Mayberry Newsletter

The W. E. Mayberry Center for Quality and Performance Excellence

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COMPETITIVENESS: THEN AND NOW

Dr. Curt Reimann

Throughout its ten years, this newsletter has addressed topics in quality and performance, mainly in connection with business education. The rationale for this focus has been that, despite their growing importance, these topics are difficult to cover well in business curricula and are often either largely ignored or covered in a piecemeal manner. The reasons for this include the scope of the issues, their cross-disciplinarity, the importance of strategy, business context, and the rapid pace of marketplace developments. Both explicit and implicit in our focus have been: (1) Quality and performance are critical to profitability, survival, and competitive success; (2) Key aspects of quality and performance are manageable via tools and processes; and (3) Students entering the marketplace will increasingly need to understand these important concepts, contexts, and tools, regardless of their career and sector choices. Over the years, we have discussed the importance and multidimensional nature of quality and performance, the rapid evolution of the underlying practices, marketplace "fads," the importance of anchoring performance in strategy, types of assessment, and related topics. We have also suggested that the concepts, practices, and tools might be described as an emerging discipline. Perhaps the overall thrust of our work is best captured in our 2001 newsletter in which we de-scribe our aim as "Trying to Make Sense of the Performance Management Landscape." Although organizational performance and success cannot and should not be equated with national competitiveness, international factors and trends have profound effects upon organizational contexts, strategies, and performance. In this article, we offer perspectives on national competitiveness over the past three decades, how it has evolved and changed focus, and key challenges the changes pose for performance management. In doing so, we accept the meaning of competitiveness set out in a recent National Governors Association's publication: "Competitiveness is an economy's ability to generate high-wage jobs and support a high and rising standard of living."

Concerns over national competitiveness are not new. They date back some three decades, even though the intensity of these concerns diminished somewhat in the 90s, before rising again and becoming quite strong. There are, of course, many parallels between the earlier and current periods, such as loss of market share and jobs and imbalances in trade. However, there are also many important differences between these periods. From the point of view of performance management concepts and practices, it is interesting and instructive to compare these competitiveness periods to bring out important differences and some associated implications and requirements.

In the early post-WWII period, the US held a commanding lead in the World economy, in as much as its productive capacity emerged from that war relatively intact. As nations such as Japan and Germany recovered, and placed great emphasis on exports, their economies grew at fast paces. Early on, these nations also had advantages owing to lower wages, and they produced goods that competed well on quality and price. In parallel with these developments, US productivity growth had stagnated, and US quality relative to competitors, especially Japan, was widely perceived to be declining. Such factors and trends became increasingly visible and much attention was brought to so-called Japanese quality management practices. US organizations began to adopt and adapt such practices, and the US itself launched a national quality award to help provide focus, recognize leaders, and to share practices. Quality management practices (and many parallel awards) quickly spread to states and business and professional associations. Such practices led to greater use of teams, more employee training and development, and many forms of employee involvement. In addition, many organizations moved from quality control and quality assurance to larger,

systems approaches with greater emphasis on problem and defect prevention via process design and management, supplier quality, and related areas. Many new and modified tools came into use as did wide use of performance measures, often called "metrics." Such developments contributed to narrowing the gaps in competitive performance, even though trade imbalances continued to increase. It should be noted, however, that although competitiveness concerns subsided somewhat in the 90s, throughout the entire three decades, many analysts called attention to the US' need to step up pursuit of technological leadership and a strong manufacturing base.

Early in the 21st century, concerns over national competitiveness once again began to intensify. Although trade imbalances and loss of jobs, especially in manufacturing, were visible symbols of the concern, relative quality and productivity growth were not widely perceived to be major factors. Indeed, the US enjoyed robust productivity growth before and during the emergence of the "new" competitiveness era. Nor was competition with Japan and Germany the main focus of the new concern. The new challenges were arising from potentially larger economies, mainly China and India. The rapid growth of these economies, their vast human resources, growing emphasis on education, coupled with lower-wage levels projected into the future, create significant new competitiveness challenges. In addition to low-cost sourcing of products and components, "offshoring" made possible by modern information technology, threatened loss of many service jobs as well. Although many US firms seek to compete by driving down costs in their US operations, in many cases the cost gaps are simply too large to close via improved efficiency. Also, China and India are themselves adopting modern performance practices, building the capabilities needed to maintain productivity growth in support of their lower-cost advantages. These constant cost pressures on US operations keep margins very low in price sensitive ("commodity") markets and squeeze profits below levels needed for survival. As a result, many US business leaders take advantage of low-cost sourcing and high market potential of rapidly growing economies. There is now a growing consensus that for the US to compete successfully in world markets which have a strong presence of low-wage, high-growth nations requires strategies and operations that are buffered against cost/price pressures. Hence the focus of the current competitiveness concerns emphasizes making the US an innovation-driven economy.

INNOVATION

From the point of view of promoting student understanding of innovation in relation to performance management, it is critical to work toward clearer meaning of these concepts, both of which are beset by terminology problems and experiential interpretations. Performance management refers to the use of systems, organizations, processes, tools, and initiatives to improve performance—most often, quality, productivity, response time, and customer satisfaction. The word, innovation, in common use, tends to have two different but interrelated meanings:
(1) New products and/or processes usually derived from science and engineering and often representing a new technology or a "breakthrough"; and
(2) Improvements and/or changes in products, processes, organizations, work practices, and/or business models.

Note that (2), being a broad meaning, actually subsumes (1), which is, perhaps, a dramatic and rare example of (2). Economists tend to use the broad meaning of innovation because it captures the variety of factors and business changes that contribute to productivity growth, which drives increasing standard of living. To some extent this confusion over meaning can aid understanding as it often reflects different communities and usually provokes debate, which in turn clarifies full meaning. The dual meaning mentioned above often reveals or creates cultural tensions, as well. Of particular importance to students is that meaning (1) seems to emphasize "newness," invention, and creativity—often difficult to reconcile with management, discipline, and defined processes, which are more readily seen in relation to meaning (2). An accepted definition of innovation, such as (2), above, is needed, but is not likely to resolve the problems associated with the dual meanings which are likely to persist in practice, because they are deeply engrained in business literature and communities of practice.

In addition to the management and process dichotomies mentioned above, it should also be noted that meaning (2) is often viewed as pursuit of greater "efficiency," while meaning (1) suggests pursuit of new "value" or "top-line growth." Although this distinction also provides further clarification based on the purpose of innovation, both (1) and (2), above, imply growth as a purpose. However, meaning (2) includes a wide range of efficiency mechanisms as well.

The competitiveness challenges facing US organizations require that the performance management disciplines more explicitly and clearly accommodate the larger aims of innovation and efficiency, in parallel, as both contribute to productivity growth, and to sustaining profitability. This requires greater "openness" in process meaning, design and management. Perhaps the best route to this end is strategy-based—expressed via overall organizational goals, requirements, and metrics. Accordingly, individual processes or subprocesses within a larger system would need to be designed around requirements—ones which more clearly define the specific performance aims of the organization. For example, compliance-oriented processes need clear procedural definition—even rigidity, in some cases. Processes supporting creativity and change objectives require much less structure.

Despite cultural, organizational, and community barriers, aspects of the needed integration of performance management and innovation are underway. The acceptance and uses of process management have grown steadily over three decades. Processes involving learning from customers, competitors, and through benchmarking are greatly enriching process management and fostering process openness. In addition, more and more organizations are turning to knowledge management and "open-source" learning for improvement and innovation. A particular source of learning and technology— basic science and technology developed in federal and university laboratories—is now receiving renewed attention, with increasing focus on network processes to improve the connections between laboratories and firms. An important part of this attention is on improved channels and processes for bridging between developers and potential users of scientific and technological knowledge.

Performance Management In The Age Of Innovation

The 2007 Mayberry Advisory Board discussion addressed key characteristics of the changing performance management scene as major shifts toward innovation take place. Particular emphasis was placed on what students and faculty need to know about these characteristics and changes. The topic was introduced with a statement and two specific questions. The statement was:

Quality criteria and tools extended easily to overall performance dimensions, such as productivity and cost and cycle time reduction. To a great extent, quality systems and criteria have been about "problem solving." Although such approaches fit within broad definitions of innovation, common use of the word "innovation" often tends to emphasize "newness", including related growth, "breakthrough" products, and technologies. Currently, there is coexistence and overlap between performance initiatives and innovation, but there is also significant confusion and much disagreement and, hence, lack of more extensive exploitation of the possibilities from better integration.

The two specific questions were:

(a) How should we define and describe performance management for students and faculty so that they get a holistic view of how performance management relates to innovation?

(b) What are key challenges we face as we seek to better understand the relationships between performance management and innovation? Board members shared their observations, experiences, and views on the above topics, gained over many years of working in a wide variety of diverse organizations.

The following is a summary of key points that emerged during the discussion:

(1) Innovation has a broad definition but multiple meanings in practice, some of which relate to specific aspects or kinds of innovation. Applications of existing and evolving quality tools have contributed significantly to organizational productivity and change and are now being applied to innovation. It is important and appropriate to emphasize that the overlap is not new: It has been underway for decades. Despite this overlap, it is still often difficult to define, describe, and manage the connections. To some extent, the recent national focus on innovation has fueled the confusion. Nevertheless, innovation should not be viewed as a passing "fad."

(2) The recent emphasis on innovation tends to be accompanied by a bias toward "breakthrough" innovation, an important but narrower meaning of a much broader concept.

(3) Innovation can be viewed along multiple dimensions. Organizations can improve their competitive position (i.e., part of performance management) by innovations in: (i) products and services such as Apple's i-phone; (ii) operating efficiency like Wal-Mart driving prices down through efficient processes; and (iii) customer intimacy, e.g., Nordstrom's department stores.

(4) Breakthrough innovation and incremental innovation should not be depicted as an either/or choice. They should, can, and often do, coexist. Board members cited examples from their own experiences to illustrate a long-standing coexistence. They also acknowledged that they encounter much confusion over these issues in their current day-to-day experiences.

(5) Many innovation requirements can be managed within processes. However, such processes need to be more "open-ended" and less structured than problem-solving processes.

(6) Use of metrics, brought into much wider use by modern process and performance management, will be critical to the further development of innovation processes. To date, metrics used in innovation have been "after-the-fact" or trailing indicators, such as percent of sales coming from new products. A key challenge here is to devise better leading indicators—ones needed to improve innovation process design and effectiveness.

(7) Organizational culture and human factor issues pose major challenges to managing innovation processes and to leveraging performance in support of successful innovation. Factors in the culture, such as incentives, clear organizational goals, metrics, and more open processes are judged to be critical to progress. It was also noted that accepting and learning from failure are more critical to build into innovation-oriented cultures than ones built around improvement.

(8) Working with lead users and demanding customers can result in new and better understanding of emerging needs and opportunities, leading to generation of new product ideas. It should be understood that although such approaches run parallel to customer problem solving, there are also important differences in customer-relationship processes and practices needed to exploit innovation.

(9) Even if there are shared understandings of the meaning of innovation, assessing organizations for innovation will be more difficult than assessing for performance, because of the culture and mixed-culture dimensions involved. Better understanding of organizational needs and strategies will be important to such assessment.

Process Management – New Frontiers, New Challenges

Dr. R. Nat Natarajan

Processes are the methods and the modes by which an organization deploys and implements its strategies. In recent years, process management has become one of the important tools for performance improvement. It provides a powerful and systematic framework for planning and organizing improvements. It has transformed the way work is viewed and conducted in organizations. Six Sigma, a widely used methodology for improving processes helps in making them better, cheaper and faster. A recent trend is to extend the domain of process management to innovation and research and development (R&D). This article will spotlight some of the issues that arise as process management is applied to these new areas.

Innovation — what is new? Many U.S. companies attach strategic importance to innovation and consider it vital to their growth and staying competitive. But studies show that they are also disappointed in the return on their investment in innovation. They are looking for ways to better manage innovation which is considered as chaotic and messy. By understanding the factors that affect the outcomes, innovation can be managed as a process and outcomes made more predictable. In fact, large industrial enterprises over the last 100 years or so have been trying to make innovation a more routine process. But the issue has gained saliency and urgency because the *i* word — *i* for innovation — has now become the new mantra of U.S. businesses and economic policy makers. The recent spate of books and articles published on this topic attests to the increasing popularity of the *i* word in corporate boardrooms. Given the significance of innovation and the size of the investments, companies do not want to leave the outcomes to chance. Can process management really help in achieving this goal? The answer lies in understanding the key characteristics of innovation.

The term innovation has been interpreted in many ways. Multiple meanings attached to the term often leave the lay person confused and the experts talking past each other. Some clarifications are in order. First, not all innovation is about creating totally new products/services and processes. In fact, these breakthrough type innovations tend to be quite rare and are inherently unpredictable. Second, breakthrough innovation is not always about creating new products or processes in a technical sense. It is also about coming up with entirely new ways of doing business, i.e., business-model innovations. Sometimes entrepreneurs are able to successfully exploit new technologies like the internet to create new business-models, e.g., Amazon and eBay. A characteristic of any innovative activity is the high degree of uncertainty in the outcomes. One way to cope with this uncertainty is to allow for failures but quickly learn from them. Therefore, "failing fast" and "failing smart" have to become part of the innovation process.

Large bureaucratic companies are not the crucibles in which breakthrough innovations bubble up. This is a reason why they often end up buying innovations by acquiring start-up companies instead of growing the innovations in-house. But that has not prevented some large companies like Apple, 3M, Procter and Gamble, Hewlett-Packard, and Google to make this type of innovation a centerpiece of their business strategy and create a culture to nurture it. An aspect of this culture is encouraging intrapreneurship i.e., trying to mimic what entrepreneurs do. But this cannot be totally freewheeling without any controls. The thorny issue here is how to harness and channel the creativity of people without stifling it with a rigid structure of budgeting, planning, and reviewing. Metrics such as the number of patents filed and spending on R&D may not adequately measure innovative activity. The idea generation phase at the front end will be the most fuzzy and idiosyncratic part of the process. Here the

use of Six Sigma-like approaches run the risk of becoming a straitjacket. But the phases that follow, where the ideas have to be commercialized by marrying them to the needs of the customer and brought to the market, can benefit from the discipline of process management. While generating new ideas is important in order for the investment in creative people to pay dividends, it is equally important to mobilize and exploit the ideas that already exist. These ideas were thought to reside in R&D departments of companies but now users, employees, and business partners are seen as the main sources of innovative ideas. Once these ideas have been identified and filtered out, process management can be useful in commercializing them.

To put things in perspective, breakthrough innovations, like home runs, are rare. What goes on in the name of innovation in most companies is actually the less spectacular incremental improvement which builds on existing products and processes in a cumulative fashion. Even companies like Apple create new products, e.g., iPhone, learning from past failures and successes. While investing in and betting on breakthrough innovations may not be for every company, engaging in incremental but continuous "innovation in the small," is a must for all companies. Process management can be quite effective in incremental type of innovations. Scholars who study innovation point out that incremental innovation calls for a culture, mindset, organization structure, motivation and reward systems quite different from the ones that are conducive to breakthrough innovations. In some companies e.g., Nokia , these cultures coexist. For instance, Toyota has pioneered the process management for continuous incremental improvements both in manufacturing and design. It has also had success with breakthrough innovations, thus demonstrating that an organization can develop and sustain

capabilities and cultures for both types of innovation.

From the madness of the crowds to the wisdom of the crowds. In the context of innovation, an observed trend is for organizations to look outside for innovation ideas. For example, Procter and Gamble gets more than 30% of its ideas for new products and services through R&D in which outsiders participate. Firms are entering into cooperative research and development agreements (CRADAS) with national labs and universities. An advantage of this external collaboration is that innovation takes place not inside a hierarchy but in a network. Such collaboration is enabled by online marketplaces for ideas (called *ideogoras*) such as InnovationXchange Network and InnoCentive - to name a few, which match problems with problem solvers who are rewarded with cash for the accepted solutions. As an example of the power of network innovation, consider Colgate-Palmolive, which was looking for a more efficient method for filling the tube with toothpaste. When its R&D staff could not solve the problem, it was posted on the website of InnoCentive, and soon a simple solution was proposed. The innovator earned $25,000 by applying a basic principle of high school physics. It was to put a positive charge on the fluoride powder in the paste and ground the tube while it was filled! With network innovation, a company is able to leverage the ideas of thousands of scientists with diverse backgrounds who are not on its payroll as full-time employees. The chances of finding good ideas is increased by casting the net far and wide. And thanks to the Internet, reaching so many people has never been easier. But, for this collaboration to work, organizations will have to learn to leverage effectively and efficiently the "wisdom of the crowds." That is, they need process management.

From open-source to open-business. The first instances of such mass collaboration were not initiated by for-profit businesses. They originated in the open-source approach by which the operating system *Linux* was improved and the online encyclopedia *Wikipedia* was created. Clearly, there are lessons and insights from these communitarian open-source efforts that can be applied to process management of distributed innovation. The following are some of those lessons:

1. The need to assure quality is evident when anyone can access the project and make a contribution. This was a challenge for *Wikipedia* because of the tendency of some contributors to abuse the open access, vandalize some entries and introduce personal bias and inaccuracies. The initial policy of "there are no rules" — to encourage participation by the crowd — soon led to chaos and had to be abandoned. Rules for changing and editing the entries had to be introduced. Self-policing by vigilant contributors can catch and eliminate the errors and the biases, but its limits are soon reached as the scale and complexity of project increases. This means the controls are needed for monitoring the process. 2. Accountability has to be built into the process of peer production. The flexibility and speed which are the strengths of the decentralized process have to be balanced against the need for accountability and process ownership that typically are ensured within a hierarchy. 3. In order to reduce the chaos that can ensue from mass participation, mechanisms for screening, filtering, and aggregating information have to be built into the process. 4. Assigning ownership of intellectual property is a tricky issue when the project is a collective endeavor. This has become the subject of lawsuits e.g., some users of *Linux* have been sued for copyright violations. 5. The motivations of the participants in the various nodes of the network are going to be different. Their nature has to be understood and they have to be aligned through proper incentives. This can be very challenging because outsiders may not respond to the traditional organizational "carrots and sticks."

Board Discussion

Activities and Accomplishments 2006-2007

The Mayberry Center's purpose is to increase awareness and enhance development of performance excellence related practices in business and education on a local, state, and national level. This is achieved by conducting and disseminating research, implementing projects and activities, conducting workshops for practitioners, and instructing students in undergraduate and graduate classes. The Mayberry team, consisting of Chairholder **Curt W. Reimann**, President **Robert Bell,** Dean **Bob Niebuhr**, Mayberry Professor of Management **R. Nat Natarajan**, and Mayberry Graduate Assistant **Ryan Lisa** have contributed to this mission during the past year. Activities carried out include:

- Dr. Reimann serves on the Technical Committee for the Juran Center for Leadership in Quality, Carlson School of Management, University of Minnesota.

- Dr. Reimann serves on the Veterans' Advisory Board on Dose Reconstruction by the Defense Threat Reduction Agency, U.S. Dept. of Defense.

- Dr. Reimann serves on the board of Goodwill Industries.

- Dr. Reimann and Dr. Nat Natarajan serve on the advisory board of the TTU School of Interdisciplinary Studies and Extended Education (ISEE).

- Dr. Nat Natarajan, presented the paper, "Quality and Performance Management in the Construction Industry: Do They Stand Up?" at the annual meeting of the Decision Sciences Institute in San Antonio, TX, in November 2006. The paper, co-authored with Brad Leimer, was published in the conference proceedings.

- Dr. Nat Natarajan's paper "Transferring Best Practices to Healthcare: Opportunities and Challenges" was published in *The TQM Magazine.*

- In January 2007, Dr. Nat Natarajan visited several colleges in India for the purpose of recruiting students for the TTU MBA program.

- In July-August 2007, Dr. Nat Natarajan was a visiting faculty at SP Jain Center for Management in Dubai, UAE and Institute of Finance and International Management, in Bangalore, India. He taught courses on quality and supply chain management.

- Dr. Nat Natarajan serves on the advisory board of National Center for Quality Management (NCQM), Mumbai, India.

- Dr. Nat Natarajan serves on the editorial board of the *Journal of Quality Management.*

- Ryan Lisa, Mayberry Graduate Assistant, serves on the 2007 Board of Examiners of the Tennessee Center for Performance Excellence (TNCPE). In April 2007, he attended the Quest for Excellence conference in Washington, D.C.

Mayberry Advisory Board

The Mayberry Advisory Board met on October 31, 2006 and November 6, 2007. Board members visited classes as guest speakers. They also participated in a panel discussion organized by the MBA students. Earlier they interacted with COB students during the reception and dinner.

Personnel Changes

Welcome on Board – Katie Rawls

- We welcome Ms. Katie Rawls to the Mayberry Advisory Board as its newest member. She is the President of Tennessee Center for Performance Excellence. See her article in this newsletter.

Dean Niebuhr takes new position

- After a little over six years as dean here at TTU, Dr. Bob Niebuhr has accepted a similar position at the Florida Institute of Technology in Melbourne, FL. While at TTU, he helped to establish the distance MBA, the Plus One, and the "Student to Career" programs. This last spring, he led the college successfully through re-accreditation. We acknowledge his excellent support to the Mayberry Chair and wish him well in his new position.

Dr. Stephens is Interim Dean

- Dr. Mark A. Stephens has been named interim dean of the college until a national search for a replacement is completed. Dr. Stephens is the chair of the Economics, Finance, and Marketing department and professor of economics.

Advisory Board Members particpating in MBA Forum and panel discussion

Where Are They Now? An Update From Brad Leimer!

*Recently we heard from **Brad Leimer**, one of our former Mayberry Graduate Assistants.*

I served as a Mayberry Graduate Assistant from 2002 – 2004. My experience working with the Mayberry Chair of Excellence has been a huge influence on my career.

One of the highlights during my Mayberry Graduate experience was serving as an Examiner for the Tennessee Center for Performance Excellence (TNCPE). This experience in itself was like earning a mini MBA. Having just completed my fifth year working with the TNCPE, I am continuing to learn from some of the best organizations in Tennessee.

The TNCPE experience led me to apply to serve as an Examiner for the Baldrige National Quality Program. It has been an honor to work with the program for the past two years and I have enjoyed working with some of

the top organizations in the country. I also have had the opportunity to work with several of the current Mayberry Advisory Board members including Gary Floss, Steve Hoisington, David Jones, Katie Rawls, and Dr. Reimann.

After earning an MBA, I remained in Cookeville to work as the Vice President of Business Excellence at J&S Construction. J&S is a small, family owned design/build contractor specializing in churches, retail, and manufacturing. I am leading the efforts toward performance excellence using the Malcolm Baldrige criteria. Positive results have been an increase in operating profit, worker productivity, on-time project completions, and customer satisfaction, as well as a decrease in lost time accidents. J&S applied for the TNCPE Award where the company was recognized at the Commitment level in 2004 and the Achievement level in 2005.

Besides my work at J&S, I have published articles about construction including "Construction: An Overlooked Driver of the Economy" in the Upper Cumberland Business Journal, and co-authored a paper with Dr. Nat titled "Quality and Performance Management in the Construction Industry: Do They Stand Up?" It was presented at the 2006 National Decision Sciences Institute Conference in San Antonio, TX and also published in the conference proceedings.

I am continuing to gain experience in the process improvement field by starting work toward earning the Six Sigma Black Belt certification, and plan to have it completed in early 2008.

Working with the Mayberry Chair of Excellence opened many opportunities in my career, and I am thankful to the Board, Dr. Reimann, and Dr. Nat.

Spring Mayberry Lecture

Dr. R. Nat Natarajan and
Ryan Lisa

Dr. Allen Atkins, a distinguished alumnus of TTU, delivered the 2007 Mayberry Lecture on March 29. His lecture was on achieving performance excellence in a technology-oriented company. He shared his experiences in turning around a subsidiary of McDonnell Douglas Corporation (MDC), McDonnell Douglas Technologies (MDT), which he joined in 1990 as V.P. and General Manager. At the time, MDT was mostly a R&D unit with very little manufacturing and a niche market in "invisibility." It was a capital-intensive operation with 250% overhead rates, $20 million in revenues, and significant process problems in the area of security, R&D, production, and infrastructure. In the words of Dr. Atkins, "We were mediocre at many things, and good at none." Dr. Atkins knew that a new approach was needed for the company. He mentioned he went in there as a non-business person but had been exposed to TQM and Baldrige concepts at McDonnell Douglas. He felt implementing these frameworks were the key to transforming MDT. Dr. Atkins' first priority was to focus on the people in the organization. He did not agree with the prevailing thinking that drastic reduction in headcount was necessary to improve performance. He put in place training programs and deployed the team approach to create the human resource infrastructure necessary to implement the Baldrige framework. About 80% of his employees were Ph.D.s, and motivating them and changing their mindsets was a challenge. According to Dr. Atkins, "It was like herding cats."

The next big change was in the role of leaders who became enablers and facilitators. Decision-making was pushed to the lowest levels in the hierarchy — there was a bias for getting things done instead of waiting for orders from on high. Quality Guru Dr. Deming's point number 8, "drive out fear," was put in practice. Teams responded to these changes very positively. Dr. Atkins stressed that it was OK to fail, especially when the

technology envelope was being pushed. He told students not to be afraid of failure. Dr. Atkins used wit to make his points — he said he dealt with some employees who resisted the changes by helping them find jobs with competitors!

He quoted Dwight D. Eisenhower — "Plans are worthless but planning is valuable" to emphasize how important the process of planning is. Then he outlined the strategic planning process at MDT and the tools that were used to deploy the plan. Business students in the audience were able to relate to tools that were used to deploy the various projects and link the customer requirements and strategic goals all the way to the activities at the individual level. He said it was really important to put the customer at the center of the programs. Employees had to go beyond satisfying the customer in terms of technology, quality, and security, and instead ensure that customers succeed in their goals. In order for that to happen, they had to establish relationships with the customer which included e.g., sending birthday cards to them. Customers participated in program reviews.

Dr. Atkins said he reversed the traditional SWOT analysis (strength, weakness, opportunities and threats) to TOWS. This was a small change but had a big effect by putting the focus on threats and opportunities first and how the weaknesses and strengths actually match up to them. In the area of program management, performance was measured rigorously through a set of metrics. He said metrics had to be applied consistently and had to be normalized to make meaningful comparisons.

Dr. Atkins believes an educated workforce is vital to the success of the company, and he put in place policies to improve the general education level of the employees, which will make them employable. He felt that employment cannot be guaranteed but employability can be. 100% of the tuition was reimbursed when employees pursued degree programs. On specific topics, on-the-job training, workshops and

seminars by experts were provided. Employees were encouraged to review patents for new ideas. Dr. Atkins reminded the audience Einstein was a patent examiner. One of the challenges Dr. Atkins faced was in breaking down the barriers between the functional silos of manufacturing and quality, which had different cultures. He created an integrated process where manufacturing became responsible and accountable for incorporating quality.

He stressed that all the things he did at MDT would have meant nothing if they did not result in improved performance. He outlined the outstanding results that were achieved by 1995 in five years. They included San Diego State's Southern California Institute for Quality and Productivity Annual Award (2nd time); James S. Cogswell National Award for Security (2nd time); positive cash flow; exceeded all corporate goals; financial improvements exceeded 22% for the third year in a row (for the parent company, MDC, it was exceeding 5%); customer ratings higher than ever; and supporting other divisions with TQM programs. MDT had become a role model company that was being studied and benchmarked by other companies.

He concluded the talk with the following list of things he wanted the students to think about and act upon: Be a leader/be an enabler. Failure IS an option. Be like the little engine that COULD. Support paradigm shifts. Set goals. Continuously learn. Consider graduate school. Make a difference to someone. Be PROUD of Tennessee Tech. Have fun.

Dr. Atkins' talk was laced with anecdotes, and he made many of the concepts that students had learned in the classroom relevant and alive by discussing their real life applications. It was educational and entertaining.

Dr. Atkins received his undergraduate, masters, and doctoral degrees in engineering from Tennessee Technological University. He is credited with being the father of stealth technology because of his technical leadership that led to the success of the country's stealth programs. The vice chairman of the Joint Chiefs of Staff directly attributed the country's success in Operation Desert Storm to the technical leadership that Atkins provided on stealth-demonstrated programs. In 1981, Dr. Atkins received the Department of Defense's second highest civilian award. Dr. Atkins moved to McDonnell Douglas in 1987 as vice president and general manager of the newly created organization that became the Phantom Works. In 1990, he became the vice president and general manager of McDonnell Douglas Technology, Inc., a corporate subsidiary specializing in making tanks invisible. In 1997 in the merger of McDonnell Douglas and Boeing, he rejoined the Phantom Works as a vice president of technology, until his retirement in 2005. He has given generously time and counsel to the department of Electrical and Computer Engineering and to the College of Engineering at TTU by serving and providing leadership on the Industrial Advisory Board and the Dean's Advisory Board. In 2006, he was honored as a distinguished alumnus of Tennessee Tech University.

Tennessee Center for Performance Excellence: Helping regional businesses achieve world-class results

Katie Rawls

When asked what the Tennessee Center for Performance Excellence (TNCPE) does, I like to tell people, "We help businesses and organizations run better." If asked why, I respond, "to help Tennessee become a better place to live and work."

These are general statements, but they encapsulate TNCPE's mission, vision and values. Our big picture is economic development. We get there, in part, through an award program modeled after the Baldrige National Quality Award.

Here's where my explanation gets tricky. While the awards are an important part of the TNCPE program, they are a means to a much bigger end. They provide recognition for our region's exceptional organizations and help us build interest in the program. But most importantly, applying for an award helps organizations develop and improve their processes and results through the use of the *Baldrige Criteria for Performance Excellence*.

The longer an organization is involved with TNCPE, the more they "get it." By embracing the Criteria – either through the TNCPE Award Program, the Baldrige National Program or as a method of self-analysis – a focus on core values, key processes and results becomes inherent to the organization.

Our most recent Excellence winner (TNCPE's highest award), Pal's Sudden Service, is a perfect example of an organization that has made a long-term commitment to performance excellence. Pal's is a small, privately owned fast-food chain that operates 20 units in Tennessee and Virginia. Offering a menu of fresh-made hamburgers, hot dogs, "Frenchie" fries, thick milk shakes and iced tea, the company is well known for extraordinarily fast, friendly service and value.

What's interesting to note is that Pal's 2006 Excellence Award is the company's second. Pal's also won the award in 2001, the same year it took home the Malcolm Baldrige National Quality Award.

So why would an organization that has already been recognized at the highest levels of excellence continue to apply for these awards? Because Pal's knows excellence implies more than competence. It means striving for the highest possible standards. And as standards change, so must the organization. Empowered by that knowledge, Pal's continually monitors and measures its processes. Pal's systems are agile, so the company can quickly adjust to address market changes, customer habits and workforce fluctuations.

This agility isn't just a leadership mantra – it's embedded in the organization from the CEO to the employees taking orders at the drive-through window.

Here's a true example of how this works: One day, a real estate agent was showing houses to an out-of-town couple who would soon be relocating to the area. Wanting to give her clients a taste of the local fare, the agent decided to treat them to lunch at Pal's. After placing everyone's order, the agent realized she didn't have enough cash on hand to cover the total. She was forced to explain her embarrassing situation to the teenage employee working the window.

"Oh don't worry about that," the employee said, without skipping a beat. "You can just swing by another day with the rest."

Because Pal's empowers all of its employees to think on their feet, the agent saved face, and will likely become an even more loyal Pal's customer. In fact, she'll probably relate her positive experience to others – that's free marketing. To top it off, Pal's probably won over the house-hunting couple who witnessed the transaction, earning two new customers. Pal's estimates each loyal customer is worth $25,000.

Pal's knows that agent may never come back with the money, but the goodwill engendered in that moment will pay dividends that far outweigh a cash register that comes up a few dollars short at the end of the day.

In addition to agility, this example incorporates several other core values of the Baldrige Criteria: customer-driven excellence, valuing employees and partners, focus on the future, focus on results and creating value. Pal's Criteria-oriented approach may have something to do with the fact that, in addition to its 2006 TNCPE accolades, the company celebrated its 25th consecutive year of double-digit sales growth.

This is how the Criteria works, and why the TNCPE program is such an incredible opportunity for regional organizations that want to make a commitment to excellence. TNCPE is here to guide those who want to take practical, powerful steps toward their goals. We believe our efforts result in better businesses, better schools, better hospitals, better government and better nonprofits – ultimately, a better Tennessee.

Another way TNCPE is benefiting the community is a recent partnership with the Tennessee Department of Economic and Community Development, designed to integrate the TNCPE assessment process into ECD's Three-Star Program.

The Three-Star Program helps local communities achieve excellence in economic and community development through a comprehensive plan created by local economic development professionals and state agencies. TNCPE and ECD believe the partnership will help communities further these efforts by using the TNCPE assessment to boost strategic planning initiatives and expand results.

TNCPE also prides itself on the educational opportunities it provides year-round. These include workshops on the *Criteria for Performance Excellence*, best practice tours and our largest educational initiative: examiner training.

You may consider becoming a TNCPE examiner – it's a great professional development program, especially if you're

interested in performance improvement systems. Following an intensive three-day training class, examiners serve on teams that assess organizations that apply for a TNCPE Award.

While examiner training is over for 2007, let us know if you would like to participate and we'll send you a 2008 examiner application as soon as it becomes available. The deadline to apply for the Board of Examiners will be in April 2008.

Coming up in February, TNCPE will host the 2008 Excellence in Tennessee Conference and Awards Banquet in Franklin, Tenn. This is another great TNCPE opportunity. During the conference, world-class businesses gather to share best practices and performance improvement tools. Charles Tolleson, vice president of 2005 Baldrige National Quality Award winner DynMcDermott Petroleum has already signed on to provide a keynote address.

Finally, your organization may be interested in applying for a TNCPE Award. If this is the case, TNCPE accepts Level 1 applicants all year long. The deadline for Level 2, 3 and 4 applications has passed, but we would be happy to help you prepare to submit an award application for the 2008 award cycle.

Whatever your interest, I encourage you to visit our Web site to learn more: www.TNCPE.org.

Board Member Gary Floss was guest speaker in a College of Business class

Mayberry Reception

Jack Swaim Honored

Jack Swaim was recognized for his outstanding services over the years to the Mayberry Chair, College of Business and TTU. He has been a member of the Mayberry Advisory Board since it's inception in 1998. He is now it's chairperson.

Pictured from Left to Right:
Dr. Curt Reimann, President Robert R. Bell and Jack Swaim.

Newsletter prepared by Melissa Scott, Judy Hees, Dr. Nat Natarajan, and Dr. Reimann. It is also available on the Mayberry website: www.tntech.edu/mayberry/ Your comments are welcome.