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Kaizen Event Reaps 50% Increase in Throughput for Harlequin

Harlequin Enterprises Limited is the world's leading publisher of series romance and women's fiction with worldwide sales exceeding 130 million books annually. As its only North American distribution facility, the Harlequin Distribution Center in Cheektowaga, NY ships approximately half of that volume, including nearly 9 million packages directly to customers' homes and 45 million shipped to major retail customers that include such high-profile accounts as Wal-Mart and Target. The distribution facility also handles related Fulfillment Services for the Direct to Consumer division, including a call center, payment processing and new member registration. The North American distribution center is operated as a cost center and is measured based on cost control, operational efficiency and customer service. The company's operations are conducted within a modern, single-level facility of over 400,000 square feet on a three-shift basis. Permanent employment exceeds 300

Harlequin's Gale Murray assembles shipping container in the prep area.



people with an additional 50-150 temporaries hired during peak periods throughout the year.

Situation

Customers have become ever-more demanding in terms of requesting more choices, faster delivery and lower prices. For years, the Harlequin Distribution Center utilized a basic business model that packaged and delivered high book volumes at a relatively low cost. Due to changing market conditions & escalating costs (particularly fuel surcharges),

Harlequin continued on page 7

A Safety Program Roadmap by Sharon Hiltz

Are volumes of compliance requirements keeping you from implementing a Safety Program? Overwhelmed with where to begin? How do you find the time for safety, not to mention the expense, when there is a business to be run?

A close look at the impact of not having a safety program can be an eye-opener. Aside from the obvious risk of receiving an OSHA audit with resulting fines, workers' compensation costs in New York State are staggering. Injured employees have the second highest claim cost in the U.S., averaging over

\$16,000 per claim. As a result, according to the New York Workers' Compensation Action Network, we pay 20% more for insurance premiums than our out-of-state competitors. Add in a couple of accidents and we quickly realize a devastating impact on our businesses. In fact, a local company cited one incident where a secretary, employed over ten years ago, was inflicted with carpal tunnel syndrome. To date, over \$250,000 in costs has resulted. An additional \$10,000 remains in reserve for her.

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Quality...Not Quantity

One of *Webster's* definitions for quality is "a degree of superiority." *Webster's* provides many alternative definitions for quality indicating that the concept of quality is broadly applied to many aspects of life. Here are three interconnected aspects of our business and community life where quality is more important than quantity.

Quality is a business differentiator. When applied to products or services, quality provides an opportunity for differentiation and a competitive advantage. In today's business environment, however, the opportunity for truly differentiating quality is rare, although there are notable exceptions such as Toyota automobiles and General Electric turbines. Defect-free and high-reliability quality has become "a price of entry" for competitive business, because our customers have come to expect it. For most U.S. companies the best opportunity for differentiating quality is provided by leveraging American innovation and technology to produce high value-added products and services. The future of U.S. manufacturing generally lies in high valued-added products for niche markets rather than commodity products for large consumer markets. Quality is more important than quantity.

Quality is related to our personal lives. Our quality of life is strongly associated with our income...and a community's quality of life is dependent on the wealth of its residents. That is why communities use economic development policies and incentives to stimulate manufacturing and technology businesses; these sectors provide high wage rates and economic multipliers (generate additional economic spin-off benefits). Global competition has put significant pressure on U.S. manufacturing wage rates that are much higher than many competitors. From a community perspective, lowering wages is an inappropriate response to global competition, because that response decreases the quality of life for the whole community. As a community we need to develop a work force capable of filling the higher

paying jobs associated with innovation and the knowledge economy. From a community perspective, the quality of our jobs is much more important than the quantity.

Quality of place is a measure of the residents' personal comfort with their community's environment. Quality of place is very important to today's highly mobile and diverse knowledge workers. A community's quality of place is associated with entertainment and recreation, education, safety, food, cultural diversity, architecture, ease of transportation and communication, and climate... the many things that make life worth living. As a community we need to stop lamenting the fall of Buffalo from the ranks of the large cities and dedicate ourselves to making this a premium, mid-sized community that provides a superior quality of place. That means continuing to improve education and safety, preserving our architecture and developing a vibrant city center, celebrating diversity, and supporting our cultural and recreational venues. It would even suggest filling pot holes and building a signature bridge. Compared to large urban centers, our region can offer a superior quality of place. Again, quality is more important than quantity.

Of the many aspects of quality, the three mentioned above are closely linked to the ability of our businesses and community to adapt to the changing global business environment. Our challenge is to embrace innovation and, building on quality of place, move our community to a knowledge-based economy. Our quality of life depends on it.



Free Engineering Support from NASA

If your small business is faced with a technical challenge, the Space Alliance Technology Outreach Program (SATOP) wants to help. SATOP is designed to make the know-how of the U.S. Space Program available to small businesses (up to 500 employees), to encourage economic growth, and raise public awareness of the space industry.

SATOP can provide up to 40 hours of FREE technical assistance for qualified requests, utilizing the vast engineering expertise of NASA and participating space industry Alliance Partners. The program is intended to help solve technical challenges that cannot be resolved by the company's internal resources, or by commercially available services.

Areas of expertise of SATOP include, but are not limited to, mechanical, man-

ufacturing, industrial, materials, structural, facilities, chemical, electrical, electronics, and environmental engineering. SATOP's Success Stories not only come from manufacturing and industrial companies, but also from entrepreneurs and small businesses in fields as diverse as agriculture, broadcasting, and the arts.

Applying to SATOP is simple — just complete the short Request for Technical Assistance (RTA) form on SATOP's web site (www.SATOPNY.com). SATOP will work to match your RTA with an engineer from one of our Space Alliance Partners for a resolution.

For more information, or to request a paper copy of the RTA form, please contact Karen Delius at 716.636.3626, SATOP at 315.701.0685, or email info@SATOPNY.com. ❖

Certifications



Sharon Hilts, a consultant with Insyte Consulting, was recently recognized as an exam-passed ISO9001:2000 Lead Auditor for Internal Quality Management Systems by QAI-Training for Quality.

Sharon has also successfully completed a General Industry Safety & Health Training course conducted by the U.S. Department of Labor Occupational Safety and Health Administration. See the insert for a workshop, "How to Prevent Workplace Accidents", that Sharon will be presenting April 17. ❖

Economic Indicators

International Measure	Previous Year	Last Month/Quarter	Current Month/Quarter
Trade Balance - Trade with World, seasonally adjusted, in millions of U.S. dollars	— 68,417 — 11/05	— 63,611 — 10/06	— 62,796 — 11/06
National Measures			
Gross Domestic Product - Current dollars and "real" Gross Domestic Product (seasonally adjusted annual rates) in billions of chained 2000 dollars	11,163.8 — 4th qtr 2005	11,443.5 — 3rd qtr 2006	11,541.6 — 4th qtr 2006
Producer Price Index (PPI) - by stage of processing, seasonally adjusted, Durable Goods	135.9 — 12/05	138.0 — 11/06	138.2 — 12/06
Manufacturing Employment - all employees, thousands	14,219 — 1/06	14,125 (p) — 12/06	14,109 (p) — 1/07
Productivity - Manufacturing output per hour, at annual rate, % change qtr. ago	3.2% — 4th qtr 2005	6.3% — 3rd qtr 2006	2.2% — 4th qtr 2006
Wages - Manufacturing average hourly earnings of production workers, seasonally adjusted	\$16.69 — 1/06	\$16.96 (p) — 12/06	\$16.97 (p) — 1/07
Manufacturing Sentiment - National Purchasing Managers Index (PMI)	56.1 — 2/06	51.4 — 12/06	49.3 — 1/07
Prime Rate - Bank prime loan rate	7.26 — 1/06	8.25 — 12/06	8.25 — 1/07
Local Manufacturing Measures			
Employment - Buffalo-Niagara Falls, NY Manufacturing employment in thousands, not seasonally adjusted	63.1 — 12/05	61.5 — 11/06	61.0 — 12/06
Manufacturing Sentiment - Buffalo Purchasing Managers Index	57.4 — 1/06	52.3 — 12/06	54.2 — 1/07

P: preliminary, Sources: U.S. Census Bureau, Bureau of Economic Analysis, Bureau of Labor Statistics, Institute for Supply Chain Management, Federal Reserve, New York State Department of Labor, National Association of Purchasing Management - Buffalo Inc.

Understanding the Phases of Six Sigma

- Part 4: Improve by Steve Diloia

This is part four of a five part series on understanding Six Sigma and to assist in answering the questions, "Why are we thinking of using Six Sigma? How or when should we use it? What will our ROI be when using it?" Part three, found in the January / February 2007 issue of the Affiliates News, discussed the Analyze phase of the DMAIC principle. (Previous issues of the Affiliates News can be found at www.insyte-consulting.com/news.aspx) Part four of our series explores the improve phase.

Introduction

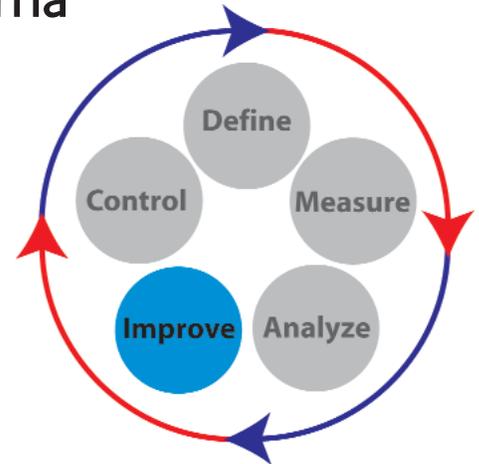
The Improve phase of the Six Sigma project might be considered the reward for the hard work conducted in the previous phases. We begin to see the return on the invested time, planning, thought, and execution done on the project. The team implements solutions and begins to see the benefits from these improvements.

Tools that are typically used at this phase are Brainstorming, DOE's (Design of Experiments), Quality at the Source, Regression Analysis, and Kanban to name a few.

A plan to Improve

It is important to use the data from the Analysis phase to lead you to solutions. The Analysis phase many times shows a statistical solution. Now the team needs to brainstorm to develop a practical solution to implement. Many times multiple solutions may be derived. The team must prioritize and select the solution(s) to be implemented.

These solutions are then implemented in pilot runs to see if the actual results match those predicted or suggested from the analyze phase. Pilot runs allow the team to control the environment to see the impact of the improvement implemented. It also allows the team to



change or adjust the solution, if needed, for better results. This occurs many times and should not get the team discouraged. Further DOE's may be needed to see how to improve the piloted improvement.

Conclusion

It is important not to get stuck in a loop during the Improve phase. The team may be striving for unobtainable results and will continue to go back to the drawing board to come up with improvements. The team may even move beyond the scope of the project in the desire to "fix the world." If the solution(s) / improvement(s) work very well during the pilot, implement them fully and consider this phase closed.

In the next issue of the Affiliates News we will conclude this series with the final phase, Control. If you are beginning to consider a Six Sigma Project but are not sure where to start contact us at 716.636.3626 for further information on how Insyte Consulting can assist you in your Six Sigma implementation.

Steven Diloia is a manufacturing consultant with Insyte Consulting. Steve was trained and certified through Motorola as a Six Sigma Black Belt and certified through SixSigma.US as a Master Black Belt. ❖

NYS Funds Available for Six Sigma Implementation

The New York State Industrial Effectiveness Program (IEP) has been helping New York State manufacturing companies become more globally competitive for over twenty years. The program is designed to reimburse manufacturers for out-of-pocket consulting expenses that introduce improvement initiatives into the company.

IEP is a participatory grant opportunity that can be used for a wide array of improvement projects within the manufacturing, support or management areas. Typical projects may include Six Sigma implementation, strategic planning, quality systems, lean manufacturing, human resources, supply chain management, marketing, information technology, safety, etc. Multiple projects may be covered under a single grant.

Contact John Murray or Phil Celotto at Insyte Consulting, 716.636.3626 to learn how IEP can help with your Six Sigma implementation. ❖

Tips for Conducting a Successful Kaizen Event by David Hallett

Kaizen Events are a great way to improve processes, correct problems, and implement changes. During a kaizen event, a dedicated team is assigned to achieve objectives outlined in a Charter created by management. Team members are assigned to the event full time (typically 1-5 days).

The Agenda

The agenda for a process improvement kaizen event should include:

- Review the Charter and receive training on applicable process improvement, team building, and problem solving techniques.
- Analyze the existing process and determine areas of opportunity.
- Brainstorm clean sheet alternatives, solutions, and improvements.
- Select and implement changes that will have the greatest positive impact / payback and that can be implemented quickly.
- Document any open action items and assign responsibility and due dates.

Tips for Success

The following will make your Kaizen Events more successful:

- Assign a person to facilitate the event. Involve the facilitator in event planning, gathering of information and data, writing the Charter, and team member selection.
- Carefully select a 4-7 person cross-functional team, with about half the members from the area being worked on and the other half from various other areas of the organization. Team members should be respected and influential with their co-workers. Including Managers as team members should usually be avoided unless the objectives are high level or strategic in nature.
- Arrange team member's schedules and assign backup personnel, so that team members will not get called out of the event at any time. The organization should consider these people to be on vacation during the event.
- Management needs to clearly define the objectives and any limitations or boundaries in the Charter. Management must empower the team to make decisions and implement changes within the limits identified in the Charter.
- Schedule a presentation to Management at the end of each day for the team to present accomplishments, issues, and the plan going forward. Management should provide support, feedback, and any help the team needs to achieve its Charter.

Advantages

Kaizen events require about half as many man-hours to achieve assigned objectives as traditional part-time improvement teams. Other advantages of kaizen events include:

- People from all levels and areas of the organization get involved.
- Team members are allowed to focus on one thing for a relatively long period of time.
- Decisions are made quickly and in a consensus fashion.
- Something gets done. Solutions are implemented quickly. The organization sees that this is not a new "flavor of the month."
- Better, more creative solutions are developed.
- Team members develop new skills, relationships, and a broader understanding of the company and its processes. Team members often become change agents as a result of their kaizen experience.

David Hallett is a consultant with Insyte Consulting who has facilitated over 50 kaizen events. ❖

Suggested Reading

Lean Logistics: The Nuts and Bolts of Delivering Materials and Goods by Michel Baudin

Book Description: Are your warehouses full while production is stopped by shortages? Do you know what you have, and when the next replenishments will come? Do your customers complain that your lead times are too long and that your deliveries are late? Does the volume of your logistics activity vary erratically?

This book addresses these issues, both the physical infrastructure of lean logistics and the information flows that compose its nervous system, as well as innovative approaches to supplier relations. Find out how to avoid shortages while maintaining low inventories and take advantage of the increased capacity and flexibility generated through lean manufacturing.

This book picks up where the author's previous book, *Lean Assembly*, left off — it clearly discusses and illustrates how to deliver parts efficiently to assemblers, and the correct process for finished goods after completion. Lean Logistics completely covers manufacturing logistics, including its interaction with production control. ❖

Source: Amazon.com

Safety Program continued from page I

Ergonomics is presently unregulated by OSHA so carpal tunnel syndrome and other repetitive motion disorders are not considered when looking at compliance alone. To fully address this situation you must take a different approach. You must look at injury prevention through an Accident Prevention Safety Program (APSP).

Where to Begin

The need for a safety program must be acknowledged, not just for the health of your employees, but also for the health of your business. To be successful, you, your managers, and your staff must be convinced that the implementation of an APSP is necessary. Employees returning home with all their fingers and health intact should be enough justification; but prevention measures are often considered to be too costly. However, OSHA reminds us, "An effective safety and health program can save \$4 to \$6 for every \$1 invested."

You can form a Safety Committee with management's support. Empower this group to assess, investigate, organize, train, implement, and correct issues associated with safety. They are the leading force in incorporating safety philosophies into your company's culture and their membership should be prudently considered.

First Steps

Initially, the Safety Committee should assess your business in reference to the safety program, jobs performed, and the facility. The effectiveness of the program itself provides the foundation for on-going injury and accident prevention. It becomes the

vehicle for addressing safety issues and the baseline for continuous improvement in your company. Employee involvement is critical and should be included as part of the evaluation. Other elements you need to consider are training, awareness, incentives, and prevention activities such as safety inspections, job hazard analyses, and accident investigations.

As part of the program evaluation, you must examine overall performance including trends in compensation claims, lost time accidents, job injuries resulting in work restrictions, repetitive first aid occurrences, and near miss incidents. Where possible, compare these measures to those of other companies in your same or similar industry.

A comprehensive audit of your facility should be done while performing key jobs, by a team of at least two people. Individuals will often notice completely different safety concerns based on their own competencies, especially if there has been minimal training.

After the audit, analyze the jobs with hazards so you can develop action items to eradicate these hazards. Establish priorities by considering both the degree of a possible injury as well as its likelihood. The relative likelihood is determined by linking your company performance information, such as lost time accidents, to a specific hazard.

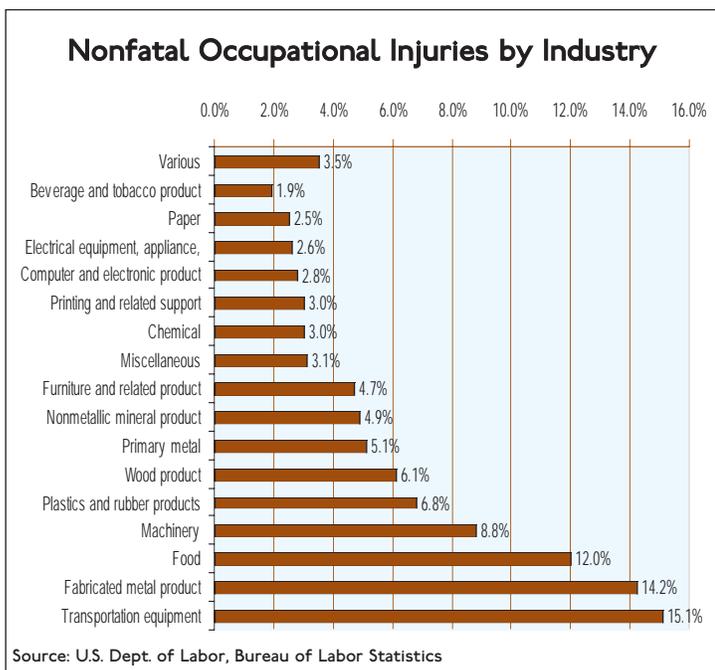
Once the assessment of your current safety program and facility is complete, address overall weaknesses. What systems do you need to put in place to omit hazards on an on-going basis and to prevent new hazards from being introduced?

Beyond the Roadmap

Now that your roadmap for safety improvement is in place, assign individuals the activities to drive the program forward. Along with abating specific hazards, the implementation of sub-programs including Accident and Near Miss Reporting, Self-Inspection, Job Hazard Analysis, Personal Protective Equipment, Hazard Communication, Emergency Action Planning, and Ergonomics, to name a few, may be needed. Here's where you may become overwhelmed again. Quoting an old adage, "How do you eat an elephant? One bite at a time."

Insyte Consulting can assist you with developing and implementing an accident prevention safety program by contacting Sharon Hilts at 716.636.3626.

Sharon Hilts is a consultant with Insyte Consulting. Her leadership focus on safety improvement has resulted in significantly fewer recordable incidents and corporate awards in OSHA's Safety and Health Achievement Recognition Program (SHARP).



Harlequinn continued from page 1

the company had to take measures that would maintain both profitability and competitiveness.

Significant investment was made in technologies that would improve operational effectiveness; most notable — the implementation of a warehouse management system (RF Gun, bar-code system). Although this technology was beneficial, the company's management recognized that operationally the organization's core competencies also needed to be improved in terms of inventory accuracy, streamlined material movement, space maximization, equipment utilization, increased throughput and reduced waste. It was believed that introducing elements of lean manufacturing into the organization would help to accomplish these objectives. Insyte Consulting was engaged for the purpose of introducing and implementing these concepts into the operation.

Solution

Insyte Consulting trained a core group of Harlequin personnel that would be involved in the project. The basic concepts of lean manufacturing were presented in a full-day workshop that provided the team a foundation and common knowledge base prior to the start of the project.

Subsequently, a meeting was held with Harlequin's management to discuss the focus of the project. This discussion aligned the project objectives with the business goals. There was guidance from Insyte Consulting during the discussion to ensure that objectives would be obtainable. The objectives chosen were improvements in output, efficiency and quality. These objectives were then used to guide the team through the project. As discussions developed at each step of the project, the objectives could then be referenced to support decisions relative to specific process improvement ideas.

A cross functional team of seven people from Harlequin was formed. During the first week, Insyte Consulting guided the team through a project scoping and data collection exercise. The first step was to develop a current state value stream map of the selected packing area. Next the team spent a couple of days measuring cycle times, performance, quality, square

footage and other metrics. Observations of the work in the packing area were also recorded. This data formed the team's baseline and was used to eliminate non-value added steps.

By the end of the week a future state value stream map was created, along with a Kaizen event plan for the following week. A presentation was developed by the team and presented to management. This allowed for management to review, approve and fully support the plan, which included a commitment that the necessary resources would be available to execute the Kaizen event.

Insyte Consulting's role was to guide and mentor the team through the Kaizen event as the Harlequin team members took ownership of the project. With management's full support the improvements planned for the area were successfully implemented within just two and one half days. Specific actions taken included: the packing line was moved and shortened; new line procedures were put in place; the prep area for the beginning of the process (which had been in a separate area) was moved and linked to the packing line; visual cues were introduced; a performance metric board was strategically located in the area for all participants to see. With dramatic success and satisfaction, the project was concluded with a team presentation to management inside the packing area.

Project benefits to the company included: a 50% increase in throughput; 29% reduction in total production time; 63% reduction in travel distance; 7% improvement in quality, and a 29% reduction in required floor space. An additional benefit realized by the team included a better understanding of the packing area and the influences of their individual activities on overall performance. Because of this change in attitude, the emphasis quickly shifted from individuals working to pack books to a newly formed cell where team members work collectively to expeditiously pack the order. ❖

Firm Benefits

- 50% increase in throughput
- 29% reduction in total production time
- 63% reduction in travel distance
- 7% improvement in quality
- 29% reduction in required floor space



Elyse Lazewski completes order for Wal-Mart store.

“The Kaizen approach to process improvement enabled us to quickly realize significant and permanent changes in the chain-packing area. We anticipate the continued use of this methodology throughout the other areas of the facility.”

**John Reindl,
General Manager**

Affiliates News

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ly reflect the views of NYSTAR.

Insyte Consulting assists WNY manufacturing and technology companies to overcome their strategic and tactical business challenges. Whether it's a short-term engagement or a long-term commitment, we create positive change.

Because our employees have hands-on experience, we can help our customers see the opportunities and threats that lie ahead. We're always ready to roll up our sleeves to help get results — results you can measure.

We also place a strong emphasis on teaching our customers proven methods for maintaining and replicating the success that has been achieved. Knowledge combined with common sense — that's how our experience improves your business.

Our experience improves your business



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