Building Trust in a Collaborative Relationship: The Case of Align Technology

By M. Eric Johnson and Laura Rock Kopczak

Want to collaborate with your customers? You first must be a trusted partner.

Many manufacturing firms start down the road of channel collaboration, hoping to find ways to improve the final customer experience and value, only to find that lack of partner trust undermines their objectives. In some cases, years of bitter negotiations between the channel partners poisoned trust in the relationship. In others, crass requests for the partners' customer information created suspicion, botching the attempt to collaborate. Sometimes, broken promises or poor performance slowly eroded trust. In each case, the roots of failure often stemmed from a misunderstanding of collaboration itself. True collaboration involves reliance on the unique expertise and experience of partners, and delegation of a share of meaningful decision-making. Collaboration involves putting one's trust in the partner. Organizational theorists have found that such trust is developed and supported through many, sometimes small, interactions — proving over and over again the reliability of the partnership.[1]

Implementing collaborative software tools is only one step in forming a trusted relationship along with many changes in technology, work process, and organization that impact trust. Making collaboration effective requires building trust through a track record of reliable performance. Align Technology learned this through its unusual collaboration with orthodontists and dentists to open up a whole new approach to straightening teeth.

In the late 1990s, Align developed a revolutionary product — transparent plastic aligners used to straighten teeth in adults. The clear plastic aligners are worn in two-week stages by the patient. For each stage, the aligners are slightly different, steadily moving the teeth as the patient moves from pair to pair over a typical 35- to 40-week treatment.

Align's product is the ultimate in mass customization. Starting with physical impressions, photos, and x-rays, Align uses sophisticated software to develop a digital model of the mouth. That information is shipped to Costa Rica where a team of hygienists and orthodontists develop a treatment plan. That plan is shared with the patient's orthodontist who adds her knowledge of the patient and her own treatment preferences to the plan. When the plan is approved by the patient and orthodontist, the digital model is converted back into physical molds using stereolith-ography. Those molds are used to create a set of plastic positioners in a Mexican manufacturing facility. The complete set of positioners is then shipped directly to the patient's orthodontist.

Collaboration with the orthodontist is a key element in the treatment. Not only does Align need the hard data about the patient (e.g., impressions, photos, and x-rays), but also knowledge about

[1] Gulati, R. (1995), "Does Familiarity Breed Trust? The Implications of Repeated Ties for Contractual Choices in Alliance," *Academy of Management Journal* 38 (10), 85-112.

the patients unique needs as reflected by the treatment style of the orthodontist. Since orthodontists have many traditional approaches to treat malocclusion, Align must win and keep their trust to draw them into the collaborative process. This requires sophisticated tools to share information, consistent interaction between Align and the doctors, and a reliable process that delivered results for patients.

From the beginning, Align realized that an excellent tool for sharing patient information would be a prerequisite to nurturing collaboration with the doctors. As an outgrowth of their treatment process they developed 3D viewing software that allowed doctors to visualize the treatment plan and share that plan with their patients. A treatment plan includes a 3D representation of tooth positions and alignment for each of the typical 19 phases of the treatment. Using the software, technicians create the plan for moving the teeth, phase by phase, from their starting positions to their final positions. When the treatment plan is ready for review, an e-mail notification is sent to the doctor. At her convenience, the doctor could log into a web interface and view the treatment plan using Align's ClinCheck software. The treatment plan is provided in an animated video showing 3D-simulated movement of the teeth from starting to ending positions. If the plan meets with the doctor's approval, it can be shared with the patient. If either the doctor or patient has concerns or ideas for modifying the plan, that information can be communicated to the technicians at Align through the web interface. The technicians adjust the plan according to the doctor's specifications and then provide an updated visualization of the plan. When everyone agrees with the plan, the data is released into Align's supply chain to drive the production of the physical aligners.

Clearly, the collaboration tools were effective in drawing the doctors into the collaboration process as Align grew rapidly from product introduction in 1999 to shipping over 155,000 treatments by 2003. With growth, however, came challenges. The complexity of Align's mass customization process, involving three production sites, hundreds of design technicians, and thousands of doctors, strained their ability to provide consistent treatment plans and reliable product delivery. These frictions began to undermine the doctors' trust in the collaborative process.

The problems were linked directly to production control policies and lack of visibility of work on the production floor. Technicians cherry-picked the easier jobs, causing delays for the more difficult treatment designs. In addition, as there was no one-to-one matching between doctors and technicians, the doctors did not build up a rapport with a single design collaborator. As the number of cases submitted by each doctor increased, doctors found that they had to work with each new technician to inform them of their individual design preferences.

As an interim remedy, Align staffed the supply chain with many process monitors and expediters — literally, human glue — to keep the flow of patient data moving and provide better service. Both the cost and failure of this process led Align to the realization that it had to build a more powerful system to ensure consistency and move the cases swiftly through the process.

In 2004, they began integrating a process execution system into their ERP platform to monitor and control the flow of cases in the supply chain and provide the doctors with more visibility into the process. The system gave them the automated ability to focus technicians on specific

doctors, allowing those technicians to learn the doctors' treatment style and provide consistent plans. It also eliminated the unreliable human expediters and ensured the cases flowed reliably through the chain, increasing the delivery performance to near-perfect levels. With the improved consistency and reliability, and one-to-one rapport, the doctors' trust in the collaborative process improved, making them more willing to partner with Align.

The lessons from Align are compelling. Trust in collaborations requires:

1. Simple conduits for sharing information that draw the partners into the collaboration process.

2. Consistent processes that ensure that shared information creates value. The doctors sharing treatment information expected Align to use that information to learn their treatment styles and preferences.

3. Reliable delivery of the product and service to the end customer.