

12-2003


Why Toyota and Honda Topped the 2002 J.D. Power Quality Study

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Lightle, Susan; Rosenzweig, Kenneth Yale; and Talbott, John, "Why Toyota and Honda Topped the 2002 J.D. Power Quality Study" (2003). *Accounting Faculty Publications*. 14.
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Project Uncertainty Management 21

Maruboyina Ramgopal, CCE

This article argues that all current project risk management processes induce a restricted focus on the management of project uncertainty, because the term 'risk' encourages a threat perspective. The article discusses the reasons for this view, and argues that a focus on "uncertainty" rather than risk could enhance project risk management, in terms of designing desirable futures and planning how to achieve them. Current comprehensive project risk management processes are compatible with a focus on uncertainty, but warrant some modification to reflect a more helpful "uncertainty management" paradigm.

A Fast Track Value Analysis Methodology for Major Design-Build Construction Projects 26

William F. Brouillard Jr., CCC

Use of the value analysis (VA) methodology as an integral part of the design/build process, will eliminate unnecessary functions (The basis of VA methodology), will reduce initial and life cycle costs, compress construction schedules (saving time and money) while retaining the core principals of preserving value and function. The fast track VA session described in this case study will illustrate that the concepts and methods used for the Orange County Convention Center, Phase V Expansion, further reinforces the need for continued use and even increased use of the VA methodology in the design-build concept.

Research Project Impact Analysis 29

Santa Falcone and David Bjornstadt

Sandia National Laboratories (SNL) funded a study at the University of New Mexico to revisit two examples of technology transfer from SNL for the purpose of measuring their full social return and to develop a standard method for making such evaluations. This article describes the comprehensive and systematic template composed of seven steps developed to measure the impact of R&D and reports the findings of the study, providing insight into the social value of research. The cost benefit ratio for society, when counting the cost of developing one technology at SNL for defense related purposes, was 1:4 and, using the most conservative estimates, for the second technology, the ratio was 1:30.

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On the Cover: Washington DC will be the site of AAACE International's 48th Annual Meeting, June 13-16, 2004. Photos courtesy of WCTC.

COST ENGINEERING

Vol. 45, No. 12/December 2003

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Why Toyota and Honda Topped the 2002 J.D. Power Quality Study

Toyota again topped the annual J. D. Power and Associates quality study released in late May of 2002. Toyota scored the highest mark ever with 107 defects per 100 vehicles, while Honda came in second with 113 defects. The study was based on responses of approximately 65,000 new car owners queried during their first 90-days of ownership.

These results do not surprise us as we have been fortunate to make numerous sojourns to the Toyota plant in Georgetown, Kentucky and observe the manufacturing processes. These trips were normally facilitated by a former Japanese student of ours, Minako Vanke, CPA, who personally knew individuals in higher management. In addition, several of our students are employed at the Honda Plant in Marysville, Ohio. Journeys to Marysville in conjunction with discussions with these students lead us to believe that Toyota and Honda possess several similar management philosophies which account for their success.

It is our conclusion that success for these companies derives from company cultures that foster associate (employee) involvement with the goals of the organization, human (employee) development, and adaptation for improvement. These company cultures incorporate user-oriented (as opposed to control-oriented) accounting systems and elaborate systems for motivating, generating, and using associate ideas for process improvements. The company cultures are dependent upon employing the highest quality of associates. The purpose of this article is to examine these complementary aspects of an effective company culture.

The Accountant's Role

The accounting function is traditionally viewed as an input to management's decision-making process. Both companies require its accountants to transcend the traditional accounting role of "number crunching" and become actively involved in decision making and in supporting the managerial responsibilities of other associates. While the accountants are still involved in reporting and analysis, they also have the opportunity to assist others and participate actively in a variety of areas. Rather than acting primarily in a restraining capacity, as is characteristic of many control-oriented traditional accounting systems, accountants serve an empowering role in the company. This empowering role for accountants involves providing other associates with the informational resources, both financial and non-financial, they need to accomplish their broadened responsibilities, as well as serving as information specialists on interdisciplinary teams of associates with responsibilities for company operations. The new role for accountants requires them to have a new set of skills that is consistent with the company culture.

For example, the financial reporting system at one of the companies was becoming outdated and wasn't satisfying user

needs. After extensive research and testing, the company selected new reporting software which required modifications to the existing structure and reports. Key users were identified by the accountants and asked to aid in setting up the reporting "tree" structure. The accountants worked with outside consultants and established what departments, sub-departments and accounts rolled up into the respective reports. The accountants then created and managed the various reports that were needed for the different users.

The process was described by one of their accountants as follows, "I believe that empowerment has helped us become a leader and a benchmark standard. This is just one example of how many stereotyped professions, such as accounting, can transcend their typical roles and responsibilities into being more productive members and hopefully creating a synergy effect that will ripple throughout the organization."

Continuous improvement in the accounting function characterizes both companies. This is consistent with the two companies' cultures, both of which focus on adaptation for improvement. The last time we visited Toyota, for example, they were embarking upon a program to attempt to trace more costs to the Camrys, Siennas, and Avalons as opposed to driving them with overhead rates. The purpose of the tracing, of course, was more accurate product costing and better pricing data which empowers operating managers to make better manufacturing and marketing decisions. The user focus and adaptability of the accounting systems at Toyota and Honda serve to support the companies' focus on empowering managers and is fully consistent with the transformed cultures of those companies.

Worker Empowerment

Honda and Toyota's focus on associate empowerment extends to all levels of associates, including line workers. Two main focuses of worker empowerment are in the areas of work group improvement programs and employee suggestion systems. An example of the former is the VIP (Voluntary Improvement Program) system at Honda. It is comprised of three parts. One of the elements of the triad is the NH-Circle (NH-C) where a group of associates (workers) bond together and brainstorm solutions for workplace problems. Subsequent to the brainstorming, proposals are submitted to a committee for evaluation. The committee then either allows the circle to go ahead with the solution, or provides an explanation why the NHC cannot continue with this idea.

If continuation is agreed upon, the circle works together to collect pertinent data such as the possible causes of the problem, how the problem is occurring, how often the problem is occurring, and various cost data related to the problem. The circle then comes up with several countermeasures, such as more ergonomically suitable equipment, to correct the problem. Each

countermeasure is tested to see how practical it is in terms of safety, cost, and overall performance.

The best overall countermeasure is implemented and data is again collected to measure performance. The final step in the process is when all the circles for that quarter compete against each other before a review board, which is comprised of upper management. The winning circle and its members receive a reward, usually an all expense paid trip of some nature.

The second element of the Honda approach is the suggestion system. The suggestion system confronts problems that require a less structured approach. An associate fills out a suggestion system form and gives it to the team leader for approval. If the team leader approves, then the associate can continue with the suggestion.

For example an associate working on one of the processes noticed that if a gun holder were built and put in a specific location, it would allow the associates to retrieve the gun quickly, rather than having to carry the gun during the process. The associates could reach over and grab it, use it, and then put it back when finished. The monetary incentive includes the ability to work on their suggestions on overtime. However, the larger benefit is that the associates know that they are involved and that they make a difference. Another pecuniary benefit for the associates is that after the suggestion is completed, and turned in to be evaluated, they may receive VIP points for their completed suggestion.

Toyota employs a similar empowerment program but with an upside motivational aspect. Worker empowerment ideas at Toyota that are adopted permit the individual's name to go into a drawing at Toyota's annual employee festivities where numerous automobiles are given away. Once a worker's name is submitted it remains under consideration for future year drawings. On one visit to Toyota a worker related to us that his name was "in the hat" nine times for the current year's drawing and his excitement was truly palpable.

This type of formal empowerment program leads to outstanding worker suggestions. Our favorite concerns a native Kentuckian who had taken the seat out of his fishing boat and constructed what was in essence a small roller coaster that ran from one end of the car to the other. This allowed him to avoid having to walk from end to end, and sped up the production process considerably.

Hire Smart

The Toyota plant in Georgetown, Kentucky, is the type of manufacturing facility normally depicted in training films. We begin our management accounting classes with a Toyota film, for example, which we believe shows the students how things should be done. The plant is immaculate and employees are courteous and productive. These individuals, however, are the product of a tremendously selective hiring process. Employees at Toyota must pass both a written and oral examination, a simulated team performance, a drug test, and a probationary period before they become permanent team members.

The late W. Edwards Deming recognized the tremendous importance of the hiring process in his writings that focus on process improvements. Companies can improve processes by improving the quality of raw materials, purchasing new machinery, or altering the process of hiring and the training of

employees. American companies, however, tend to emphasize the technical aspects of the production process and assume that the worker will be able to produce.

While the costs of the hiring process at Toyota are not publicly available, estimates are that Toyota spends extravagantly per employee to staff its US plants. It is questionable whether Japanese companies such as Toyota and Honda would emphasize the hiring process if process improvement—and ultimately profitability—were not highly correlated with the quality of the workforce and the initial hiring process.

Toyota, for example is so enamored with the quality of the work force that they decided in 1996 to construct their \$700 million truck plant in Evansville, Indiana, as opposed to Georgetown, Kentucky. Sources at Toyota related to the authors that Toyota feared that 3,000 quality employees did not remain in the Georgetown, Kentucky, area in light of the 6,000 already employed there by Toyota.

Management Commitment

The key to the success of Toyota's and Honda's approach to empowerment is the well-defined mechanisms for acting on and rewarding employee ideas for improvement. The most obvious reason that worker empowerment fails is that many companies have no intention of deviating from the hierarchical, chain-of-command approach to management in the first place. The following examples are cases in point.

Recently, a major parcel distributor decided to pass decision-making powers from management to hourly union employees. It did this so that employees would no longer believe that they were just part of a process and to make tedious, boring work more meaningful. Worker empowerment at the company started with a team coordinator and captains of quality, business development, employee relations, cost, and safety. The team coordinator had the role of keeping the entire team informed and focused so that the team accomplished its goals. The team coordinator was also responsible for team meeting agendas, and facilitating team meetings to ensure all captains had the opportunity to present the continuous improvement opportunities that would impact customer service and employee relations. The team coordinator role rotated among the team members every four to six months. All team members were given the opportunity to develop their leadership abilities, increase their knowledge of the business, and coordinate within and outside the team.

Initially, the company acted as if the hourly worker input was valued, but after several months management would not show up for the meetings with the team coordinator or was unavailable because of previous business commitments. When the hourly employee realized that the worker empowerment was a joke, employees either quit offering suggestions for improvement, or came up with excuses for not attending the team's meetings. Management, of course, wanted to know why the meetings were unfruitful and why the hourly employees were "bucking the system." The answer to management's somewhat rhetorical query was 1) improper training, 2) lack of clearly defined team goals, and 3) lack of directions at team meetings (the team meetings would often end up in a bitching session about the poor equipment or worker empowerment).

Sadly, the authors participated in a laborious worker

empowerment program where process mapping was implemented in order to enhance operational performance. Despite an abundance of excellent ideas that manifested themselves in the process maps, the suggestions were in general not adopted. The lack of a formal worker empowerment program and of true management commitment were the culprits, in our opinion. These culprits do not exist at Toyota and Honda.

In highly competitive industries such as automotive, corporate survival may depend upon worker innovation and involvement, and a user-oriented and highly adaptive accounting system. Worker innovation and involvement in turn depends upon a formal worker empowerment program, good hiring practices, appreciation and reward for the innovator and true company commitment to the empowerment approach. The result is the top two finishers in the 2002 J. D. Power Quality Study. ♦

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