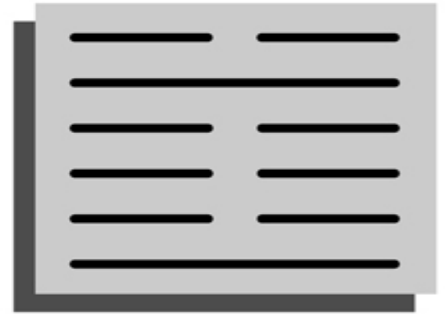


# Change Management Associates



March 2013

## Featured Topic



### Unleashing the Power of 3P The Key to Breakthrough Improvement

Dear Drew,

People are becoming more and more familiar with a powerful kaizen methodology called '3P'. There are several definitions for the term including 'Production Preparation Process'. Personally I prefer "Product and Process Planning". It better emphasizes that the methodology can and should be applied to product design or re-design, and not just the design or re-design of the production process. This is a point that many people seemingly overlook, or have not considered when they begin to learn and practice the approach.

The formal methodology was developed by Chichiro Nakao from Japan. There are several key concepts that form the basis of the methodology, and that can be applied to other improvement approaches as well. We'll explore each here.

The first concept is what is called '7-ways'. Instead of identifying one possible solution to a product or process design challenge, identify seven possibilities. '7-ways' stretches the creative problem solving process that is at the core of any product or process design. Traditional approaches have people narrowing too quickly to a single solution, usually due to expediency. However, this typically comes at the cost of identifying a 'better' solution. In practice, team members sometimes grow frustrated by the objective of identifying several possibilities, and want to cut short

## Upcoming Events



CMA and our network affiliates have the following events scheduled:

### AME Events:

#### Lean Job Shop Tour & Visual Management Workshop

Hunt Valley, MD  
April 23, 2013

Hosted by MarquipWardUnited. After a tour of the facility, an introduction to Visual Management will be provided. [Click here](#) for more information.

#### Central NY Roundtable

Syracuse, NY  
May 2, 2013

Hosted by Cooper Industries, this 3 hour session is meant to allow regional organizations to network and share experiences. Organizations in

this step of the process and move on. But then the creative process and the learning ends. Discipline to the methodology is critical to its successful application, so no short cuts here!

Once seven possible ways have been identified, the process moves to an assessment of each in terms of how they meet the objectives identified before the start of the exercise. Target cost, performance, quality, and manufacturability objectives are identified prior. The key is to not select one 'solution' over the others, but to develop a 'collaboration' of ideas. Narrowing too quickly to one is avoided by setting three possibilities as the goal at this point of the process. Prototypes, mock-ups, and simulations will be conducted on all three before finally identifying one that again represents a collaboration of ideas from the three. More on mock-ups and simulations later.

Another concept that is part of the methodology is referred to as 'biomimicry'. As part of the 7-ways technique team members are first asked to identify examples from nature of the function that they are expecting the product or process to perform. This technique helps people look 'outside their box' of predisposed solutions. This too stimulates the creative process that is product and process design. Experience has shown that many breakthrough product designs originated in nature, or what someone had observed in nature. Velcro is one such example. In practice, team members often see this step as silly and childish, and discipline to the process is once again called for. But that is part of the approach and leads us to the next concept.

Team members are asked to 'think like 12-year olds'. Why? Because children of that age are still open to the possibilities, have a genuine curiosity about how the world works around them, and are not predisposed to answers. Children of that age believe most anything is possible. And that is the attitude we need from team members as they go through the creative process of product and process design. Team members are coached to not speak in terms of 'right and wrong', but rather 'how might we....', or 'what if we.....'.

Rapid learning cycles is another key concept of 3P. Learn fast and cheap through prototyping, creating mock-ups, and simulation. The objective is to 'make the fuzzy tangible', or at least as tangible as possible. People will learn more through experience that utilizes all of their senses. Traditional approaches would simply leave the proposed solutions in 2D or 3D Computer Aided Design (CAD) drawings, and move onto the implementation phase. These are important tools for sure, but organizations should not depend solely on them. More is needed.

Often with use of inexpensive readily available materials mock-ups and prototypes can be created. These can be to-scale or scaled based on the circumstances. People can then simulate the function of the product and its use, and/or how it is to be produced. Much can be learned by holding a representation of the product in one's hands or standing in a proposed production process, and 'going

the area are encouraged to attend this inaugural event and help to define future content. For more information [click here](#)

**Spring Conference**  
San Antonio, TX  
April 15-18, 2013  
Keynotes, tours,  
presentations, workshops  
and more! Go to the  
[AME website for more information.](#)

**Improvement & Coaching Kata Workshop**  
Chicago IL  
April 30, 2013  
Hosted by Littelfuse. What about improvement between the 'events'? Come learn about an improvement methodology that can be practiced on a daily basis. This one-day workshop is based on the popular University of Michigan 3-day program. [Click here](#) for more information.

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**Be sure to check out our publications!**

"Lean Office & Services Simplified"  
(2012 Shingo Prize recipient)

"The Complete Lean Enterprise"  
(2005 Shingo Prize recipient)  
VSM for Administrative & Office Processes

through the motions'. Learning what works and doesn't work is what product and process design is all about. Learning quickly and with minimum risk is always preferred.

For example, at a furniture design and manufacturing company the historic practice was to make near production ready prototypes. Much time and effort went into these only for the product manager, potential customers, or anybody for that matter to say, "I don't like the shape of the arm of the chair. Can you change it and make a new prototype?" Instead the company implemented the practice of quickly making mock-ups using inexpensive materials and showing them to the appropriate people very early in the process. This simple practice shaved months off the development process.

Early involvement of 'internal customers' and even suppliers to the development process is another key concept. No more "throw it over the wall" from engineering to production, or from engineering to purchasing and then to the supplier. An effective 3P team has strong cross-functional representation. All the better to get the best ideas out as early as possible in the process. The collaboration between functions and departments is a wonder to see in practice.

These are several of the key concepts that form the foundation of the 3P methodology. All of them can be put into practice in some form in other Continuous Improvement (CI) methodologies. For example, let's say that the objective is to re-design a specific production area. Why not consider multiple alternatives? If not 7, how about 3? Chances are the effectiveness of the 'final' design will be much better. Interestingly, the approach is being used in healthcare in the design of laboratories, units, even entire hospitals. I have personally facilitated such an effort for a laboratory re-design. 3P is not just a manufacturing technique. Its principles have broad application.

Readers are probably thinking that a development process that makes use of 3P will take longer. It is true that the upfront 'study' phase will take longer. However, the overall development time decreases because of the significant and positive impact on the 'execution' phase. For example, at an automotive parts supplier, an important discovery was made during a 3P exercise conducted in the very early stages (one or two rough product concepts existed). It was determined that a product concept being considered would in no way hit the target cost objectives. As members of the company stated, if they had followed their usual approach, this discovery would have not been made until the product was already in production and gross margin objectives were not being met. This would have then triggered an expensive re-design effort. The 3P approach caused the organization to go down a different path early in the development process that proved successful.

If you want to learn more about 3P, please check out our new book, "Unleashing the Power of 3P: The Key to Breakthrough

## "Value Stream Mapping for Lean Development"

**NEW!! "Unleashing the Power of 3P: The Key to Breakthrough Improvement"**

Books are available at [www.productivitypress.com](http://www.productivitypress.com)

Go to [www.cma4results.com](http://www.cma4results.com)  
Click on "News" to find articles and past newsletters. Recent newsletters are:

**"Improvement Kata Speaking Helps Improvement Kata Thinking"**  
Slideshare available on website.

**"We Don't Make Widgets - Lean for Job Shops"**  
Takt time, pull systems, cellular/flow and more - all applied to low volume/high mix organizations is covered

**"By the Numbers"**  
A reflection of learning over the past 25+ years on the subject of Lean Accounting

"Finding the Scientist in You: Real Learning Comes in the Journey"

"Help Wanted: Using Visual Management to Drive CI"

"Debunking a Myth about Lean Office"

"What's Your Problem? The Basics of Problem Solving"

Improvement" available from Productivity Press. [Click here](#) for more information.

Best Regards  
Drew Locher  
Managing Director, Change Management Associates

"Because I Said So"  
Managing by Objective  
(MBO) versus Striving for  
Target Condition

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## AME Regional Conference, San Antonio TX April 15 - 18, 2013

The Association for Manufacturing Excellence (AME) is holding a regional conference at the Marriott Riverwalk in San Antonio TX on April 15-18, 2013. There will be 18 presentations from companies such as OC Tanner, Autoliv, DJO, Barry-Wehmler, and Ingersoll Rand. 8 tours to choose from including Toyota, Lockheed Martin, Frito Lay and Johnson Controls. If you have never been to an AME conference or will be unable to attend the international conference in October, you will not want to miss this. For more information [click here](#).



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