



Creating a New Category— A Disruptive Journey

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“You miss one hundred percent of the shots that you don’t take.” Wayne Gretzky could not have spoken truer words. In the tech boom we are currently living through, most industries are prime for disruption. Healthcare is no different. In the simplest of terms, a disruptive technology is any innovation that creates a new market and disrupts an existing one. As some of you who are reading this know, I have been on the journey of creating a new category and trying to disrupt an old one for the last 4 years. I am often asked how to do this. The truth is, I have no idea. The path seemed to happen so organically that it is difficult to give a set of guidelines or rules to guarantee success. The only certainty is that if the idea remains only an idea, it will never be successful. As a friend of mine recently said to me, “we all talk about it, but you are actually doing it.” The “it” referring to taking an idea and turning it into a reality.

So, how did this all come about? The experience of being a busy orthopaedic trauma surgeon combined with formal education getting my MBA proved to be my personal disruptor. There were back-to-back classes in business school on “Managing Information in the Enterprise” and “Disruptive Leadership.” As the class names depict, they focused on information technology and strategy and how to lead through disruption. These critical experiences started to transform my thought process. I developed an understanding that information is a major economic good and that technology could be leveraged to transform organizational and system readiness. Systems that can receive, process, and respond to information quickly tend to gain advantage and those that do not fall behind. The goal is for the system to work toward the most effective way to complete the processes, not in the silo fashion that our system currently exists. Mapping information technology to value requires realizing that: automation equals operational efficiency; controls lead to better checks and balances; better and quicker access to information empowers decision making; and collaboration generates creativity and leverages the power of the group. This ultimately led to my vision of a digital platform that connected the entire process of performing surgery.

In the backdrop of this educational experience, I began talking about building a consulting business in the medical device world with a longtime friend of mine, Tim Donnelly. Tim, at the time, had been working as a medical device consultant for about a decade. After my experience with these two classes, I suggested that we dive into software instead to help improve the orthopedic operating room process. Donnelly, while on a phone call with me, did a quick test and asked iPhone’s Siri a specific question about which size drill bit was needed for a 3.5mm cortical screw. When Siri pulled

up the exact manufacturers webpage that had the answer, we knew enough underlying technology existed to support our idea. So, we started out on our journey to build a platform that would revolutionize the surgical process to ensure the successful delivery of surgical care (Figure 1).

As we began to assemble our team, we started to identify the specifics of the problem that we set out to address. Our team was made up of what we liked to call “insiders,” so we were developing our solution from the inside out. In comparison, this digital solution space for healthcare was filled with many outsiders seeking solutions to problems that they had never experienced. With many years of actual clinical experience in the OR, we quickly identified four main gaps in the existing process: 1) the ability to select the right equipment; 2) access to mission critical information; 3) experience handling the equipment; and 4) ability to record accurate data. We knew that far too often the equipment delivered to the OR for surgery was wrong, incomplete, or unnecessary due to fragmented and outdated surgical processes, increasing complexity of surgical equipment, and the knowledge gaps of less experienced staff (Figure 2). With these problems in mind, we built ORtelligence to create cutting-edge software fix

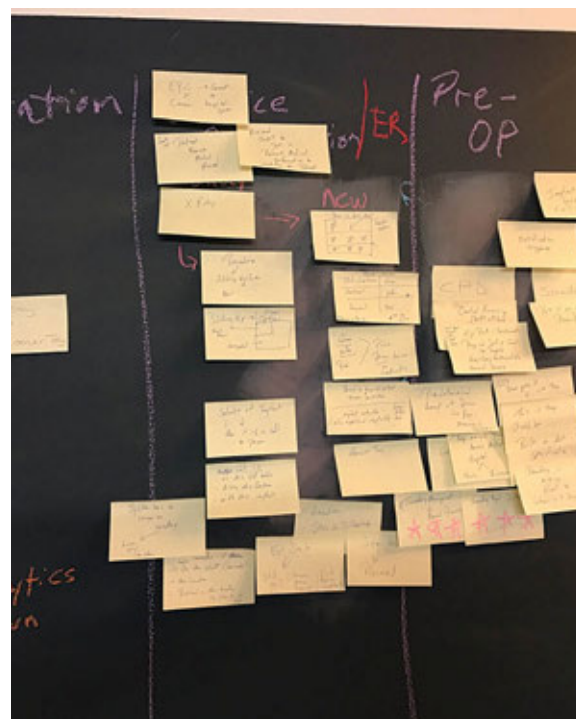


Figure 1. Picture of blackboard from early planning sessions.

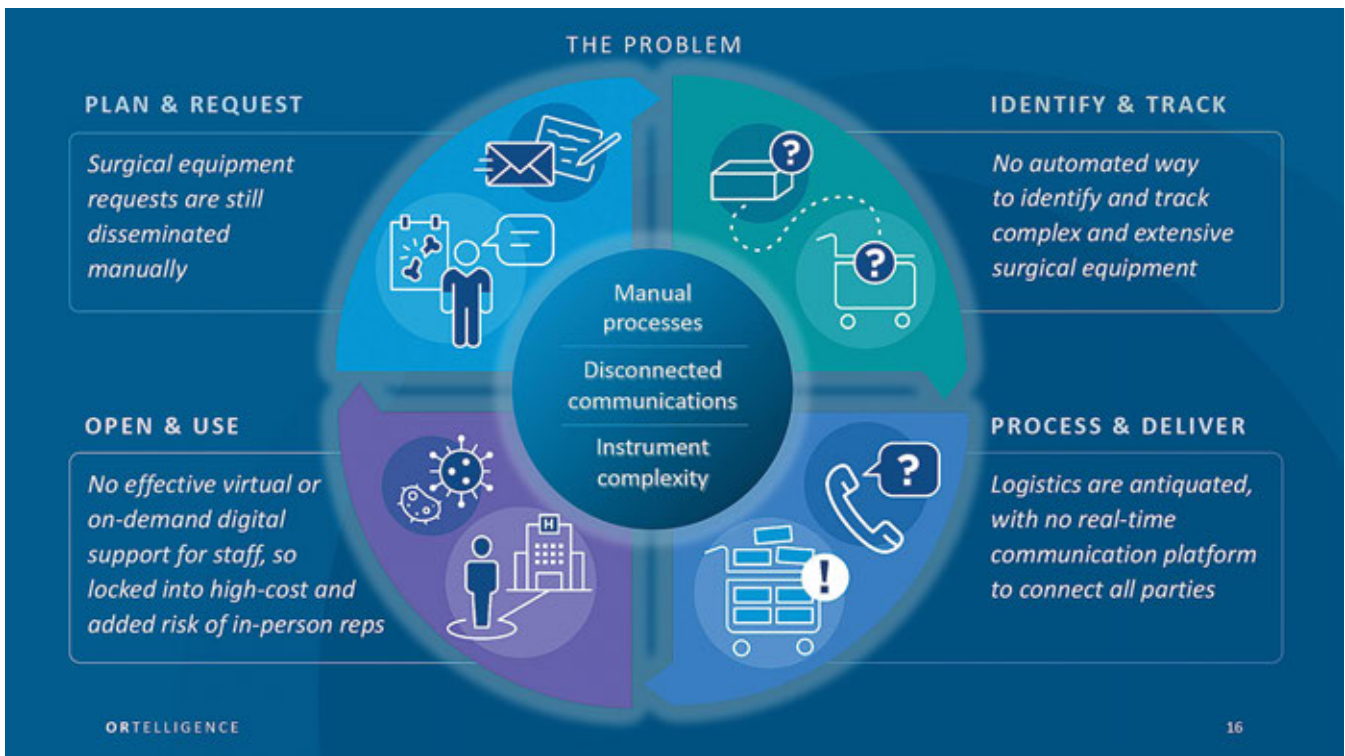


Figure 2. Problem slide of the surgical process.

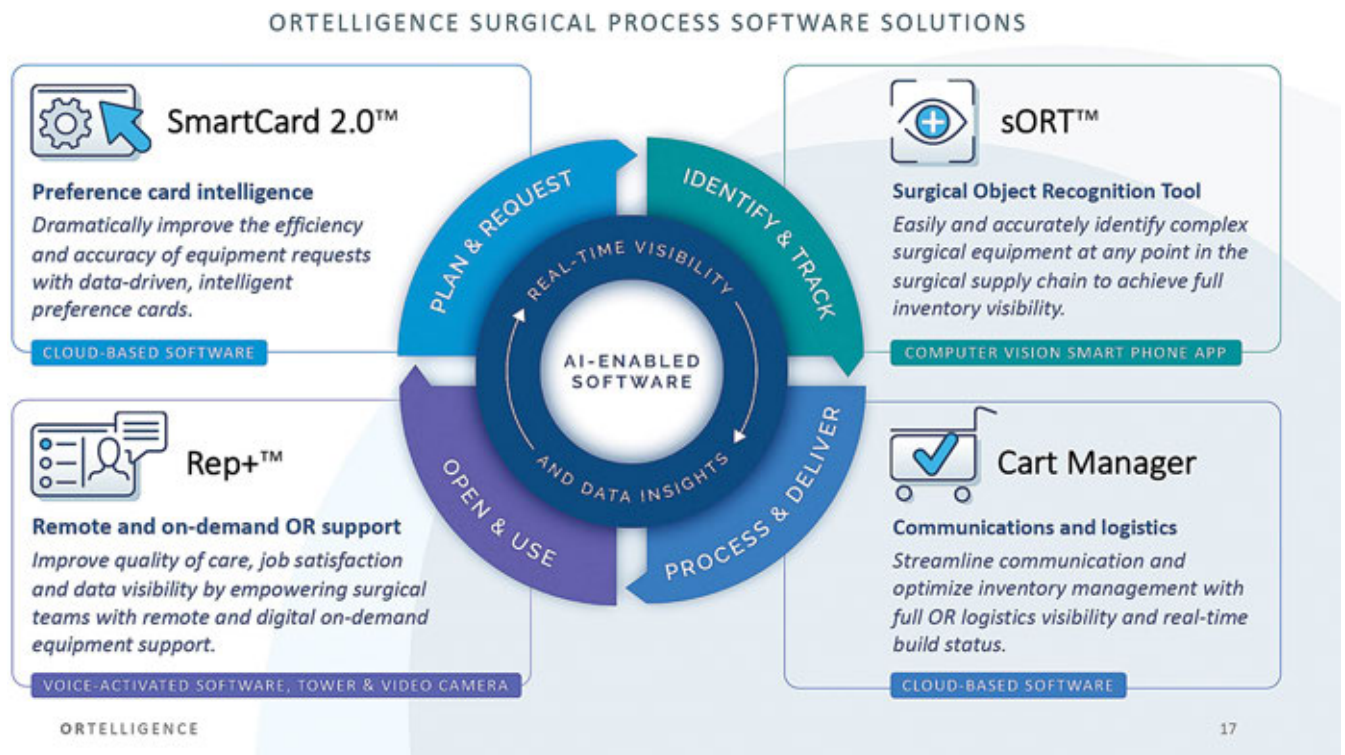


Figure 3: ORtelligence solutions.

these gaps and align surgical teams with the right information, equipment, and support to deliver the best possible surgical care.

ORtelligence (“ORT”) is a technology company that creates surgical process software and technological solutions that are

designed to optimize the surgical process by identifying and tracking all surgical equipment, bridging the gaps in operating room team communication, and allowing for remote, on-demand expert support in the operating room. The patented technology is designed to complement both the electronic

healthcare record and existing technologies to harness the information into a powerful, transformative tool. The comprehensive end-to-end solution is built from three core technical competencies:

1. Data management and taxonomies;
2. SaaS software; and
3. Artificial Intelligence and Machine Learning.

The platform consists of four separate, but interconnected products that allow for real-time visibility and data insights (Figure 3):

1. **Smartcard 2.0™**: An AI-enabled planning tool based on surgeon preferences and facility contracts. Designed as an intuitive “shopping cart” interface optimized for user preferences, this dramatically improves the efficiency and accuracy of equipment requested by replacing static preference cards and disjointed communication with data-driven, intelligent SmartCards.
2. **Cart Manager**: A communications and logistics tool designed for case cart preparation. Cart manager is designed to streamline communication and optimize inventory management by replacing siloed, manual processes with full OR logistic visibility and real-time build status.
3. **Rep+™**: An AI-enabled interface with image recognition and a natural-language user interface to provide remote and on-demand OR support. Rep+™ is designed to improve quality of care, job satisfaction and data visibility by empowering surgical teams with remote and digital on-demand equipment support.
4. **Surgical Object Recognition Tool (sORT™)**: A patented, computer-vision smartphone app utilized to identify equipment and set contents and create alerts for missing items. sORT™ is designed to easily and accurately identify complex surgical equipment at any point in the surgical supply chain to achieve full inventory visibility.

What has the path been like so far? The entrepreneurial path is often likened to a roller coaster with many ups and downs. This journey has been no different. What started as a concept has developed into a fully functional business with multiple product offerings. The company has grown from a team of three to ten full time employees, an executive board, and multiple partners who complement the vision and mission of the company. There have been two formal funding rounds and countless pitch decks (roughly 50). Failing early and often is more of a way of life rather than a catchy saying. Although, with the early failures have come evolution and growth. The growth has opened significant opportunities for us in the future to pursue our vision of revolutionizing the surgical process to ensure the successful delivery of surgical care.

In conclusion, the road of a start-up company is an exciting one. In my opinion, there is no one right answer on how to be successful. The truth of the matter is that most start-ups are

not successful with 90% failing. In fact, we still have roughly a 50% chance of failing understanding that less than 50% of start-ups are still in existence after five years. With that said, every day we are still living our vision is another day we have the opportunity to succeed. What if you decide to follow in these footsteps? Well, deciding to take on this endeavor will prove to be challenging but rewarding. It is most likely more about timing and luck than anything else, but a good business sense and a good idea worth acting on can go a long way. While I might not have the answers on how to do “it” successfully, here are some guiding thoughts:

- **The business opportunity**: What problem are you solving or need you are filling? How did you identify or recognize this opportunity, problem, or need?
- **Describe the service**: Need to state exactly what it does and how it does it. What are the strengths and weaknesses of the idea? Are there any remaining unknowns and what are the assumptions that need to be tested?
- **Innovativeness and Uniqueness**: How is your product different than others that solve the same problem or fulfill the same need? Or in other words, why will people want to purchase it? Is it easier, more fun, faster, cheaper, more functional, better performing, a cooler design, more convenient, safer, more environmentally friendly, etc? This is often referred to as the “competitive advantage.”
- **Competitors and Substitutes**: Who/what is the direct competition (products that perform the same function and compete against each other, such as iPhone vs. Android smart phones)? Who/what is the indirect competition (products that are close substitutes but perform the same or similar function)?
- **Target Customer**: Who will use and/or purchase your product? Describe your typical customers. If selling to consumers: describe age, income, ethnic group, geography, use/lifestyle profile (amateur athletes, heavy TV watcher), etc. If selling to a business: what industry/industries, size of business by sales or number of employees, geographic location, etc.
- **Value Proposition**: A simple statement that summarizes why your target customer would choose your product and the value your product would provide. A clear, concise statement communicating the clearest benefit of your product by the customer.
- **Pricing**: Product market fit. What is the market willing to pay for your product?
- **Team**: “Build a big tent.”
- **Investment Structure**: How are you going to fund the endeavor? Funding while maintaining ownership/control?
- **Strategy and Operational Plan**: What are you going to do with the funding to achieve success? What is success? How do you measure success? Where are you now and where are you going to be in the future?