

Visually-Enabled Supply Chain

Videoconferencing applications result in more frequent face-to-face collaboration and increased productivity.

By John Paul Williams

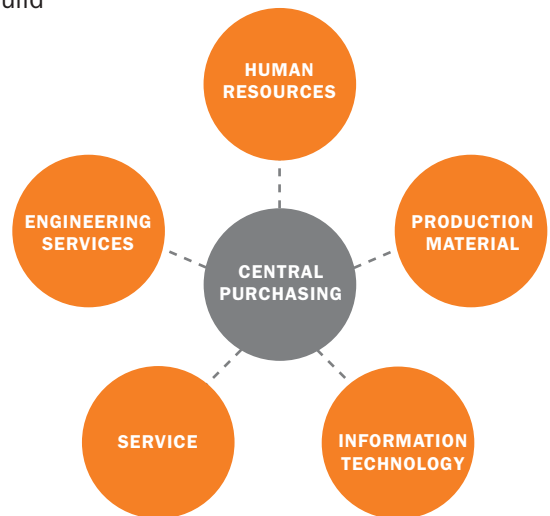
Increasing globalization has generated new challenges in effective supply chain management. The forces molding supply chains today are being driven by:

- The need to innovate, find and use talent anywhere in the world;
- The expectation of continued price reductions and, in some industries, over capacity, both of which put downward pressure on pricing;
- Customer expectations that prices will drop over time and increased difficulty passing on internal cost to the customer; and
- Exchange rates are having a larger impact on pricing in a global market place.

Supply chains can account for 70% of a corporations cost.

Present supply chain development strategy emphasizes focusing on a core competence for your business space and establishing partnerships with suppliers that have complementary core competencies. There are several business advantages to this strategy, including:

- Grow market share in different regions and build economies of scale to gain cost advantages;
- Develop more cost effective supply chains that move manufacturing closer to sources of labor and raw materials;
- Organizational development – the capability to use talent anywhere in the world; and
- Risk mitigation – strategically locating operations and supply chains in different regions reduces the risk of supply interruptions (diversification helps offset a slow down in one region with growth in another).



The Outsourcing Advantage

Outsourcing has made the supply chain management process more complicated and more critical. Many companies are outsourcing internal business processes, as well as production. Internal functions such as service, payroll, IT and design are frequently outsourced to organizations that continually invest in their own infrastructure to develop cost advantages and clear competencies in these areas. Such competence and cost-savings is often not achievable by companies keeping such functions internal.

Companies that are focused on their customers and markets—and the value they bring to these markets—want to reinvest in these differentiating competencies, not defocus the organization with other support activities that are not essential to overall business objectives. Such non-essential support activities are leading candidates for outsourcing.

The outsourcing of support functions, including manufacturing, has created a much more complex process for a central procurement organization to manage. Purchasing or procurement departments now have to deal with buying parts, supplies and services. An organization that has several key support functions managed by suppliers will find that their internal processes now run through one or more suppliers requiring real-time communications. How effectively an organization manages these complex supply chains—where the responsibility for the different steps in a process shift from supplier, then back in-house, then back out again—will determine their business success.

Competitive Advantage: More Capable Supply Chains

Companies are gaining more experience in managing supply chains and learning how to incorporate a supplier's core competencies into a value stream that delivers better products and services. Competitive advantage in the marketplace is evolving from a typical Product vs. Product, or Channel vs. Channel to Supply Chain vs. Supply Chain. The ability to collaborate and innovate over long distances, through cultural differences and across time zones becomes a key management challenge. Companies that learn how to do this and support these global processes with the proper management methods and technology will prosper.

International Procurement Office

The outsourcing strategy has had the effect of geographically spreading out organizations, with many organizations in fact becoming virtual organizations. There are many benefits to this approach, but it also presents new challenges regarding coordination, communication and organizational alignment. One strategy that many corporations are implementing is to create an International Procurement Office (IPO). These offices are often situated in key regions where a majority of the goods or services are purchased. The duties these offices perform involve:

- **Sourcing and selection** – successful companies have a conscious goal to look for the best sources in the world. Criteria for selection include technical considerations as well as quality and cost.
- **Certification of suppliers** – sometimes in conjunction with ISO standards or third-party qualification.
- **Audits** – periodic audits are needed to maintain standards of excellence established and keep track of changes that might have occurred at the supplier.
- **Environmental standards** – significant concerns among best-practice companies.
- **Contracts development** – contracts insure a level playing field and get issues on the table and acknowledged. Sometimes they are used to compel compliance through arbitration as well as normal legal processes.
- **Credit terms** – negotiated with their suppliers and rarely use letters of credit.
- **Currency and exchange rate fluctuations** – offices need to be flexible and aware of currency risks and opportunities.

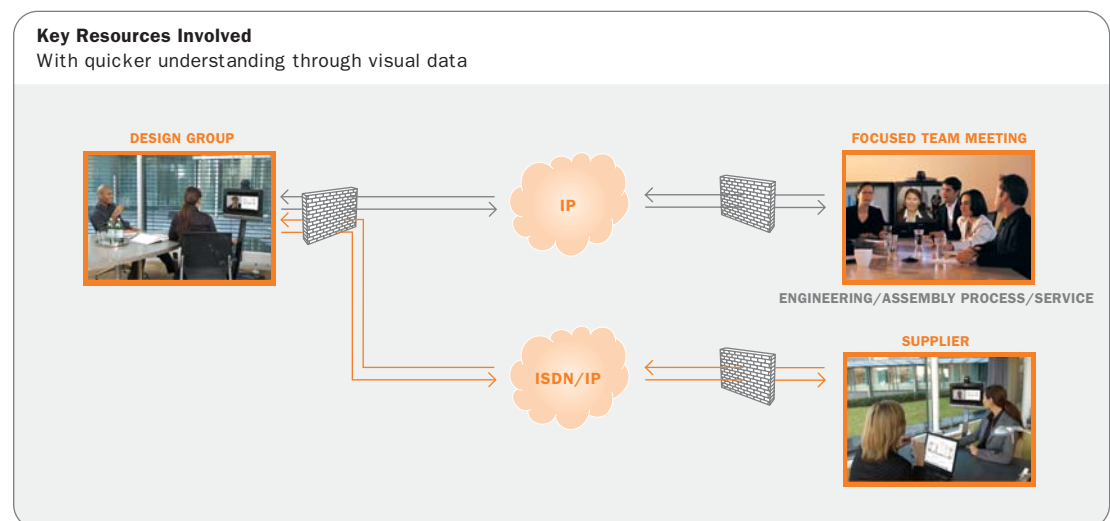
Once a supplier has been selected, the communication frequency between the supplier and customer only increases. When critical processes are outsourced, (e.g., manufacturing, IT or design) it is essential for the two organizations to interface with each other at many levels. Each organization has functions with specific talents and knowledge that will be needed to fulfill the requirements in an outsourced business relationship. Across the board, there are numerous activities amongst these functions that are communication intensive and can be significantly accelerated with a visually-enabled supply management system, including:

- Negotiations;
- Scheduling changes;
- New product introduction and the collaboration to maximize each others core competencies;
- Engineering change notices;
- Event management, supply disruptions, natural disasters, allocation, part discontinuances; and
- Quality audits.

Power of Presence

Visual communications enables real-time management of demand changes and supply disruptions directly with key decision makers.

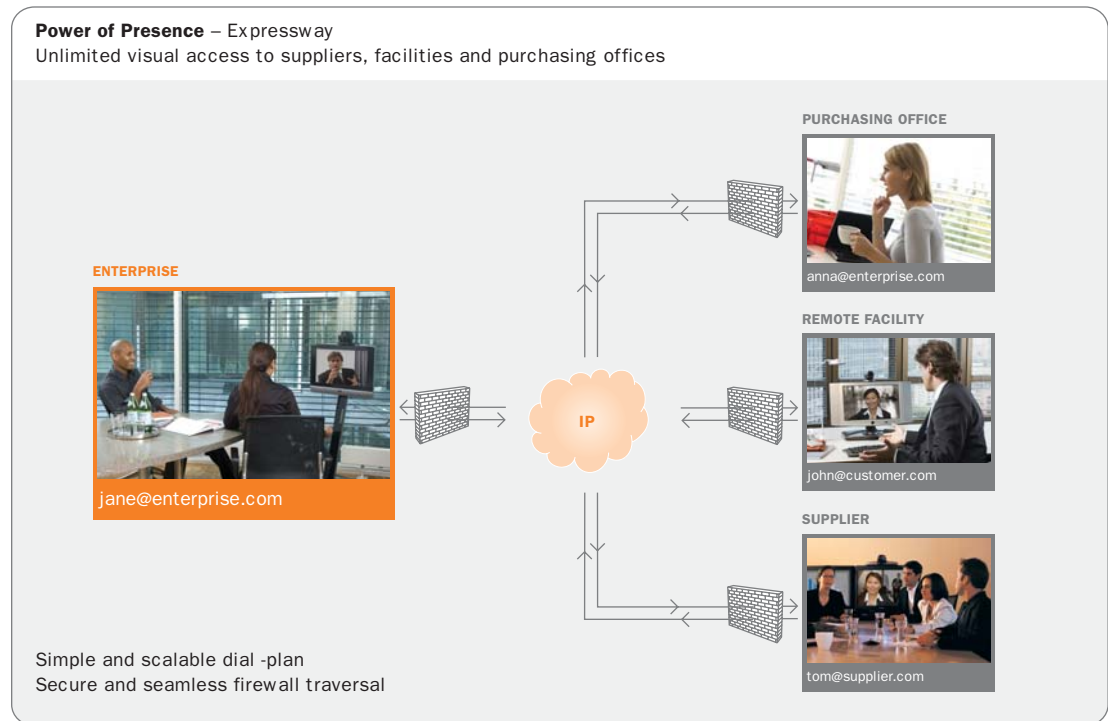
These individuals, and in some cases groups, will need to communicate often; to discuss the details specific to their expertise. Material planners in each organization will need to communicate. Engineers will need to review specification and documents. Quality teams will need to discuss requirements. Management will need to do some long range planning for business alignment purposes. Moving some of these visual communications out of the conference room and enabling them to take place right from the desktop supports more frequent casual communication, facilitates organizational intimacy, and allows different organizations to function as one in an outsourced business environment. Facilitating this on a global scale presents great challenges, but if engineered properly, significant competitive advantages can be achieved competing supply chain to supply chain.



Value of Visual Communication

Real-time visual communication builds trust and team cooperation and allows for more information to be conveyed in a shorter time frame. Problems can be understood more quickly and teams can see what the situation is without having to actually be there in person. A visually enabled International Procurement Office can perform many of its functions more often and with less costs. Periodic audits can be performed through a videoconferencing network, alternating between in-person audits and audits performed over video. Corrective action events can be performed over these systems and reinforced with more frequent compliance-progress meetings to insure the effectiveness of the corrective actions.

It is important when building a visually-enabled supply chain to work with a technology partner that has the wide breath of solutions that fit your business application needs. The advance of Internet Protocol (IP) networks worldwide and firewall traversal technology, specifically TANDBERG's Expressway™ firewall traversal solution, has made visual communications as simple as placing a phone call.



Visual communications
accelerates root
cause discovery
locally or on
a global scale.

Running Lean

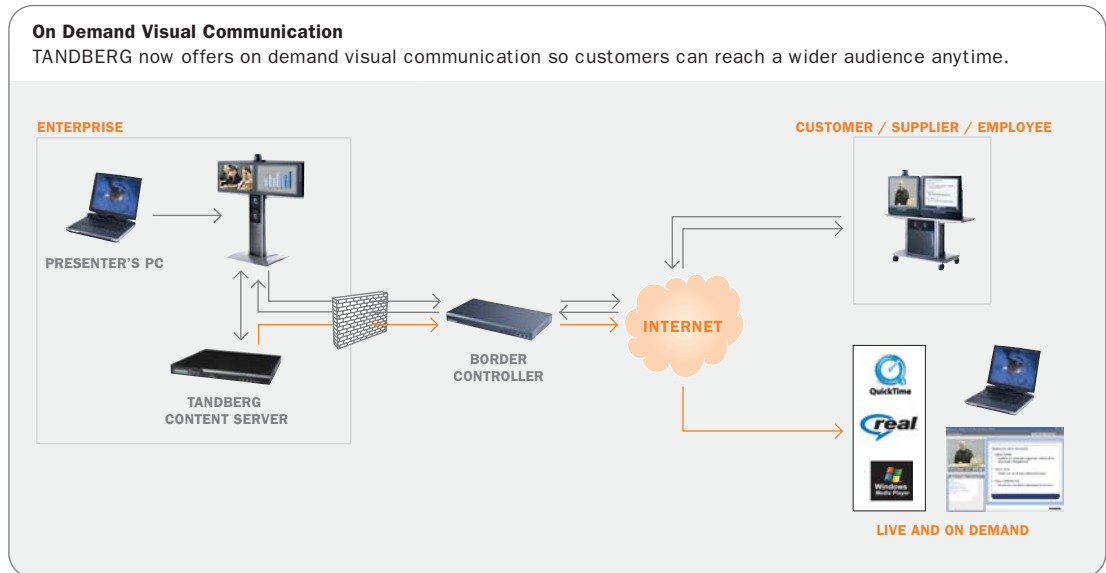
One of the more complex challenges in the 21st century is to manage a global supply chain effectively in a Lean Manufacturing environment. One result of the increased application of Lean Manufacturing is that there are fewer inventories in the system to act as a buffer to mitigate the effects of supply disruptions. If supply disruptions last long enough and stop a production line, the opportunity costs are enormous. In the automotive supply industry, a car manufacturer can produce a small car every minute and a larger car every 2.5 minutes. A part supplier to this car manufacturer can be charged \$18,000/minute for late deliveries. This leads a typical Tier 1 supplier to budget late delivery charges in the millions of dollars. Being able to quickly manage supply disruption events, assemble the right response anywhere in the world and collect critical information right from the source of disruption can save millions of dollars.

A visually-enabled supply management process can quickly tie key individuals into the problem resolution process and escalate the cycle of *Problem Identification > Root Cause Discovery > Solution Collaboration > Resolution Implementation* on a global platform. Suppliers can be linked to their customer's video communication network, allowing the type of intimate information sharing and quick understanding that occurs when two operations are right next to each other. In the case of a more mature supplier management implementation, critical sub-suppliers and or distributors are tied in to gain visibility through one more level of the supply network. TANDBERG's *Expressway* solution makes firewall traversal transparent for IP networks, removing a major barrier to a seamless supply management process between different organizations. Product engineering data, field service experience and the assembly process can all be viewed simultaneously to quickly generate a common understanding of the issues, allowing a project team to collaborate on solutions. In a visually-enabled supply management process, critical information can be supplied at the point of need, when it is needed, quickly and with little cost.

Collaboration on Design Changes and Product Introductions

The ability to instantly collaborate with remote design teams, whether employees or part of a supplier base, is essential to improving time to market. Being able to view documents, drawings and even the actual product simultaneously with the presenter using TANDBERG's DuoVideo features provides a much quicker and deeper understand of an engineering change. Scrap and errors are reduced, and inventories can be more tightly managed during the switch over from one part or assembly to another.

It is a well know dynamic that the majority of the cost of a product is determined in the early design phase of a project. Techniques like Design for Manufacturing (DFM) pioneered by Boothroyd and Dewhurst and others have significantly reduced costs. Even if a manufacturer outsources assembly but keeps the final integration and testing in-house, collaboration with the supplier during the early design phase can save significant time in the final integration phase of assembly. Often the supplier will have more experience on DFM methods applied to their parts and technology than the customer. This experience and talent can be best applied during a collaborative design process with customer and supplier early in the products design phase.



Frequent collaboration
inspires innovation
which becomes the
foundation for
competitive advantage.

The key time to take advantage of the core competences in your supply chain is during a product's early design phase. If this network is visually enabled, this can occur frequently during the design process with little cost, yielding significant results. A team can share the control of a meeting in a multipoint call while simultaneously viewing the documentation that is under discussion from any where in the world. TANDBERG's solutions can encrypt the call throughout the entire network traversal providing the security that is essential to protect corporate intellectual property.

In addition, utilizing the TANDBERG Content Server, meetings can be recorded in real time and streamed to other participants at a later date, further helping to overcome variations between time zones. Participants can view archived meetings or presentations from any device (PC or mobile device) capable of playing Windows Media, QuickTime or RealPlayer files. Anytime, anywhere access to archived content enables important team members to understand how decisions were developed during the course of a meeting and to benefit from seeing and hearing the trade offs that were analyzed during missed meetings. Visual communication enables participation throughout the process and can help to build support for decisions and allows organizations to move ahead faster with greater organizational buy in.

Conclusion

In an outsourced business structure, coordination with the supply base is essential. Contract manufacturers want to develop close planning and execution relationships with their customer base. Conversely, the customer of a contract manufacturer wants to feel like they are dealing with their own employees when discussing issues and plans with the contract manufacturer. Visual communication builds the trust and familiarity that becomes the foundation for a long-term business relationship. Linking data systems and EDI connections between a contract manufacturer or outsourced partner and its customer's builds efficiency and is important. Business, however, is a human enterprise that is grown through collaboration and innovation that occur best in a face-to-face real-time environment.

Author Bio: John Paul Williams leads global marketing development in the manufacturing industries for TANDBERG. He is an experienced global operations executive leading innovations in manufacturing, quality and engineering. He has been a successful senior quality officer implementing Lean Manufacturing & Six Sigma methods, including developing strategic sourcing partnerships that increased competitive advantage. In 1990, the plant he managed was the sole winner of the North American Shingo Prize for Manufacturing Excellence. Please contact John Paul Williams at johnpaul.williams@tandbergusa.com for more information or visit www.tandberg.net.