RAPID COMPANY TRANSFORMATION: LESSONS LEARNED IN REAL TIME

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ABSTRACT

You have 12 months to double productivity, grow sales and fill the new product pipeline. How would you do it? Would you bet your job on meeting these objectives? A team at Sypris Electronics did it and kept their jobs.

The odds were stacked against success. Poor performance threatened to push away key customers. Shrinking sales made it impossible to cut costs fast enough to hit profit targets. Great product technology and engineering prowess was going to waste because it was mired in development issues and an internal focus. Veteran employees were fully engaged, but in the wrong activities to turn the tide. The organization lacked leadership and vision, was silo-based, and had experienced significant turnover at all levels. Many past failed improvement attempts created a “plaque of skepticism” about investing in one more try. A talented workforce looked poised to lose their jobs.

Using a unique combination of leadership concepts, tools and teamwork, a CEO and his team transformed a fading company. Since the timeline was short, the “tires had to be changed while the car was going down the highway at 60MPH” and mistakes were corrected in real time. This is a lessons learned account of how to achieve rapid company transformation by a team that rolled up their sleeves and got their hands dirty.

The results speak for themselves. Over a period of 17 months, this team: reduced the factory footprint by over 60%; improved production cycle time by 70%; increased customer on-time delivery by 88%; reduced scrap and rework by 70%; drove productivity 61% by reducing direct costs and overheads, and increasing throughput (velocity) through the plant; reduced inventory by 60% and increased turns by 300%; eliminated past due backlog; implemented a New Product Development & Launch process and successfully launched several new products; redesigned products to improve cost; infused new technology via strategic partnerships & technology product mapping; implemented an MRP/ERP system and metrics-based reporting; restructured around value streams while implementing Hoshin policy deployment and goal alignment; developed a continuous improvement performance-based culture focused on best practices, accountability, teamwork and speed (BATS); and, developed a long term strategic direction for the company. Internal product sales grew 52% while operating results improved greater than 300%.

Key words: Lean, Six Sigma, Transformation, Leadership

INTRODUCTION

As a team, we are leading our fourth successful business transformation together. Each transformation was a cycle of learning that provided key insights on how to get results.

In March of 2008, we set out to transform Sypris Electronics. The results to date are dramatic.

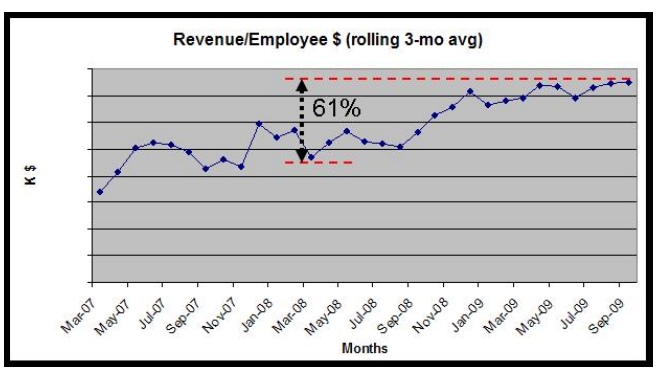

Figure 1. 61% Growth in Revenue per Employee

Revenue per Employee has increased by 61% during the transformation period to date. The "boom and bust" performance prior to March, 2008 has been smoothed to a steadier rate of improvement. This correlates to a tighter linkage with the Customer, reduced cycle times, and better cross-functional management of value streams.

Year over year Q2, 2009 results reported to The Street on August 18, 2009 are:

- Revenue increased 20%
- Gross Profit increased 158%
- Gross Margin increased to 18.7% vs. 8.7% in Q2, 2008

This is the "3rd inning" of the Transformation. We are in the midst of driving the business through 4 stages:

1. Commitment
2. Critical Thinking and Teamwork
3. Strategic Alignment
4. Value Creation

Right from the start, we set out to establish a foundation with the end in mind, to:

- institutionalize a high performance culture;
- create the organizational capability to lead a company that could be five times the current size; and,
- develop a principles-based management system around Lean and Six Sigma

To achieve this, we are applying a comprehensive, systemic approach to transformation. It integrates the typical steps [1] with specific tactics that develop people, culture, processes and infrastructure simultaneously. All along the way, Customers and Stakeholders are heavily engaged to share ownership for setting priorities, solving problems, developing solutions, and getting results.

In contrast, many companies apply a serial approach that does not provide capability for the long-term. Typically, the sequence of activity focuses on developing processes, then infrastructure, and finally people and culture. Ultimately, the infrastructure, people, and culture become constraints. Since these constraints are addressed well after the transformation is underway, business benefits are limited and often not sustained. As a result, confidence and the will to keep going dissipate before the big pay off is achieved.

The stakes are high. With each failed or even "somewhat" successful transformation attempt, the level of resistance against the next attempt goes up dramatically. Most companies today must overcome significant resistance built up over the years at a time when they have to succeed just to survive the current economic conditions.

We have come to recognize through our hands-on experience that a comprehensive, systemic approach to transformation, with a focus on people and culture up front, improves the odds of getting dramatic results that last.

ESTABLISH WHAT MATTERS

People, Culture, Process and Infrastructure Gaps

The execution and financial gaps of the business were typical:

- Missing on promises to Customers
- Eroding sales
- Declining profitability
- Poor return on investment
- Sub-par cash flow

Stakeholders knew that there was a financial "burning platform". Less obvious were the strategic, cultural, and organizational gaps that prevented the business from realizing its potential.

A key first step was to understand the capability of the organization to deliver on the strategy of the business. Once we validated and refined the business strategy and company direction, we applied proven evaluation criteria to establish the current state of the organization.

We completed a thorough Management Resource Review (MRR) to identify Leadership Team Capability [3]. This gave us a clear view of which people were in the right jobs, and which were not.

Using the MRR, we identified gaps in critical skills required to take the business to the "next level". In addition, high turnover, and poor management systems led to a culture dependent upon "tribal knowledge", since data quality was poor. This fostered hiding the truth, a lack of trust, poor communication, and virtually no teamwork. As a result, problems were chronic, and the organization was in perpetual fire-fighting mode. No one had time to think about the business or make improvements.

These issues were proliferated through a poor organization structure that evolved to isolate functions and create "empires". All of these factors contributed to bad business decisions, and bloated overhead.

The performance gaps we identified became the focal point for our Transformation Strategy:

- Return the company to profitable growth and strong positive cash flow generation (turnaround and thrive)
- Rationalize the business around a focused strategy
- Deliver on our promises to Customers
- Develop or buy the right organization skills
- Organize properly to serve the Customer and Market
- Put the processes, infrastructure and systems in place to support fact and data-based decisions
- Create a high performing, team-based culture to fix problems permanently and eliminate fire-fighting

- Achieve a principles-driven management system to support innovation and value creation

Lessons Learned:

1. See performance from the Customers' viewpoint
2. Invest time up front to rigorously understand the people and culture issues before starting the Transformation
3. Identify the impact of business system shortcomings on the ability of the organization to be data-driven

BUILD THE TRANSFORMATION TEAM

Shared Vision and BATS Leadership Process

We worked with the Leadership Team ("Transformation Team") to establish the Mission, Vision, Operating Principles and a Management Code that would be the guide for leading the organization.

- Mission: Provide mission critical electronic products and services that secure America's interests.
- Vision: The best people, practices and technologies exceeding the expectations of our customers and stakeholders.
- Operating Principles: Created specific statements in the areas of: Integrity, Communication, Empowerment, Teaming, Service, and Achievement
- Management Code: Defined specific behaviors that would contribute to a high performance culture. The categories were: Fix Problems Permanently, Earn Trust, Handle Conflict Well, Commit to the Team, Be Accountable, and Communicate Effectively.

To create the Management Code, the Transformation Team identified unacceptable behaviors (Figure 2.). From this analysis, the Team established the expected behaviors.

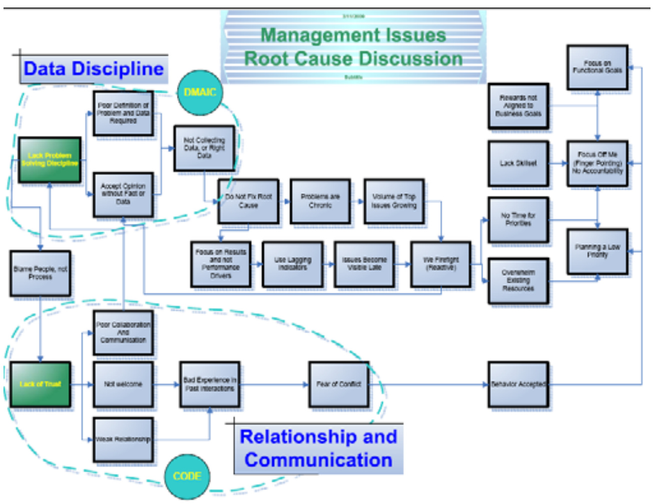

Figure 2. Root Cause Analysis of Management Behavior

To make the principles and behaviors tangible, we established a scorecard called BATS (<u>B</u>est Practices, <u>A</u>ccountability, <u>T</u>eamwork, and <u>S</u>peed). Monthly, the Team rates their peers on each metric using a 1 to 5 scale. The average of all the scores establishes a batting average.

SE BATS Scorecard 6.10.09	Dept 1	Dept 2	Dept 3	Dept 4	Dept 5	Dept 6	Dept 7	Dept 8
B 1. Apply and Master Tools. DMAIC, lean/six sigma, PMP, NPI, new product introduction.	2	1.6	1.9	2.4	2.3	3.3	2.1	3.1
2. Bring Best Practices into the organization. E.g. Benchmarking	2.6	1.7	2.9	2.5	2.1	2.8	2.4	3
3. Drive continuous improvement and learning. Kaizen activities, Lunch and learns, books, management development, etc.	2	1.9	2.1	2.4	2.3	3	2.8	3.5
A. 4. Strategy and Goal Deployment in your organization. E.g. X-Matrix flow down, Middle Management Engagement, Project Sponsorship, etc.	2.2	2	2.1	2.1	2	3	2.6	3.8
5. Follow leadership standard work. e.g. Metrics, cell boards, Gemba Walks, CI Reviews, A3 team chartering, etc.	2	1.6	2.6	2.6	2	3.4	2.3	3.5
6. Achieve results. Bowler Green. e. g. "Do what you say you are going to do."	2.6	2.6	2.3	2.6	2.3	3	3	3.6
T 7. Follow the Management Code. Fix Problems Permanently, Earn Trust, Handle Conflict Well, Commit to the Team, Be Accountable, Communicate Effectively.	3.4	2.6	3.1	3.3	3.1	3.3	3.5	3.6
8. Support a Team based culture. e. g. cross functional activity, front line .	3.4	2.6	3.3	3.4	2.8	3.6	3.3	3.6
S. 9. Establish a strong linkage to external and internal customers. e. g. Voice of the Customer VOC., anticipate needs, be responsive.	3	2	2.1	2.8	2.5	2.8	3	3.2
10. Bias for Action/ Urgency to get things done, Passion to do it well.	3.1	2.6	3.4	3.4	2.8	3.5	3.5	4
Batting Average	2.63	2.12	2.58	2.75	2.42	3.17	2.85	3.49

Figure 3. BATS Scorecard

To create a sense of urgency, we made it clear that not everyone would stay with the team. Extensive coaching and mentoring was provided to improve each team member's BATS Score, and give each person a chance to contribute.

Based upon the BATS Scores, and our initial assessment (MRR), new leaders were brought into Engineering, Business Development, Contracts, and Program Management. This had a dramatic positive impact on taking the organization to the "next level".

With the right Senior Leadership in place, changes were made at the Director and Middle Manager level to align and support the Vision and Leadership Model. As the right people were placed in the right jobs, it became possible to appropriately consolidate the organization structure.

Lessons Learned:

1. With your Leadership Team, jointly identify the behaviors that are expected
2. Find a way to measure behavior so you can coach to it and drive tangible improvement
3. Do not delay in switching out Functional Leaders that cannot "live" the Leadership Model, or are not the right fit for their role

DEVELOP A TRANSFORMATION PLAN

The Roadmap

After building the vision and leadership framework, we developed a comprehensive approach and a single page Transformation Roadmap (Figure 4.) to communicate with our stakeholders.

In each turnaround, we adjust the roadmap to fit the situation. The fixed elements have been the Phases and the intent of moving from a tools-driven to a principles-driven level of business maturity. In past efforts, we eroded our gains when we moved too quickly through a Phase before institutionalizing the people, process, and infrastructure elements in our plan.

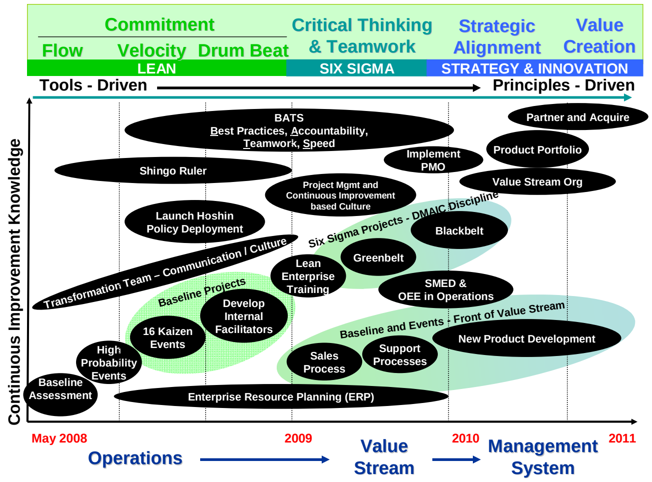

Figure 4. Transformation Roadmap

There are five cornerstone elements that we outline in the Roadmap:

1. Phases – each has unique objectives and tools that are critical for improving the capability of the organization
2. Body of Knowledge - emphasis in each Phase
3. Maturity Level - progression from a tools-driven business system to a principles-driven system. This sets the stage for using a "Shingo Ruler".
4. Tactics – sequence of activity to create the people, culture, process and infrastructure necessary to support each Phase, increase maturity, and create business value.
5. Focus - improvement target during each phase.

Each Phase has specific objectives that, when achieved, increase the probability of a successful Transformation.

Phase 1: Commitment
- Develop people and culture with Organizational Development, and Change Leadership tools
- Use a Baseline Process to engage Stakeholders (including Customers) to own the Transformation, and align the organization to execute effectively
- Apply the Lean Principles and Tools as a common language and methodology (Lean is more "user friendly" for the organization compared to Six Sigma.)
- Get early wins to "self fund" ongoing investment
- Develop Goal Deployment Process and Improvement Governance infrastructure to break functional silos and the legacy of leveraging tribal knowledge
- Introduce vision of principles-driven business maturity

Phase 2: Critical Thinking and Teamwork
- Inculcate a fact-based, data-driven culture (scientific method and problem solving thought process e.g. Define-Measure-Analyze-Improve-Control [DMAIC])
- Expand the toolkit to fix difficult problems beyond low hanging fruit (e.g. Program Management and Six Sigma)
- Scale up the effort to the entire Value Stream; bring the entire organization into the Transformation
- Develop cross-functional leadership skills and good trade-off decision making (Value Stream mentality)

Phase 3: Strategic Alignment
- Target existing and adjacent markets
- Chart a technology path
- Organize around and manage value streams
- Rationalize all aspects of the business to support the strategy (e.g. product portfolio, customers, rate of product introduction, etc.)
- Develop best practices and competitive advantage
- Establish a principles-driven, mature management system

Phase 4: Create Value
- Partner with Suppliers and Customers
- Acquire "good fit" companies that can integrate well with our company
- Develop and manage intellectual property
- Drive target costing and value engineering

Lessons Learned:
1. Create a Roadmap on one page to communicate with Stakeholders
2. Plan to develop people, culture, process and infrastructure in each phase (e.g. systemic approach). Do not move on to next phases until these elements have taken root.
3. Develop a Plan that fits the situation

ENGAGE THE ORGANIZATION

Phase 1: Commitment

Sypris had many Presidents come and go over the years. With each President, a new improvement initiative was launched. Given this history, the organization was skeptical about a transformation effort.

Change Equation

We use a simple equation to test the strength of the case for change to overcome resistance in the organization:

DD x VF x FS > R

The variables in the equation are: establish a high degree of dissatisfaction (DD), a compelling vision of the future (VF), and tangible first steps (FS) to overcome resistance (R). This translates into: identifying the "burning platform"; articulating a future payoff that people want to strive to get; and, building credibility with early wins, a plan that makes sense, and by doing what you say you are going to do [2].

During all phases of the transformation, we evaluate the strength of the effort using this equation. Based upon this analysis, we make adjustments and course corrections to ensure the left side of the equation is stronger than the right side.

Baseline Process

To overcome initial Resistance (R), we use a Baseline Process. During the Baseline, we introduced Lean Principles and Tools to the Baseline Team. The Team consisted of a group of key Stakeholders. They quantified waste in the entire business using the Lean Tools. Data gathered for this analysis was derived from several categories: Customer and Market Surveys; Physical and Knowledge Process flowcharts and other statistics; Management Systems; Organization Structure; and, Financial Performance. Customers, Senior Leadership, and Corporate Decision Makers participated in daily outbriefs to stay plugged into the Process and to keep the Team on track.

Based upon the data, root causes were established for "Undesirable Effects (UDE's)". Participants identified solutions and created action plans to address the key root causes. The focus here is to attack root cause.

This led to targeted Kaizen Events initially focused on creating a dedicated production line for one of our key, higher volume products. It was selected because it was important, the degree of dissatisfaction with the current state was high, and any changes were physical and highly visible to the organization.

The Baseline established "one view" of the change priorities, and created buy in from the organization since Stakeholders created the priority list and the improvement plan. This rallied operational senior leadership and middle management to champion the actions for short term wins. Customers were briefed on improvement plans and the results achieved. As the "quick win" results came in, Corporate decision makers saw the value of investing in the improvement process.

With the will to invest, 16 Kaizen Events were initiated in 8 months. Seasoned outside facilitators were paired up with internal Kaizen Leaders to provide mentoring and ensure that results were achieved. During the 8 month push, the factory footprint was reduced by over 60%; production cycle time improved by 70%; customer on-time delivery increased by 88%; and, scrap and rework were reduced by 70% (Figures 5. and 6.).

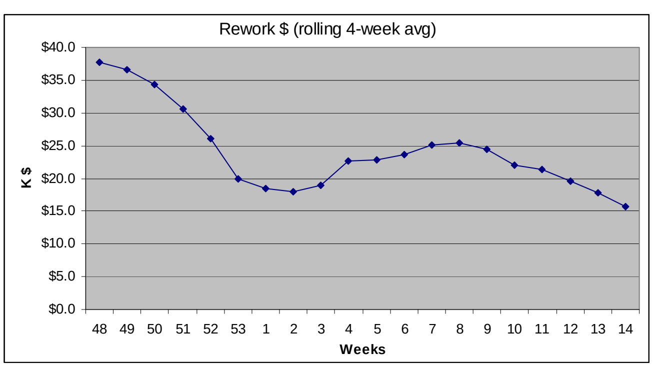

Figure 5. Rework $ by Month

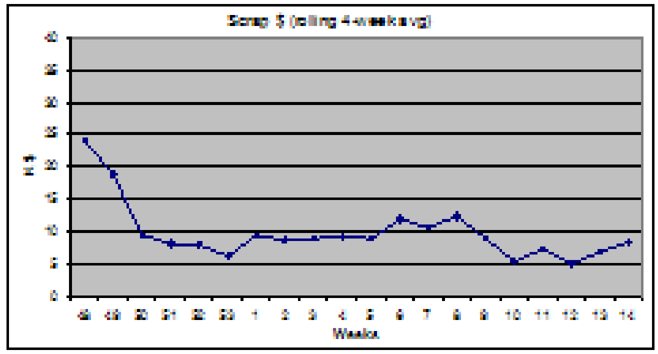

Figure 6. Scrap $ by Month

The dramatic physical change in the plant and quantified improvement led to commitment and resolve by Management, Employees, Customers, and Corporate Decision Makers to continue investing and supporting the improvement effort. The early wins bolstered our credibility and provided the ROI to "self fund" ongoing investment in the Transformation.

Closed-Loop Management

As the flurry of Kaizen Events began, we launched a Hoshin-based, Goal Deployment Process. This tied the organization together with an "X-Matrix", and a "Bowler" chart to track actual vs. monthly targets on key performance dimensions. We used this process to manage cross-functional priorities, drive improvement results, highlight the need for executive coaching, and set the expectation for rapid improvement in critical areas.

Other key artifacts we use in our Management System are A3 Project Charters, Implementation Plan Templates that follow a DMAIC logic, Shingo-based "Maturity Ruler", and Product and Technology Roadmaps to make investment decisions consistent with the company strategy.

We implemented "Cell Boards" and Gemba walks to create a new culture of using facts and data to find root causes of problems. By insisting on fixing problems as they occur using real-time data, the pace of improvement accelerated.

To reinforce commitment by the organization, Management communicates regularly through town hall style meetings using performance metrics, candid discussions about the current state of the business and why decisions are made, and updates to roadmaps such as Figure 4.

Lessons Learned:

1. The Baseline Process is the key tool for establishing Stakeholder ownership of the Transformation because it addresses "what's in it for me?"
2. Physical changes to the facility magnified positive perception of the results achieved
3. Communicate with Customers and involve them in the improvement process so they buy in to the process and become an advocate for change
4. Communicate clearly, frequently, and sincerely

SCALE UP TO THE ENTIRE VALUE STREAM

Phase 2: Critical Thinking and Teamwork

As the Transformation gained traction in Operations, the factory began to outrun sales. With performance improving and customers seeing results, the level of dissatisfaction in the organization was dissipating. We could see that without intervention the Transformation was about to peak, and the "backslide" would predictably occur.

We created a new "burning platform" to re-engage the entire organization:

- Material shortages, scrap, rework, and high overhead limited our ability to get more sales
- Customer Service, Contracts, Program Management and Accounting were burning out from "fire fighting"
- New products were coming to market late causing a tangible loss in market share to key competitors

To communicate with the organization, we created another Roadmap (Figure 7.) focusing on only 2009. This was a detailed drill-down from our high-level Roadmap.

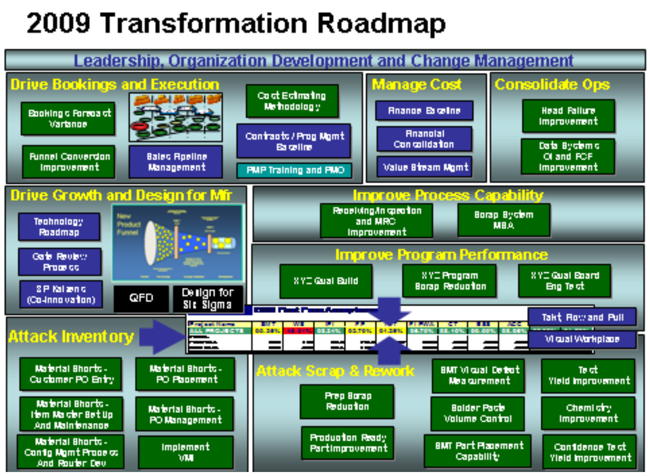

Figure 7. Roadmap to re-energize the effort.

In 2009, the focus was to engage the entire organization. Using the same strategy that worked in 2008, we performed "mini-Baselines" throughout the Value Stream: Sales and Marketing, Finance, Contracts and Program Management, and Engineering. With priorities and plans established in the Baselines, a new round of targeted improvements was executed with varying degrees of success.

Gut Check - Addressing Weaknesses

After almost a year of improvement activity, it became clear that we needed to move quickly to shore up some weaknesses to keep the Transformation on track. We were ready to intervene on these issues since they were gaps we identified in our initial assessment of the business.

The focal areas for improvement were:

- Applying critical thinking and the scientific method for improving the business
- Shoring up the improvement governance process and project management capability to better manage projects and promote teamwork
- Further aligning compensation and reward for achieving job competence and skills excellence

Intervention

Lean provided good fundamentals to capture the low hanging fruit in Operations and the Supply Chain. To achieve the next level of improvement we had to incorporate Six Sigma.

Using the Six Sigma process and tools as a foundation, we formally adopted the scientific method for solving problems (DMAIC). It became apparent that this was a new way of thinking for the organization. 48 "Greenbelt" Projects were chartered to attack business constraints and address chronic problems.

With so many projects underway, we had an opportunity to apply many cycles of the Improvement Governance Process. It became a mentoring process for applying the scientific method, learning proper application of tools, and how to effectively champion, sponsor and lead cross-functional projects.

We identified Program Management as a required core competency to support a Value Stream-oriented organization. To inculcate the concepts of project management, representatives from all functions in the Value Streams were trained and certified as Project Management Professionals (PMP).

As we laid down the technical foundation for people, and the process for systematic improvement, we made skills, competency, and job performance critical factors in compensation and continued employment. Program Management and Six Sigma Greenbelt Certification were made critical job requirements to propel the culture in the right direction.

With this second push to engage the organization, we averted the backslide in results. In June, all top level metrics on the company scorecard were "green", meaning we achieved or exceeded our targets.

Lessons Learned:

1. Use a "mini-Baseline" Process in cross-functionally complex parts of the business to align and involve the organization outside of Operations
2. Institutionalize critical thinking to develop the organization's capability and technical excellence
3. The improvement governance process is a primary mechanism for teaching and mentoring the organization
4. Challenge the organization to achieve technical excellence by making it a job requirement

CHALLENGES AHEAD

Although the results to date are on track with our objectives, we like to say that we just completed our "Freshman Year". The coming year will provide another cycle of learning to improve the people, culture, process, and infrastructure that will propel us toward a principles-driven organization.

We are cautiously preparing to enter the Strategic Alignment Phase of our Transformation Plan. We continue to focus on locking in our BATS Leadership Process and the Lean Six Sigma Principles and Tools.

Our major thrusts for the next 6 months are to:

- Organize around our Value Streams to better serve our customers. (e.g. Products, "Build to Print" and Space Manufacturing, and Engineering Services)
- Fill the new product funnel, and cut time to market
- Improve the flexibility of Operations
- Implement a Project Management Office

To support entry into the next Phase, we created a new burning platform of winning the Shingo Prize. We are using an assessment tool and scorecard (Figure 8.) to make this tangible for the organization.

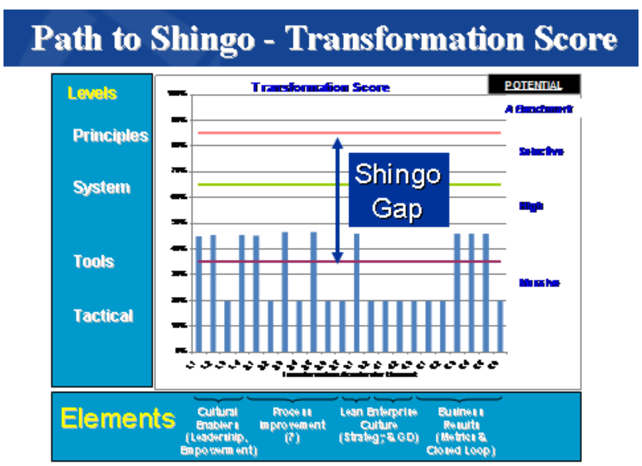

Figure 8. Scorecard measuring gaps to achieve Shingo

Seeking the Shingo Prize is a way to rally the organization around our goal of becoming excellent. It also provides the path for us to become a principles-driven business.

CONCLUSIONS

Business Transformation is a long journey that takes a good approach and persistence. We have come across some key lessons that should improve the odds of success:

1. Create a compelling vision and burning platform. Articulate a clear path by using Transformation Maps as a tool to communicate with the organization. Create new burning platforms to renew the effort.
2. For the Transformation to succeed, the Leadership Team must be mobilized and committed to create a high performing culture. In concert with this, it is vital to assess the people and get them in the right roles. If necessary, new talent should be brought into the organization. Since this takes time to accomplish, understanding the need to do this must be one of the first actions taken.
3. Make Leadership behavior tangible and measurable through a BATS-like process. Actively coach and mentor leaders to create a high performing culture.
4. Apply a comprehensive, systemic approach to Transformation that develops people, culture, process and infrastructure. Often, people and culture issues are handled late in the Transformation, after the people issues have become a drag on the effort.
5. Use the Baseline Process to establish Stakeholder ownership and advocacy for the effort, and to align the organization around "one plan". This creates the capacity to "go to the next level" because change agency is shared and not centered on one senior leader.
6. Institutionalize critical thinking and the scientific method for solving problems.
7. Use Goal deployment and Improvement Governance as mechanisms to mentor the organization.

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Ken Branco, Consultant
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REFERENCES

[1] John P. Kotter, "Leading Change: Why Transformation Efforts Fail", Harvard Business Review, March-April, 1995.
[2] Brian Maguire, "Twelve Steps to Walking the Talk", National Productivity Review, Autumn, 1995
[3] Steve Puente, "Improving Organization Performance & Customer Satisfaction", 2009.