

Projects, Profits, and SCM

James B Ayers

Your business is likely to deliver products or services or, in many cases, both. If so, success depends on your ability to creatively design and effectively implement a chain that crosses company boundaries. This reality has led to the emergence of Supply Chain Management (SCM). Supply chain management is an integrative discipline that embraces what have been standalone functions like engineering, procurement, distribution, and production. Now, enterprises in other economic sectors like public agencies, healthcare, and services must embrace SCM principles as customer demands intensify. Proper execution, through project disciplines, is indispensable to this transition.

For the recommendations in this article to work, the reader must believe that increased profits are available to companies that can turn supply chain design into competition-beating delivery systems. These profits come from increases in top line revenues and efficiencies in operations. However, many executives don't hold this view. The supply chain is merely a necessary cost of doing business.

Also, because the SCM discipline is fundamentally different from the traditional ways of working, SCM project management also requires different ways of working. This is difficult, and many companies have trouble tackling supply chain change. So, a newly assigned Project Manager (PM) who has mastered traditional project management must understand what the new challenges are. This article describes the major SCM challenges and recommends actions to increase the chances of success.

There is no need to start from scratch. The Project Management Institute (PMI) maintains a widely used global standard in its publication, *A Guide to the Project Management Body of Knowledge*, known as the *PMBOK® Guide*. The Guide, in its Fourth Edition, describes nine knowledge areas familiar to certified Project Management Professionals (PMPs), many readers of *Projects and Profits*, and others who labor in the project environment. PMI calls project categories like supply chain management "application areas." The *PMBOK Guide* carves out application areas based on common project processes, types of customers, or industries. New product development, construction, information technology implementation, and supply chain management are examples. SCM projects qualify as an application area because SCM projects are very likely to share common processes. My book, *Supply Chain Project Management*, describes project processes that constitute a "structured, collaborative, and measurable approach." Important features of this approach have been summarized here.

Why SCM Projects are Different?

There are at least five distinguishing characteristics of projects that establish, improve, or re-engineer a supply chain. "Supply chain" in this context, overarches traditional functional areas (like manufacturing, procurement, distribution). However, to be a supply

About the Author

James B Ayers, CMC, Principal, CGR Management Consultants LLC, Los Angeles, USA. He consults in strategy and operations and is the author of *The Handbook of Supply Chain Management*, *Supply Chain Project Management* and many other related books and articles. The author can be reached at jayers@cgrmc.com

chain project in the real sense, the effort must be multi-company, usually orchestrated by a lead company and supported by collaborating trading partners. In the lead company, this kind of effort will involve engineering, marketing, sales, and finance functions. Such an effort often has one or more of the five characteristics listed below:

- SCM projects are 'strategic' in nature. As evidenced by the broad participation described above, many seek revenue growth and/or cost reductions through customer-focused process designs.
- SCM projects are 'multicompany' in scope, extending beyond the lead company's boundaries. Such projects require internal collaboration among company functions and external collaboration with trading partners.
- Stakeholder participation requires a 'paradigm shift' in the lead company management team. This shift is from arms' length adversarial to collaboration to achieve shared benefits.
- 'Deliverable definition' offers more options. The *PMBOK Guide* states that a project can produce deliverables in the form of products, services, or results. Deciding which is best can challenge project planners.
- The added complexity of supply chain projects requires what the *PMBOK Guide* calls "progressive elaboration" or "rolling wave planning." These are techniques that require built-in flexibility to make continuous changes to the project plan as project events unfold.

The effect of these distinguishing characteristics can be assessed in terms of their impact on areas of project knowledge.

Project Management Knowledge Areas and SCM

The nine *PMBOK Guide* knowledge areas provide a convenient framework. The impact will change from one knowledge area to another; and project managers undertaking SCM projects should understand the impact each characteristic will have. This discussion should alert the PM, prompting him or her to create better project plans and to recruit people with the needed skills.

This article lists the *PMBOK Guide* knowledge areas, the associated processes and their process group, and the differences one might encounter in an SCM project.

Knowledge Area 1 – Project Integration Management

From the list of processes for this knowledge area, it should be apparent that project integration constitutes the "brain" of the project. The processes listed cannot be completed without addressing the following fundamental questions relating to SCM:

- Who should be involved in the project—what departments, which trading partners?
- How far into the future should we plan? How firm do our plans have to be?
- What mechanisms do we need to change project direction, when multiple department and companies are involved?

Table 1: Project Integration Management

Project Integration Management Processes	Process Group
Develop Project Charter	Initiating
Develop Project Management Plan	Planning
Direct and Manage Project Execution	Executing
Monitor and Control Project Work	Monitoring and Controlling
Perform Integrated Change Control	Monitoring and Controlling
Close Project or Phase	Closing

- When do we set a budget? How will we fund the project? What financial and other forms of support do we want from trading partners? What if we overrun our budget?
- What kinds of teams (like Steering Committees, Design Teams) are needed to supervise the project and create supply chain designs?
- What are the governance rules? Do we need contracts? MOUs? Informal Agreements? Will the need for rules vary for supply chains that cross country boundaries? Answer: Most likely.

Such issues are likely to extend the time needed to create basic documents like the project charter and plan. For this knowledge area, the need for active and influential sponsors, in addition to specialized SCM skills, is large.

Knowledge Area 2 – Project Scope Management

The scope management knowledge area calls for decisions regarding the shape of the project deliverable. As noted previously, this can be a product, a service, or a result. For example, a company wants to provide product distribution to serve a new market in a region it doesn't currently serve. Three scenarios might be available.

Table 2: Project Scope Management

Project Scope Management Processes	Process Group
Collect Requirements	Planning
Define Scope	Planning
Create Work Breakdown Structure (WBS)	Planning
Verify Scope	Monitoring and Control
Control Scope	Monitoring and Control

- **Product deliverable alternative:** Build a distribution center of 100,000 square feet with 20 loading docks in "City X" in the region to be served.
- **Service deliverable alternative:** Provide a distribution service, using the 'best' mix of internal and trading partner capabilities. Have it ready to go in nine months.
- **Result deliverable alternative:** Support a market of 100,000 units sales with a distribution cost that does not exceed \$5.50 per unit and \$4,000,000 in investment. Have it ready to go in three months.

The subtleties involved and the mindset demanded to define project deliverables call for SCM expertise. There are drastically different ways to reach a common goal. The choice might depend on prior analysis work. For example, the product alternative may have been thoroughly researched

against other alternatives. Another variable would depend on the lead company’s technical and financial capabilities. Access to capable trading partners is another factor.

Knowledge Area 3 – Project Time Management

PMBOK Guide processes in this knowledge area are quite transferable to SCM projects. SCM expertise should provide better time estimates. To the extent that multi-department and multicompany resources are called for, collaboration to gain resource commitments will be necessary. Should needed resources not be forthcoming, the project plan will need to be adjusted.

Project Time Management Processes	Process Group
Define Activities	Planning
Sequence Activities	Planning
Estimate Activity Resources	Planning
Estimate Activity Durations	Planning
Develop Schedule	Planning
Control Schedule	Monitoring and Controlling

Sequencing project activities requires SCM expertise and is important. The team should design the processes and then design the organization to execute those processes. During implementation, the process is reversed: first, implement the organization, then the process design. This way, people in the process, will be more committed to its success.

Knowledge Area 4 – Project Cost Management

Like the time management knowledge area, *PMBOK Guide* cost management processes are readily transferable to SCM projects. Complications arise from the multicompany nature of the SCM project. Considerations go beyond the direct costs of the project. How will risk and reward from the project be distributed among the trading partners? Who will fund capital investments? Who will pay for employees and consultants working on the project? How will changes to the budget be handled in the multicompany environment that requires coordination of several budgets?

Project Cost Management Processes	Process Group
Estimate Cost	Planning
Determine Budget	Planning
Control Costs	Monitoring and Controlling

Another dimension arises when new product development with partners is undertaken. New products may require new supply chains—either for the upstream (supply) and the downstream (distribution) side of the lead company—or both. In some cases, configuring the supply chain is a principal barrier and is critical to the product’s success. This threat may never be calculated as part of ‘cost management’ of the supply chain project. Yet, the financial impact due to delays or glitches will have a real impact. Putting extra funds into the project budget may save money overall.

Knowledge Area 5 – Project Quality Management

Sufficient supply chain expertise is needed to evaluate quality, particularly where the deliverable is

a service or a result. Also, not to be overlooked is the importance of timely completion due to penalties for late delivery of project benefits even if project budgets are being met.

Project Quality Management Processes	Process Group
Plan Quality	Planning
Perform Quality Assurance	Executing
Perform Quality Control	Monitoring and Controlling

The fundamental goal of SCM is to match supply and demand. An increasingly important index of quality in a supply chain design is measured by the way decisions are made along the chain. A common goal is to shift from reliance on forecasts to reliance on actual demand for replenishment decisions. The vision of the demand-driven supply chain is practically universal.

Knowledge Area 6 – Project Human Resource Management

A high level of SCM expertise is called for to support this knowledge area. Joint efforts with people from multiple trading partners raises complexities associated with commitment, cultures, and objectives. The Human Resource Plan should list expectations for staff resources as well as a Responsibility Assignment Matrix (“RAM”). The RAM tool reflects the role of participating stakeholders and becomes especially important where there are many stakeholders.

Project Human Resource Management	Process Group
Develop Human Resource Plan	Planning
Acquire Project Team	Executing
Develop Project Team	Executing
Manage Project Team	Monitoring and Control

Knowledge Area 7 – Project Communications Management

Multicompany and inter-departmental participation put a premium on communications management. A Project Management Office can coordinate needed communications. It should address methods of gathering and storing types of information, access to information, including project intranet sites, and schedules for information distribution and project plan updates.

Project Communications Management Processes	Process Group
Identify Stakeholders	Initiating
Plan Communications	Planning
Distribute Information	Executing
Manage Stakeholder Expectations	Executing
Report Performance	Monitoring and Controlling

The project management discipline includes earned value analysis that tracks how a project is doing with regard to time and cost. A necessary component is assessing progress toward deliverables, or “earned value.” Earned value is a tool that communicates progress. This can be

accomplished by counts, deliverables produced, achievements, and expert evaluation. Needless to say, “expert” valuation requires supply chain expertise, particularly where services or results are the deliverables. In these cases, the results in terms of initial goals may not be apparent until the project is over.

Knowledge Area 8 – Project Risk Management

Risk in the supply chain project comes in two flavors. The first flavor is traditional project risk that is concerned with missing schedules or budgets. The second risk flavor is the unreliability of assumptions about trading partner cooperation, markets served, and implementation hurdles. The strategic nature of supply chain projects assures high visibility and, frequently, ‘bet the company’ initiatives. Multicompany participation exposes the lead company to the vagaries of partner behaviors. Progressive elaboration and rolling wave planning, aided by earned value analysis advance early action to prevent or mitigate the damage. The *PMBOK Guide* recommends qualitative, judgmental risk assessment first, followed by in-depth quantitative assessments in areas where such research is justified.

Table 8: Project Risk Management	
Risk Management Project Processes	Process Group
Plan Risk Management	Planning
Identify Risks	Planning
Perform Qualitative Analysis	Planning
Perform Quantitative Analysis	Planning
Plan Risk Responses	Planning
Monitor & Control Risks	Monitoring and Controlling

Knowledge Area 9 – Project Procurement Management

Like risk management, the procurement management knowledge area has two aspects. First, the project must obtain the resources it needs. Examples include: consultant support, software packages, systems integration services, and other supplies and services. Second, an executing task in the project may require finding and engaging trading partners as sources of materials or as distributors of products and services. These trading partners will be with you for the long-term—long after the project is over.

Table 9: Project Procurement Management	
Project Procurement Management Processes	Process Group
Plan Procurements	Planning
Conduct Procurements	Executing
Administer Procurements	Monitoring and Controls
Close Procurements	Closing

Conclusion

Successful implementation of supply chain projects can lead to better customer service, increased market share, and enlarged profits. However, the path to success requires understanding why, in a supply chain world, business as usual is no longer sufficient. This article has pointed to a few actions that may not be immediately obvious.❖

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