levels of the organization and can span across functions and organizations. However, another area of integration is across supply groups within a large decentralized company, through the use of purchasing councils. Purchasing councils are generally comprised of senior purchasing staff from within the company and are established to facilitate coordination among business units, divisions, plants, or departments. Many firms use purchasing councils as a means of sharing information among decentralized units, or coordinating activities focused on a specific problem that may involve several purchasing groups. Purchasing councils were used by two of the forum participants as a method of promoting integration and cooperation among decentralized business units.



Organizational structures and reporting relationships can be used to link functional groups and promote integration. Under the centralized organizational structure at General Mills, the sourcing, engineering, quality, manufacturing, logistics, and R&D functions all report to a single executive, the SVP & Chief Technology Officer. Senior management believes that under a common reporting line, these functional groups can maintain a common focus and direction.



Most of the participants at the forum had formal initiatives in place to establish and manage collaborative relationships with key suppliers. One participant company saw collaboration with key suppliers as an opportunity to provide revenue growth. The company believed that collaboration with its key suppliers would result in lower costs and new supply initiatives offering first-mover advantages.



Consortia purchasing, although used commonly in the public sector, enjoys much less popularity in the private sector. Only one forum participant had established formal consortia relationship initiatives as part of its supply strategy, and only in selected areas. The common explanation for the lack of involvement in consortia was the limited benefits compared to the transaction costs associated with managing the relationships.

PROCESS MANAGEMENT Consideration of supply chain management practices from a business process orientation can provide benefits in several areas. Elimination of non-value adding processes and automating data entry activities free up resources for strategic supply initiatives and reduces costs. Streamlining and integrating suppliers into new product development processes can bring new products to market faster and cheaper. Simplifying fulfillment processes can shorten supplier lead times and result in lower investments in raw material inventories. Each participant in the forum had formal initiatives in place that examined business processes in the supply chain. Techniques, such as value stream mapping and Pareto analysis, helped the forum participants identify opportunities for process improvements.



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Streamlining and integrating suppliers into new product development processes can bring new products to market faster and cheaper. Simplifying fulfillment processes can shorten supplier lead times and result in lower investments in raw material inventories.

Challenging conventional practice can also identify opportunities for efficiency gains. At the St. Paul Companies, the CPO examined a number of services provided by corporate procurement, evaluating the cost of service delivery and the benefits it provided the organization. The key questions asked were: How are the services providing value to the company? And, how can the services be changed without affecting overall value while reducing costs?

Process changes also should involve the supply base. Involving suppliers in business processes, where appropriate, can provide cost and efficiency benefits. One example in this area identified at the forum was the supplier self-service initiative implemented at General Mills. Using General Mills' extranet, suppliers take responsibility for accessing and maintaining certain data and information in areas such as supplier managed inventories, specifications, and payments.

Three of the five participants at the forum had formal initiatives in the area of lean management. Adoption of lean management practices forces organizations to examine processes and eliminate waste, including business processes. A key challenge identified was establishing appropriate performance measures for lean operations.

TECHNOLOGY APPLICATIONS Technology was identified by the participants at the forum as an important enabler for cost reductions and efficiency gains, internal and external integration, and performance measurement. Each participant had recently adopted a variety of different technology solutions, involving a substantial commitment with respect to both investment and start-up costs. For example, General Mills' successful adoption of SAP as its ERP system provides management with a single database and reference point for its entire supply chain.

Using technology to automate business processes provides both lower costs and faster turnaround times. Examples cited at the forum included the use of electronic requisitions and RFPs/RFQs, and the use of Open Ratings software to monitor the supply base.

Technology is also an enabler for supply chain integration. At General Mills, the technology solutions adopted included a "supply chain network" intranet and a "global supply net" extranet. The global supply net extranet facilitates exchange of information among supply chain partners on a real-time basis, organized in four areas: content, commerce, collaboration, and community. The extranet provides a number of supplier self-service areas as a means of integrating suppliers into business processes and information flow.



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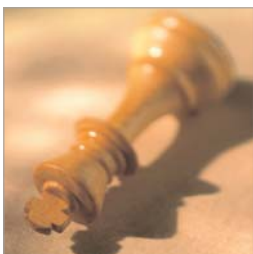
There was debate among the participants regarding the benefits of reverse electronic auctions. Three of the five participating companies used reverse auctions to varying degrees. For example, one participant had a target of using reverse auctions for 10 percent of purchases. Issues raised by the participants concerning the use of reverse auctions included:

- risks of interrupting good supply relationships
- risks of developing a poor reputation with the supply base
- cost of running the auction versus expected savings
- cost savings potential of reverse auctions versus traditional sourcing processes
- significant up-front preparation and cost required compared to a traditional RFQ/RFP



One participant tracked and compared actual auction results to the expected price/cost to evaluate effectiveness. That data indicated that, on the whole, reverse auctions were providing real financial benefits.

TRAINING AND EMPLOYEE DEVELOPMENT World-class organizations have formal programs in place that invest in the training and development of their supply professionals. Training programs can be internally developed or outsourced. The management training program at MasterFoods combines functional and managerial effectiveness training. The program started five years ago and currently consists of a one-week program, incorporated with blended learning. Every associate in Commercial Division has an opportunity to participate in the program, and it is delivered primarily through internal company associates who teach workshops or act as coaches. Approximately 60 of 220 to 230 people in Commercial Division are involved in delivering the program. The program has been expanded to include general managerial competencies as published by Lominger Limited, Inc. The blended learning component includes web-based courses, coaching, and small sessions at plant sites. Currently the program has 10 functional competencies in Commercial. MasterFoods coordinates the program content across its global operations. Each associate completes a training needs assessment annually using a grid (priority, need, or not required).



United Technologies offers functional supply management training, including a two-course online graduate level certificate program through a partnership with Arizona State University (ASU). Understanding Supply Chain Networks is a six-month program paid for by the company through its Employee Scholar Program (100 percent tuition and books), where employees can earn six transferable credits and learn leading-edge supply chain practices. United Technologies and ASU run two cohorts per year, 30 to 40 individuals in each. It has also partnered with Indiana University to offer an online MBA and MS in Global Supply Chain.



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Centralization is no longer defined on the basis of physical location, in a large part due to technological innovations that permit centralized control and decentralized execution.

ORGANIZATIONAL STRUCTURES AND SUPPLY CHAIN INITIATIVES Initiatives in the areas of integration, process management, and employee training and development can lead to improved performance and help provide competitive advantage. However, opportunities for such initiatives are influenced by structural factors such as reporting lines, physical locations, and responsibilities. For example, the skill requirements of the supply staff in a decentralized organizational structure may be different in some areas than those in a centralized organizational structure. These variations may lead to different types of initiatives in the areas of employee training and development, each designed to address the unique circumstances of the organization. Senior management establishes the firm's business strategy and sets the overall organizational structure. Initiatives to improve integration, streamline processes, and train employees must reflect this context.

While technology applications must also reflect the unique circumstances and organizational structure of the firm, its influence is somewhat broader. Technology is also an enabler that facilitates the implementation of business processes, internal and external integration, and employee training and development. The ability to use information technology in these areas has allowed for new approaches to organizational design. Centralization is no longer defined on the basis of physical location, in a large part due to technological innovations that permit centralized control and decentralized execution.

CONCLUSIONS AND LESSONS LEARNED The forum provided an opportunity for participants to share ideas and to learn from each other in the areas of supply organizational structures, with an emphasis on organizational design, technology applications, process improvements, and employee training and development. The focus of participant discussions included the following key points.

First, regardless of structure, *the supply function is expected to deliver value to the organization*. The five participants at the forum used a variety of organizational structures, each with a different name. However, regardless of how the supply function was organized, it was expected to contribute to the success of the organization, and where possible, provide a source of competitive advantage.

Second, *change is a constant theme* as companies explore new ways to streamline supply activities and processes. Successful managers must be adroit at handling and managing change.

Third, *measuring and benchmarking supply performance is difficult*. It may be dangerous to take benchmark data at face value. Companies serious about benchmarking require a detailed understanding of how the data are calculated.



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Fourth, while the academic literature focuses on supply chain integration, *internal integration remains important*. While integration of suppliers into supply processes represents a potential opportunity at many companies, integration across functions is still a significant management challenge.



Fifth, at some companies, traditional purchasing strategies of supply leverage and aggressive tendering and negotiation have shifted to new initiatives, such as *collaboration and process management/lean supply*. These initiatives include efforts to work with key suppliers to grow the business and to examine supply business processes to lower transaction costs and improve response capabilities. The supply chains of the future will be leaner and faster. Execution of these initiatives requires supply management professionals with new capabilities in areas such as lean management. World-class companies will invest in their people through training and development programs.



Sixth, *technology represents an enabler* in the areas described above—cost reduction, efficiency gains, internal and external integration, and performance measurement. While investments in information technology solutions can provide long-term benefits, IT strategies should be integrated with the functional strategies to capture maximum benefits. ❖

