



SITUATION

Faced with a possible closure, a large plant with over 1,000 people asked the Lean Methods Group to help cut tens of millions of dollars of cost. If they couldn't and the plant shuttered, so would the small town it supported.

The plant produces one of the ultimate commodity products, paper, in an industry that has changed very little over the past several decades. Many plants use the same processes—and equipment—that they were using in the 1960s.

Each year this plant would take out a little cost through Lean and Six Sigma.

Now it wanted to take out 10 percent of the cost—in one year. Simply revving up existing continuous improvement efforts wouldn't be sufficient. More aggressive and innovative approaches were needed.

WHAT WE DID

We assembled a cross-functional team to develop working prototypes of a new manufacturing process. We started by clarifying the primary Jobs-To-Be-Done and specific outcome expectations of each process and internal customer. The team also ensured the internal expectations were consistent with end-customer needs and expectations. This provided a clear definition, direction and scope for the innovation opportunities to be pursued. Next, a large and diversified team participated in a rapid and intensive ideation event to discover the many options not previously considered. Using advanced techniques such as biomimicry, TRIZ (Theory of Inventive Problem Solving) and structured abstraction, the team produced over 5,000 unique ideas. The thousands of ideas were eventually reduced to 100 focus areas with 23 formal projects ultimately commissioned.

WHAT WE UNCOVERED

The team broke through the psychological inertia that had long plagued its industry and developed brand new ways to manufacture paper. They reinvented processes and manufacturing equipment, and discovered that, by using external sources of inspiration and by thinking in completely new ways, they could solve their biggest and most complex problems.

RESULTS

Within a year, this team had implemented enough innovative solutions to achieve the goal of reducing costs by 10 percent (\$70 million)—a goal they knew was critical but did not think was possible at the outset.

Using Process Innovation, this team decided to take on long-held traditions in the paper industry and saved not only their company, but also their town.

Process Innovation teams generate hundreds, or even thousands, of truly new and unique ideas through sophisticated ideation techniques such as Structured Abstraction.

For example, to create a desired surface finish, paperboards are typically coated with a compound such as latex. The conventional method of applying coating with rollers typically produced a very poor yield. As such, a large percentage of contaminated coating mixture was wasted. Using the TRIZ approach shown in the figure, we were able to borrow ideas from other industries and create breakthrough solutions.

During the approach followed in Process Innovation, teams systematically reduce ideas to a very few that will actually be implemented. But those hundreds of other ideas aren't lost.

