

# Collaborative Software in the Flavor and Fragrance Industry

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Collaborative electronic relationships with business partners promise to generate tremendous savings for today's corporations. In the offline world, business partners have long shared data and information, jointly developed products, negotiated prices and terms, queried product specifications, and discussed demand expectations. These cooperative processes are essential elements of any successful business. In the past, the communication- and information-intensive nature of collaboration made it cumbersome and expensive. Over the years, companies developed unique and non-standard processes to collaborate and cooperate with external entities, be they vendors, customers or partners. Today, new technologies have opened doors to tremendous cost-saving and revenue-generating opportunities. To achieve these benefits, companies must reexamine, reengineer and sometimes even remove inefficient processes that are incongruent with new technologies.

Collaborative software helps companies work cooperatively with external parties to gain mutual advantages. The most famous collaborative electronic partnership was created in the 1990s between Proctor & Gamble and Walmart, with an implementation price tag in the millions, and an accrued benefit measuring magnitudes greater (P&G saved close to \$2.5 billion from 1990-1997 from their supply chain initiatives)<sup>1</sup>. Collaborative software in use today includes applications for areas such as e-procurement (for direct and indirect goods), supply chain management, sell-side e-commerce, product lifecycle management and partner relationship management. Within these broad categories are numerous, more specific classes of applications. For example, supply chain management encompasses a host of technologies such as supply chain event management software that creates visibility for partners into the entire supply chain, supply chain planning that allows partners to collaboratively plan to optimize benefit to the entire supply chain, and several others.

For the layman, these new technologies may seem quite futuristic, but in reality they have already been adopted within the flavor and fragrance industry today. Sell-side e-commerce solutions have been implemented by a host of companies, including Givaudan (with

GivaudanAccess), Firmenich, Bedoukian, Vigon International, Ashland Chemical, Sigma Aldrich and many others. Similarly, third-party e-procurement and sales management solutions are gaining momentum with a steadily growing user base. Flavor and fragrance manufacturers sense the need to leverage their investment in expensive ERP implementations, and are exploring supply chain technologies as a means of improving communication and information access. Software providers with compatible technologies that promise to save time and money are now receiving greater attention and review.

Why are these applications gaining users within the flavor and fragrance industry? The overwhelming reason is their ability to reduce costs or improve revenues. Those core benefits are driven by less paperwork, fewer manual processes and less human interaction than in traditional commerce. They also facilitate on-demand availability of information, reduce processing costs, improve accuracy and shorten cycle times when compared to the traditional processes. The adoption of these solutions naturally reduces overall enterprise costs, controls spending and gives users better market visibility, which improves the efficiency of all parties involved.

Knowing the benefit involved is really only a small piece of the puzzle. For many of these applications, potential users face a critical implementation decision – who owns and manages the software applications? There are three models in use today: private ownership, consortia ownership, and third party ownership. There are advantages and disadvantages for each, that are briefly explored below.

## Private Ownership

The private ownership model for collaborative applications is not much different from the traditional software paradigm where a company purchases, implements and operates an application. For collaborative applications in the private model, a company buys the software and then asks, or more commonly demands, that partners and vendors integrate with this application to achieve collaboration. Integration takes on a variety of faces, the most prominent being electronic data interchange (EDI) or

extensible markup language (XML) protocols. EDI, a standard that has been used since the 1980s, has a proven track record, albeit an expensive one. XML is a relatively new technology that utilizes the Internet to achieve connectivity, with a less proven track record.

As the owner of the software, costs for the private model are manageable in the sense that they can be somewhat accurately predicted based on the number of partners involved. As a business partner asked to create a

direct link to the new application via EDI or XML, your one-time costs are manageable as well. The difficulty arises when a second business partner demands that you integrate to their unique systems, each with a typically expensive implementation cost. Repeat this scenario 10 times and the math for business partners becomes difficult. Repeat it 50 times and there will be a lot less business partners in the world. In addition, the proliferation of non-standard connections, whether it is two, 10 or 100,

requires an ongoing effort that drains resources. In this approach, the likelihood of a business process becoming standardized is non-existent.

### **Consortia Ownership**

The consort model for collaborative applications is a much more complex proposition. In this case, a group of companies form a joint venture or similar organization to purchase or develop and operate the collaborative software. The key difference between the consortia and the other models is that the consortium creates a hub approach to collaborative involvement. Instead of each company creating individual direct links to each partner, this model creates a hub; whereby each participant makes only one connection to the hub. Once connected to the hub, participants can collaborate with any companies that have connected to the hub as well.

The consortia model does drive standardization, mostly by the founding members or owners. By agreeing to use a set of common data formats, companies can exchange business information with multiple partners without having to invest in expensive point-to-point software connections with each trading partner. Corporate collaboration on accepted industry standards leads to lower costs, better quality, shorter cycle times and overall improved operational performance.

Larger companies typically establish consortia, which create conflicts of interest with respect to standards and processes. These “founders” drive the requirements and integration points both initially and over the long term, since they are owners and the largest benefactors. As a result,

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smaller companies typically are somewhat disadvantaged, or are outright hurt by participation. Unfortunately for the small guys, their customers often demand participation and in this zero-sum game, benefits to the large participants are at the expense of the smaller participants. This win-lose scenario is not a formula for long-term sustainable success.

### Third Party Model

An alternative model to private ownership or consortia is oftentimes described as the third party model, where the collaborative applications are purchased or developed and operated by an independent organization. This model is also a hub model, with a one-time cost to implement a connection by all participants. The similarities with the consortia model end there. Independent providers of collaborative applications drive standardization through industry acceptance of a win-win model rather than through brute force (a win-lose model is nearly impossible for a third party to sell to the losers). The cost savings and revenue opportunities from a private model accrue to all participants as opposed to a subset and as a result tend to be optimized for the industry as opposed to sub-optimized to the benefit of large participants. An attractive feature of the third party model is the ability for members to participate with no up front capital costs. In this regard, members help refine the business processes through their use and adoption, and do so with no technology or capital risk. Ongoing maintenance and upgrades are also “outsourced” to the third party operators, preserving cash investments for other strategic growth opportunities.

The only significant drawback to the third-party model is the difference in adoption rate between it and the other models. In both the private and consortia models, one or more users mandate compliance within their business partner community. This drives immediate acceptance of the collaborative application, regardless of whether the application provides real value to all of the business partners. The third-party model works in a completely different manner. Instead of mandating compliance, the third-party administrator must literally sell each participant on the value of the collaborative application. The nature of this relationship makes it difficult to build a third-party model with a collaborative application that has anything but a win-win value proposition for all parties.

### Impact on Business Processes

Once implemented, regardless of the model, these collaborative applications impact today's business processes within the flavor and fragrance industry. Here are several implications for business processes, and the applications that drive the impact.

**Procurement:** Electronic linkages between suppliers and buyers lower the effort required for procurement and sourcing processes, improve customer service, leverage

enterprise software investment, and reduce costs. Examples exist for both direct goods (RM2M, VerticalNet, i2 Technologies) and indirect goods (Ariba, Commerce One, Purchase Pro, etc).

**Production:** Real-time information and planning, from both ends of the supply chain, drives better production efficiency and on-time delivery for raw materials, intermediate products, and subsequently, for finished goods. These benefits are facilitated through several types of applications including supply chain event management, vendor managed inventory, and supply chain planning (i2 Technologies, Manugistics, SynQuest, Saltare, etc.).

**Product development:** Raw materials, which are purchased to fill daily sales orders by manufacturers of flavors and fragrances, have been initially tested, pre-qualified and approved by development and regulatory personnel within these companies. Software applications today can help product developers access pre-approved suppliers for their development needs (RM2M), or can help product developers work jointly with suppliers to build new products (Converge, Centric Software, Inovie Software, SDRC).

**Sales:** Real-time information also strongly benefits the sales function, with the ability to “see” the entire supply chain in real time when making customer commitments, thus improving accuracy of customer commitments and increasing customer satisfaction. These benefits are created again through supply chain software known as supply chain event management (i2 Technologies, Manugistics, SynQuest, Saltare, etc.).

These examples highlight the impact of collaborative technologies on specific business processes. Many of these technologies also benefit other functional areas, some even more strongly than the business process they enhance. For example, procurement applications may improve efficiencies in receiving, product development and accounts payable (through online sample requests, raw material document access and three-way matching of invoices). Other applications have similar ancillary benefits. The key point to remember is that collaborative applications rarely impact only one function within an organization. For this reason, it is important to calculate the total benefit to the organization, as well as involve all impacted areas in the adoption decision.

### Business Process Standardization

Change in the flavor and fragrance industry is nothing new. Without it, the industry would still be made up of hundreds of specialized small manufacturers with few driving technology innovations. Robotics and other advances in production and product development automation would still be a dream. Today, the top 10 global manufacturers of flavors and fragrance represent nearly 60 percent of the world's turnover of product, and the top 20 companies represent nearly 80 percent of the global turnover. The flavor and fragrance industry has adapted to past changes, but with the exponential evolution of technology, the industry is discovering that it had no idea what change was really about.

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The flavor and fragrance industry, like the food industry, is both information-intensive and global, and the very nature of this highly regulated industry creates enormous incentives for shared standards. Shared business standards can lead to viable, cost-effective methods for industry partners to communicate and conduct commerce with one another globally. Let's explore one example of a need shared among all business partners in the flavor and fragrance industry, that being the annual practice of suppliers filling in a 25-30 page document individually supplied by their customers in order that the supplier will be eligible for renewal of their preferred supplier status. The burden placed on suppliers to deliver the same content to their customers in dozens of separate and non-standardized formats is tremendous and leads to an annual net loss of productivity for the industry. Industrial acceptance of standard formats and processes would turn this troublesome and time-consuming activity into a much more productive and industry maturing process. In time, the flavor and fragrance industry will begin to recognize and support shared standards as a cost-improving and necessary next step to greater partnerships and profitability. Many of the technologies described in this article will drive standardization of processes in their implementation.

### **Preparing for New Technologies**

What can the flavor and fragrance companies do to prepare for new technologies? Several things, actually. The first task is to become a student of new technologies. Subscribe to technology-focused magazines, visit Web sites and read product reviews – anything to keep abreast of emerging technologies. Ignorance is the enemy, and not surprisingly, is the leading cause of bad technology decisions. Next, take stock of your current processes and the technology that facilitates those processes. How well do they work together? Are there obvious conflicts? What areas of your business would you like to improve? Can you effectively manage the business? Answering these sorts of questions will help you to understand where you should focus your technology priorities. Finally, review the skill sets in your organization. Where are you weak? Where are you strong? If the answer to either of those questions is technology, you have some idea of what your capacity is for engaging new technologies. If not, you probably need to dig deeper into your organization to really define what technology can do to help leverage your organization's skills.

Collaboration within the flavor and fragrance industry is not new, and it will continue to evolve as industry leaders strive to increase revenues, reduce costs and improve service. Leaders are already defining their future through collaboration, and thus are shaping the future of the industry. Although defining collaborative boundaries will continue to be an individual company's choice, these choices will ultimately define the future for our industry.

### **References**

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1. Robert J. Bowman. "Taking Supply Chain Management to the Next Level", *Global Logistics & Supply Chain Strategies*, February 2000. ■