Quarter 3 2003

THE PIVOT PALETTE

A quarterly publication of PIVOT Management Consultants

MISSION

Be a premier provider of management consulting services to industry in the high technology, manufacturing / design, services, healthcare, education and government fields.

Be the best partner a business leader can have to help accelerate the move along the path of continuous quality improvement and quality system enhancement, rethinking and changing the way our client's business is done internally and for the marketplace and industry our client serves.

Implement operational improvements across all functions and levels of our client's organization to achieve improved strategic and marketplace position, delivering value added measurable results.

Provide a positive, rewarding, collaborative work environment within PIVOT that fosters personal growth, fulfillment and success for our associates, suppliers and clients.

VISION

Together we will. . .

Work to fully understand the requirements of our jobs, the requirements of our clients and the systems that support us.

Provide error free services, analysis information, education and skills training on time to our clients.

Practice ethical, honest and fair behavior in our interactions with clients, associates and suppliers. We will not promise anything we cannot honestly deliver.

Inspire trust and respect by our clients, associates and suppliers, through PIVOT's proven commitment to our mutual success.

Have fun!

SHOWCASE

Four Colorado Businesses & Their Six Sigma Activity

Four Colorado organizations recently shared their successes and challenges with implementing Six Sigma into their respective cultures. Representatives from Raytheon, GE – Medical Systems Healthcare Services, First Data, and Parkview Medical Center of Pueblo provided insights into their philosophies, methodologies, and tools of Six Sigma during a panel discussion at the 2003 Rocky Mountain Quality Conference. "Hopefully some of the inroads these Colorado organizations have experienced will serve as motivators or role models for other Colorado companies", said Triche Guenin, senior consultant with PIVOT Management Consultants, and moderator of the panel.

There were many similarities and many differences in the way each company implemented Six Sigma. Both GE Medical and First Data implemented the standardized Six Sigma approach, methodologies, and terminology. Raytheon and Parkview Medical Center, however, developed terminology and methodology unique to their specific cultures. In addition, both GE and Raytheon have made it a requirement (or are in the process of doing so) for individuals to attain a certain level of expertise and complete an annual Six Sigma type project in order to reach a specific job classification or receive a promotion. Neither First Data nor Parkview have this requirement.

However, all agree that there are many benefits to implementing a Six Sigma initiative – the results far outweigh the out-of-pocket costs.

- Although some savings are not quantifiable, Raytheon spends about $50k on training annually but expects at least a $1kk/year savings. Each project takes about $4000-$6000 to execute, however most projects net savings 10:1 in the first year. To date, they have reaped the benefits from over 200 projects. Their biggest success to date occurred at a customer site and netted a $25kk savings!
- GE Medical applied the process to their own internal operations and realized they could generate revenue from their supplier. A new division was born! Hospitals have come to expect results at $500-$1kk per project and an ROI of 3:1 is not hard to get.
- At this time, Parkview Medical Center is the only known Colorado healthcare facility implementing Six Sigma. It is still very much in the formative stages and being driven by one individual – critical mass is needed to realize the really big savings. And although they are currently operating on a small scale, the small successes are creating momentum and attention.
- First Data has incorporated "Lean Sigma", a term coined at Maytag, whereby the focus is on reducing waste. Their program is driven by customer requirements and an emphasis has been placed on agent activity (reducing processing time now requiring 50-100 days to single digits) thereby increasing revenue.

Collectively, they all agree that the biggest failure they've experienced has been when a team has been successful in identifying a solution that would really help the organization, but implementation not been allowed to occur.

In summarizing the panel discussion, Guenin stressed that Six Sigma projects come in all shapes and sizes, but the point of this business philosophy is to view an organization as a series of processes that can be measured and try to optimize each in the context of the overall organization. "The bar has been set in other parts of the country and in certain industries, most recently in healthcare and financial services," she said, "my concern is whether Colorado can keep up".

IN BRIEF

ISO 9000-2000

The transition deadline of Dec. 14 is fast approaching and only 25% to 53% of the companies have completed the transition, depending on whose numbers one believes. Information provided by the registrars indicates that only about 25 percent of registered companies have completed the transition. However, this year's Quality Digest survey shows that number to be about 53 percent. The survey also shows that both transitioners and first-time registrants feel the registration process added value to their organizations. Some feel that the new standard is less prescriptive and helps them improve their processes. Our feeling at PIVOT is that we helped our clients focus on their processes and improvements even with the 1994 version of the standard, so it really depends on the reason why people were getting registered in the first place. Updating the standard to have a process focus is certainly a good thing and it has also led the international association of auditors to develop new auditing standards.

Tracking Six Sigma Financial Results

One primary reason for the success of Six Sigma programs is the emphasis it places on delivering measurable financial results. However, measuring the financial benefits and costs of Six Sigma can be tricky on several levels. Where to begin? What categories of financial benefits to measure? How to quantify intangible benefits? How long is it reasonable to attribute benefits to Six Sigma? What is the appropriate approval process for reporting financial results?

Like Six Sigma methodology, financial tracking should be adopting and complying with a framework that's uniformly understood and accepted across the enterprise. It is also important to pick the right set of financial parameters that will be tracked as projects proceed toward completion and beyond. As such, one may want to consider the following steps in tracking financial results:

- Agree on financial process
- Decide on financial categories
- Create reports, maintain records
- Use technology as appropriate for efficient execution and tracking

LeanSigma Makes Maytag More Competitive

Maytag's Senior Vice President for Supply Chain, Art Learmonth, describes the interaction of Lean Manufacturing and Six Sigma at the company. Lean Manufacturing is how Maytag does business. Adding Six Sigma training makes teams even more effective at finding cost savings. Forging the two concepts into LeanSigma has delivered excellent returns to Maytag. They have employees who are cross-trained in both lean manufacturing and Six Sigma. While implementing lean concepts, a single Six Sigma-trained team member helped yield a 105% improvement in the number of good quality pieces per person per hour. In addition, while completing a Six Sigma project, a Black Belt was able to improve savings from $500,000 to $1.2 million by utilizing his expertise in lean operating principles.

CPEx Forum in Denver

Colorado was one of only six states that had not yet implemented a state quality award as of 2002. Last year was it's inaugural year and this second anniversary showcases the success of the program. About 15 organizations applied this year and over 50 examiners were trained. The Colorado Performacne Excellence (CPEx) Forum will be held in Denver on Oct 2. For more info on the actual event, please check the web:

http://www.coloradoexcellence.org/quest.html

Motorola's Second Generation

Dubbing its quality program Six Sigma more than 15 years ago, Motorola could not have known how far Six Sigma would spread. At its birthplace, Six Sigma has evolved into a four-step, high-performance execution system for the company's business strategies.

Motorola's four steps to Six Sigma are:

1. Align executives to right objectives/targets (balanced scorecard)
2. Mobilize improvement teams (using DMAIC model)
3. Accelerate results (through training and coaching)
4. Govern sustained improvement (monitor business systems, process metrics, business goals, and share knowledge)

It is now seen as a truly cross-functional execution system for business strategy and relies on focused training with verifiable return on investment with renewed importance of executive ownership.

If you have any comments/suggestions, please contact::
Akhilesh Gulati, Phone: 877-pivot-mc
or write to: PIVOT, P.O. Box 536, Upland, CA 91785-0536

TOOLS

FMEA

What it is

FMEA - Failure Mode and Effects Analysis is used to identify specific ways in which a product, process or service might fail and to then develop countermeasures targeted at those specific failures. This helps improve performance, quality, reliability and safety. With respect to Six Sigma, FMEA is most commonly used in the Improve step of the DMAIC model to improve the effectiveness of a proposed solution, but it is also helpful in earlier steps for identifying improvement opportunities. In the Measure step it is useful for determining what data to collect and where to collect it.

How It's Done: FMEA Roadmap

FMEA follows a series of steps whereby it identifies where problems may occur. It then scores potential problems based on their probability of occurrence, severity and ability to be detected. Based on these scores one is able to determine where countermeasures are necessary to avoid problems.

Step 1: Describe Product or Process (Scope)

Step 2: List the process steps in the first column (see form)

Step 3: For each process step, identify potential failure modes (ways in which the product, service, or process might fail, e.g., jams, freezes, slows up, becomes sluggish, does not respond)

Step 4: Describe potential consequences of effects of each failure (defective product, wrong information, delay, explosion) and rate their severity (Severity Score)

Step 5: Determine causes of the effects and rate their likelihood of occurrence (Occurrence Score)

Step 6: Rate your ability to detect each failure mode (Detection Score)

Step 7: Calculate Risk (Multiply the three scores to determine the risk of each failure mode). This is called the Risk Priority Number, RPN.

Step 8: Identify ways to reduce or eliminate risk associated with high RPNs.

Step 9: Take Action, Assess Results (re-score those failures after you put countermeasures in place).

PS:

1. A Risk Priority Number (RPN) is calculated and used to place priority on items that require additional quality planning. RPN = (Severity) x (Occurrence) x (Detectability).
2. There might be multiple failures for each process step and multiple effects for each failure. Score each separately.
3. There are Rating Scales suggested by the Automotive Industry Action Group (AIAG) that can be used, although it may behoove you to develop your own scales for severity, occurrence and detection.

Understanding Failure Modes: Penlight Example

Penlight Casing: One of the intended functions of the penlight case is to protect the internal components from excess moisture during normal operation. A failure to prevent moisture during normal operation is a Failure Mode since protective casings and other design features are intended to prevent moisture. Causes could be environmental exposure and design flaw. Effects could be : corrosion leading to poor contact leading to insufficient current leading to a dim lightbulb.

Penlight Bulb: In this case a different Function and Failure Mode(s) must be considered. The penlight bulb is intended to provide light of specific intensity when the device is activated during its expected lifetime. This is one of its Functions, or intended purposes. A dim bulb is a failure to provide the specified intensity of light and is therefore a Failure Mode of the penlight bulb. This example illustrates that Causes, Effects, and Failure Modes can change depending on the Function being analyzed. Functions change depending on the object of the analysis, either product or process. Therefore, an early, important step in an FMEA is to clearly define the scope: the component, system, or process that is to be analyzed. The FMEA road map is provided to walk you through.

For additional definitions check the web site:
http://www.fmeca.com/ffmethod/definiti.htm

The FMEA Form

A tabular FMEA documentation form has been standardized by the AIAG (noted above). All input data must be organized on the output form in the spaces and columns provided. Some companies compile FMEA data on worksheets, and then transfer the information to the form. Other companies with electronic versions of the form can fill in the table as FMEA elements are identified. A basic form could be built as you go along:

Process Step	Potential Failure Mode	Potential Effect of Failures	Severity score, 1-10	Occurrence Score, 1-10	Detection Score, 1-10	Risk Priority No: 1-1000

RADICAL THINKING?

Graduating From An Organization

Over the lifetime of an organization, people come and people go, sometimes of their own will and at other times at the will of the organizations. Hopefully the people leave with a positive feeling but at many times they exit bitter; how they leave is primarily the responsibility of the organization. When gone, these ex-employees can be ambassadors of goodwill for the organization, and it behooves the organization to do all it can to build such a relationship.

This is an ideal scenario and many organizations would aspire to be in that situation, but how this can be accomplished is a challenge.

The keynote speaker at the 2003 Rocky Mountain Quality Conference was Sam Addoms, Chairman of Frontier Airlines and he briefly touched on this topic. He said that Frontier executives know there will be turnover. This is natural as not everybody is a fit and that Frontier is not necessarily able to provide opportunities for all. At the same time the leadership team also realizes that when people leave, they take a part of Frontier with them: some experiences, some practices, some cultural aspects - and build upon it at their next place of employment. In a sense they were 'graduating' from Frontier and moving on to something else.

This concept struck a personal chord for me. My management-consulting career started with a company called 'United Research Corporation' which morphed into Gemini Consulting, and recently merged with Ernst & Young to become Cap Gemini Ernst & Young. Those of us from the original United Research and the earlier Gemini years really liked the organization, its people, its approach and its culture. Our experiences there were quite formative for us, much like going away to college.

Colleagues from that era are still close today and have even formed an alumni group. Our purpose is not only to network but to keep each other apprised of our personal lives, ask for assistance on specific subject matter expertise, pass along opportunities for jobs, and even have national/regional gatherings once in a while - like any other alumni organization.

How did this come about? I guess United Research / Gemini was way ahead of many organizations in their thinking of how to treat their employees and customers. The organization believed in its people and its clients and was truly in the business of helping them. It was one big family and we all tried to help each other (consultants and clients) grow. That positive experience is what led to the creation of the Gemini Alumni group. Although the company, as we knew it, no longer exists, the alumni group is alive and well.

So the sentiments of Sam Addoms stuck with me. As I reflect back, I think PIVOT Management Consultants has been trying to instill a similar culture. Some of our consultants have gone back to private industry and others to different fields of work. Many still talk about what they learned and shared with us. When possible, they bring us into their organizations for consulting and training. This is a good feeling - having graduates and ambassadors of goodwill - long after they have moved on to other pastures.

Do you feel your prior employees are *graduating* from your organization?

THE PIVOT PALETTE

PIVOT Management Consultants
P.O. Box 536, Upland, CA 91785-0536
U.S.A.

Phone: 877-pivot-mc (USA)
909-985-9294 (overseas)
http://www.pivotmc.com

CONSULTING & TRAINING
Lean Enterprise
Six Sigma - Black Belt, Green Belt
ISO 9000
Change Management
Business Continuity Planning
Facilities Management

FIRST CLASS
US POSTAGE
PAID
Rancho Cucamonga, CA
Permit # 93538