On the Relationship Between Leadership, Industry and Quality

Ramesh Soni, P. Michael Kosicek & Richard Sandbothe

Abstract

This paper explores the relationship between organizational leadership styles and success in implementing quality in organizations. Using criteria summarized from a review of the leadership literature and information available on the web, a list of 176 leaders was identified by the authors, out of which 144 leaders were found to be supportive of quality initiatives. The leaders were sorted using a q-sort technique into ten popular leadership styles as identified by Manktelow (2007). The ten popular leadership styles were condensed for analysis into two broad categories: employee-oriented leadership style and production-oriented leadership style. For leaders who have implemented quality initiatives, the employee-oriented leadership style was more popular than the production-oriented style by almost a 4 to 1 ratio. Across eight different industry categories the percentage of employee-oriented leaders ranged from a low of 65% in retail/wholesale to a high of 100% in agriculture/mining/construction and government/non-profit groups. However, these differences were not found to be statistically significant.

Keywords: Quality, Leadership, TQM, Quality Initiatives, Six-Sigma

Introduction

Over the past few decades, many organizations, including non-profits, have adopted quality initiatives, with varying degrees of success. Some questions associated with quality initiatives may be: Why do some entities succeed with implementing quality, while others fail? Are certain leadership styles more pervasive in heavy manufacturing versus services? Are certain leadership styles more typical in high tech versus non-profits?

The premise of this article is that organizational leadership significantly impacts successful implementation of quality initiatives. Whether the quality program foundation is Six Sigma, Lean, Total Quality Management (TQM) or any other initiative, it is the effective leadership throughout the organization that may make the difference. A leader's role is extremely critical, especially when there is a need for a paradigm shift. A paradigm shift occurred within the United States when businesses started focusing on quality to achieve competitive advantage in the 1980s. Organizations moved away from focusing primarily on the quantity of production and came to recognize the importance of the quality of production.

Add to this the perennial debate as to what is the difference between a manager and a

leader. Bennis (2004) submitted that leaders focus on the future, create change, and use persuasive power to influence followers; whereas, managers develop and implement policies and procedures to maintain structure, stability and status quo. Not all effective leaders are effective managers, and vice versa. Another never-ending debate has been whether leaders are born or trained. Based on a definition of leadership that is attributed to Hersey and Blanchard (1981), Goldsmith (2009) concluded that leadership is working with and through others to achieve objectives, and that leaders can be made or trained.

The shift to focus on quality in the USA did not happen as a result of an innate desire of American businesses to change. This change occurred as a result of external competitive pressures imposed by Japanese businesses providing quality products to consumers by the late 1970s and early 1980s. This was shocking for American organizations management. As recently as the 1960s, Japanese products did not command much respect from American consumers and the label of "Made in Japan was synonymous with cheap, inferior products. An NBC News White Paper television broadcast "If Japan Can... Why Can't We?" (NBC White Paper television broadcast, 1980) began the quality revolution in America and quality practitioners such as Deming and Juran were introduced to western business.

The first reaction of American organizations management to improve quality, especially in the auto industry, was to add by adding more inspectors at the end of the assembly line (Cole, 1990). This approach was to "inspect out" poor quality rather than building quality into the process. In the 1980s and 1990s, American managers visited Japanese manufacturing plants to learn Japanese quality management philosophies. Then various approaches such as quality circles, lean, just-in-time inventory (JIT), TQM, etc., were imported from Japan to the USA (Ciampa, 1992). Partnerships were formed between American and Japanese businesses. For example, New United Motor Manufacturing, Inc. (NUMMI) was established in 1984 as a partnership between GM and Toyota, which continued for approximately a quarter of a century. American home-grown concepts, such as six-sigma, slowly gained popularity among American organizations. However, it took several decades before the quality gap between American and Japanese products was minimized. Not all American businesses were successful in making a paradigm shift toward improving quality. Perhaps it takes the requires an appropriate leadership style to adopt and support a quality culture.

Literature review

The literature review for this article is being drawn from two separate areas; namely quality and leadership. Hence, they are presented in two separate parts.

Quality

The importance of quality has been a point of

discussion for various a variety of industries for the last 70 years. The Society of Quality Control Engineers of Buffalo met in November 1943 ("Buffalo Section 0201," n.d.) and later formed The American Society for Quality Control in 1946. Some of the early contributors in the field of modern quality management were W. Edwards Deming, Joseph Juran, Armand Feigenbaum and Phillip Crosby. By the late 1990s, researchers started to establish empirical relationships between organizational success and quality implementation. Hendricks and Singhal (1997) found that organizations with a strong TQM focus achieved superior performance on operating income-based measures. Easton and Jarrell (1998) presented empirical evidence that firms adopting TQM improved their long-term financial performance. Douglas and Judge 2001) concluded that organizations adopting TQM achieve competitive advantage. Hendricks and Singhal (2001) contended that organizations adopting TQM principles and philosophies create significant wealth due to superior stock price performance. Merino-díaz De Cerio (2003), through a survey of 965 Spanish industrial plants, demonstrated that implementation of quality management practices leads to improvements in operational performance. Samad (2011), through a survey of 150 Malaysian manufacturing businesses, established empirically that quality management systems positively and significantly contribute to organizational performance.

In contrast, there have been studies that found no significant empirical evidence of a relationship between quality program implementation and financial results. York and Miree2004) suggest ed that "better performing companies may be more likely to adopt TQM;" hence, TQM may just be a covariant rather than causation for improved financial performance. They concluded, through their examination of relationships between financial performance and the winning of the U.S.-based Malcolm Baldrige National Quality Award, that the award winners were better financial performers before and after winning the award as compared to their industry peers. Bernett and Nentl (2010) reported that 83% of survey respondents—who were "supervisors, managers, directors, and officers from a variety of companies in the manufacturing sector in the Midwest"—were personally enthusiastic and supportive of continuous quality improvement initiatives, but they were less confident about improvement in financial performance due to quality control measures.

Tyagi and Piccotti (2012) suggested that leadership is influential in quality management in any organization. Yet, Laura DeMars (2007), in her article titled Six Stigma, cited a study by the Hackett Group which found that organizations adopting a quality management approach called six-sigma achieved only marginal benefits, and hence the title of her article — Six Stigma.

Hence a couple of questions related to quality

control and organizational performance arises namely; what has caused some businesses that were failing or performing poorly to turn around? Was it quality initiatives that were implemented which encouraged employees to step up to become leaders? Or, was it effective leadership that brought quality concepts to the environment?

Leadership

Effective leadership is believed to be critical to the success of a community, country, business, house of worship, or any organization. Leadership continues to be a popular topic. The various styles of leadership attract much attention as well. Does the style or type of leadership have any bearing on the quality of a business,' product or service, or the quality of a community's citizens or country, or the religious faith depth of a congregation or following?

The concept of leadership or the "position" of a leader has existed since the beginning of mankind. Those with the greater skills, who are perceived as more intelligent or who possess a history of successful accomplishments, are viewed as the leader. There are many definitions of leadership. Burns(1978), the author of 'Leadership', mentioned finding over 130 definitions of the word leadership. He proposed that genuine leadership has little to do with domination and perceived power. Rather, effective leaders motivate followers to perform their tasks. Burns stated the transactional leader motivates

followers to perform for the purpose of an exchange of things of value. This is in contrast to the transformational leader who engages everyone to higher levels of motivation by being aware of the goals and objectives of the organization. Bass and Stogdill (1990) suggested that transformational leadership is concerned with the performance of followers and developing them to their fullest potential.

Covey (1990), author of The 7 Habits of Highly Effective People, offered an integrated approach to leaders for solving professional challenges. He proposed that true success requires a balance of personal and professional effectiveness. His suggested 7 habits encourage leaders to develop a continuous improvement mindset for their daily activities.

Collins (2001), author of Good to Great, determined that at the foundation of great entities was a corporate culture that inspired and cultivated a disciplined workforce. Collins found that many of the leaders at these rare companies were strong-willed and humble, not aggressive or outgoing. Many of his suggestions for an effective leader are common sense, such as combine personal humility and professional will; establish a culture of recruiting and retaining top talent; constantly address the hardest issues, while establishing and maintaining a corporate culture of discipline. Effective leadership will develop and cultivate the imperative and essential foundation of all great entities — organizational culture (Burke, 1994).

Over the years, organizational cultures and leadership styles have evolved. Prior to the Industrial Revolution and through much of the 20th century, many in leadership roles applied the concepts of the "production-oriented" leadership style. The production-oriented leadership was typically successful in a time of heavy equipment and tooling, large-scale project management opportunities, and deadlines determined by upper management. Hamel (2009) asserted that many of the tools utilized today by leaders of business have been around since the early 1900's with recent breakthroughs still decades old. The historical command and control approach produced a hoarding of authority and a general mistrust of employees' competence. He stated that "the industrial age paradigm built atop the principles of standardization, specialization, hierarchy, control and primacy of shareholder interests" may not be appropriate now and in the future.

Tomorrow's leaders, Hamel (2009) contended, must adopt an "employee-oriented" leadership style. That is, they must inspire the workforce to bring their gifts of initiative, imagination, and passion of their field to work every day. Tomorrow's leadership must use the talents of the front line workers, keep them informed, empowered, and motivated to synergistically perform in their roles. Hence, the leadership of mid-level managers is very critical, especially during the time when organizations are facing incessant change; this is supported by Seo et al. (2012) who suggested that employees' commitment to organizational change is affected by their immediate managers' transformational leadership during organizational change.

Den Hartog, Caley and Dewe (2007) found evidence to conclude that organizations are already looking for leaders with the employee-oriented leadership-style. They analyzed 1,390 recruitment advertisements for leaders that appeared in the UK (Times Newspaper) in United Kingdom over a period of 15 months. They searched for vocabulary terms derived from leadership theories and found that people-oriented words were used far more frequently in the leadership advertisements than task-oriented words by almost a 4 to 1 ratio. This leadership-style evolution yields an opportunity to investigate the prevalence of different leadership styles across various industries.

Research Design and Data Collection

The primary focus of this research is to understand if any specific leadership styles are more common in different types of organizations that have focused on quality. For example, is there a one specific leadership style that is more likely to be prevalent in driving higher quality in service organizations vs. another style in manufacturing organizations? Hence, our first null hypothesis:

$\mu1_0$ = When pursuing quality, there is no difference in leadership styles among different types of sectors of organizations like manufacturing and service organizations.[N1]

Also, it is interesting to see if there is any difference in leadership styles between leaders who are known to support and sustain quality initiatives within their organizations versus leaders who are not known for such efforts. This leads to our second null hypothesis:

$\mu 2_0$ = There is no difference in leadership styles among leaders known to support quality efforts within their organizations versus leaders who are not known for such quality efforts.[N2]

Leadership Styles

For this research, ten leadership categories identified by Manktelow (2007) as presented in Table 1, were used.

Table 1
Popular Leadership Styles Used in this Study

No.	Leadership Style	Description
1	Transactional	Obey leaders, paid for effort and compliance, leader right to "punish" for non-compliant work. Employees' roles clarified, members judged on performance, members can do little to improve job satisfaction.
2	Autocratic	Extreme form of transactional leadership, leaders' complete power. Members have little opportunity to make suggestions. Efficient, quick decisions, work gets done. Best used in crisis; military application.
3	Bureaucratic	By the book, follow rules/procedures, best for work requiring serious safety compliance. Ineffective when flexibility or creativity needed. Leaders achieve position for ability to conform and not by talent/expertise.
4	Charismatic	Resembles transformational style. Motivating, focused on themselves, project at risk if leader leaves. Believe they can do no wrong.
5	Democratic	Makes final decision, involves others. High job-satisfaction, members feel in control of destiny. Can be slow; collecting input for decisions.
6	Laissez-Faire	"Leave it be." Work on their own, good for skilled self-starters. Leader gives team support; resources/advice. May be high job satisfaction or train wreck for workers with little knowledge or skills.
7	Task-oriented	Getting the job done. Define work/roles, create performance standards, and ensure deadlines met. Do not focus on team's well-being; may have motivation/retention issues.
8	People-Oriented	Focused on people. Encourages good teamwork, opposite of task-oriented. Leader is available; everyone wants to be part of the team, members take risk, typically more productive.
9	Servant	Leads by example, high integrity, generous. Form of democratic leadership; team involved in decision-making. Often lead from behind; achieve power due to values/ethics. Positive culture, high moral standards. Takes time to apply.
10	Transformational	Often best style in business. Inspiring, expect the best from everyone and themselves, high productivity. Look after initiatives that add new value, may need support of detail people.

Source: Manktelow (2007) Mind Tools™http://www.mindtools.com/pages/article/newLDR_84.htm

These 10 popular leadership styles can be collapsed grouped into two broad leadership styles: 1) Production-oriented and 2) People

Employee-oriented, based on the works of Likert (1961) and Blake and Mouton (1964). Robins and Judge (2013) suggested that the

production-oriented leadership style is associated with "a leader who emphasizes technical or task aspects of the job," whereas, the people employee-oriented leadership style is associated with "a leader who emphasizes interpersonal relations, takes a personal interest in the needs of employees, and accepts individual differences among members."

Industry Categories and the Identification of Leaders

The following eight categories of industry classification, based upon the U.S. Standard Industrial Classification (SIC) system and the North American Industry Classification System (NAICS) ("SIC Code List," n.d.), were used in this study: 1) Agriculture, Mining, and Construction; 2) Finance, Insurance, and Real Estate; 3) Internet; 4) Manufacturing; 5) Retail, and Wholesale; 6) Services; 7) Transportation, Communications, and Utilities; and 8) Government and Nonprofit. These categories are commonly used by researchers.[N3]

The next step in data collection was to identify a list of leaders that would be the focus of this research. An Internet search revealed recent "lists" of top leaders from popular business and trade media. Table 2 presents the sources used in compiling a list of top leaders.

Table 2

Lists of Leaders as Compiled on Several Internet Sites

List Name	Internet Site
2007 CNN Money list of 25 most powerful people in business	http://money.cnn.com/galleries/2007/fortune/0711/gallery.power_25.fortune/21.html
50 most important Women leaders	http://money.cnn.com/magazines/fortune/most-powerful-women/
Woopidoo's Famous American Business Leaders	http://www.woopidoo.com/profession/country/united-states.htm
Woopidoo's Notable American People Online	http://www.woopidoo.com/profession/country/usa.htm
Bloomberg Business Week's list of Twenty Best Companies for Leadership	http://images.businessweek.com/ss/10/02/0216_best_places_for_1 eadership/1.htm
Trust Across America' 2012 List of Top 100 Thought Leaders in Trustworthy Business Behavior	http://www.trustacrossamerica.com/offerings-thought-leaders.shtml
USA Today's List of 25 Most Influential Business Leaders	http://www.usatoday.com/money/top25-leaders.htm

These sources did not include a sufficient number of leaders from the non-profit sector, so the Internet search was expanded to include current leaders of the United Way of America, American Red Cross, and similar non-profit organizations. The names of the leaders in these lists were consolidated into a single database. As several business leaders' names appeared on more than one list, multiple entries were removed from our database.

Since the focus of this research was to study the competencies of leaders who were effective in supporting quality management in their organizations, it was decided to eliminate the so called "thought and opinion" leaders, such as writers, professors, consultants and self-help gurus from the list. This resulted in a list of 176 leaders. The researchers conducted an extensive Internet search to determine the primary leadership style for each leader in the context of the Mankletow (2007) categorization.

Next, the Internet was searched for evidence to indicate if the leaders supported/sustained quality initiatives in their organizations. If a linkage was not found between a leader and support of quality in his/her organization, then the leader was removed from our list. Thirty-two leaders were thus removed, giving us a final sample of 144 leaders linked to quality within their organizations. The researchers acknowledge that these 32 leaders may have supported quality in their organizations; however, evidence of such efforts was not found. The 144 quality-linked leaders were classified by their popular leadership styles and industry sectors. Table 3 shows the results of this classification.

Table 3
Leaders Linked to Quality Initiatives by Leadership Style and Industry Sector

	Agriculture, Mining Construction	Finance, Insurance, Real Estate	Govern Ment and Nonprofit	Internet	Manufactu-ing	Retail, Wholesale	Services	Transportation, Communica-tions, Utilities	Total
Autocratic		1			4	2	3	2	12
Bureaucratic		2			1	1			4
Charismatic		5		1	4	2	3	1	16
Democratic (Participative)	1	2	3	3	7	2	3	4	25
Laissez-faire	1			5	1		1	1	9
People-oriented		4	2	2	9	5	4	2	28
Servant		1	2	4	1	1	3		12
Task-oriented				4	1	3	1	2	11
Transactional						1	1	1	3
Transforma-tional	1	2	2	1	10	3	2	3	24
Total	3	17	9	20	38	20	21	16	144

Analysis and Findings

Table 3 above has a total of 80 cells (10x8 table). Unfortunately, a sample size of 144 is not sufficient to run a x^2 -test (or, chi-square test) for such a large table. Hence, it was decided to condense the table in a meaningful way to determine if there is any difference in leadership styles among different types of organizations in this sample. The 10 popular leadership styles listed above were collapsed grouped into two broad leadership styles: 1) Production-oriented and 2) Employee-oriented. As stated earlier, these broad leadership styles are based on the works of

Likert (1961) and Blake and Mouton (1964). The autocratic, bureaucratic, task-oriented and transactional styles of leadership were included collapsed into the production-oriented leadership category. The charismatic, democratic (participative), laissez-faire, people-oriented, servant and transformational styles were included collapsed into the employee-oriented leadership category. This resulted in a smaller table (Table 4) below.

Table 4
Actual Number of Leaders as Categorized Across Expanded Organization Types

	Agriculture, Mining, Construction Actual (Expected)	Finance, Insurance, Real Estate Actual (Expected)	Government and Nonprofit Actual (Expected)	Internet Actual (Expected)	Manufacturing Actual (Expected)	Retail, Wholesale Actual (Expected)	Services Actual (Expected)	Transportation, Communications, Utilities Actual (Expected)	Total
Production -oriented	0 (0.625)	3 (3.542)	0 (1.875)	4 (4.167)	6 (7.917)	7 (4.167)	5 (4.375)	5 (3.333)	30
Employee -oriented	3 (2.375)	14 (13.458)	9 (7.125)	16 (15.83)	32 (30.083)	13 (15.833)	16 (16.63)	11 (12.667)	114
Total	3	17	9	20	38	20	21	16	144

p-value = 0.665

Even after collapsing the leadership styles, the sample size may not be sufficient to hold the normality assumption for a x^2-test.[N4] Regardless, a p-value of 0.665 indicates that there is no evidence to reject our first null hypothesis ($\mu 1_0$). That is, when pursuing quality, there is no difference in leadership styles among different sectors of organizations like manufacturing and service organizations. There is no evidence to conclude the leadership styles varied significantly across different types of businesses or organizations.[N5]

It can be observed from the data shown in table 4 One can easily observe that of the 144 total leaders included in the study Table 4, the employee-oriented leadership style outnumbers the production-oriented style by almost 4 to 1 (114 vs. 30). The employee-oriented style allows employees to be more actively involved in the business, to have a sense of ownership and participate in the decision-making process, which really means empowering the worker. Effective leaders that focus on people and their skills and empower them to perform at their highest capacity provide an environment for quality products and services. It is the environment, established by the top leadership, which provides the opportunity for employees to be successful. Thus, the 4 to 1 ratio observed here is not surprising. The observation here is not unlike what Coulson- and Thomas (2013) contended: "The emphasis now is more upon relationships and processes for dealing with adaptation and change." This sentence somehow does not fit into the context, Hence please rewrite or delete it.

Additional observations can be drawn from Table 4. For example, seventeen leaders were from the Finance, Insurance and Real Estate sector with 82% designated as employee-oriented; 20 leaders were from the Internet

sector with 80% designated as employee-oriented; 16 leaders were from the Transportation, Communication and Utilities sector with 69% designated as employee-oriented. The employee-oriented leadership style dominated each industry category. Again, we must emphasize that the 144 leaders included in the study supported quality initiatives within their respective organizations.

It is worth recalling that Table 4 was derived from Table 3 by grouping collapsing 10 leadership styles into two broad leadership

styles. Table 5 below is derived from Table 4,

where industrial categories have been collapsed from eight categories to just four categories but the two broad leadership styles are still maintained. The following four original industry categories were folded under the broader category of Service: 1) Finance, Insurance and Real Estate, 2) Internet, 3) Service, and 4) Transportation, communication and utilities. Two of the original categories—1) Manufacturing and 2) Agriculture, mining and construction were folded under the broader category of Manufacturing. The remaining original categories, namely Retail & Wholesale and Government & Non-profit, were retained as is.

Table 5
Actual and Expected Number of Leaders as Categorized

	Government & Nonprofit Actual (Expected)	Manufacturing Actual (Expected)	Retail, Wholesale Actual (Expected)	Service Actual (Expected)	Total
Production-oriented	0 (1.875)	7 (8.958)	6 (3.958)	17 (15.208)	30
Employee-oriented	9 (7.125)	36 (34.042)	13 (15.042)	56 (57.792)	114
Total	9	43	19	73	144

p-value = 0.452.

Thus, Table 5 indicates the broad leadership styles as either employee-oriented or production-oriented and the associated industrial category of manufacturing, service, government/non-profit and retail/wholesale. Of the 144 leaders in this research project, 9 leaders were from the government/non-profit sector, 43 leaders were from the manufacturing sector, 19 leaders were from the retail/wholesale sector, and 73 leaders were from the service sector. All the leaders

of government/non-profit organizations were found to be employee-oriented. For the other categories, 84% of manufacturing leaders, 68% of retail/wholesale leaders, and 77% of the service sector leaders, were employee-oriented.

Even after collapsing the industry categories from eight to four, the result of the x^2-test is no different. A p-value of 0.452 indicates that there is no evidence to reject our first null hypothesis ($\mu 1_0$). Once again, there is no

evidence to conclude that the leadership styles varied across different sectors types of businesses or organizations. This is consistent with our earlier x^2-test.

Leaders linked with quality vs. Those not linked with quality

We now look at those leaders for whom we did not find concrete evidence of supporting or sustaining quality efforts within their organizations. There were 32 leaders in this group. This group of 32 leaders was compared with our earlier set of 144 leaders, who were clearly associated with supporting and sustaining quality in their organizations. Table 6 presents the information about the x^2-test for this comparison. The raw numbers in the table suggest that the leaders supporting quality in their organizations are more likely to be employee-oriented. However, the p-value for this test is slightly more than 0.10 and therefore does not support our observation statistically at the 10% significance level. Hence, there is no evidence to reject our second null hypothesis ($\mu 2_0$). That is, There is no significant difference in leadership styles among leaders known to support quality efforts within their organizations versus leaders who are not known for such quality efforts.

Table 6

Leadership styles of leaders supporting quality efforts in the organization

	Quality	Non-Quality	Total
Employee-oriented	114	21	135
Production-oriented	30	11	41
Total	144	32	176

p-value = 0.101

Conclusions and Future Research

In this esearch, the leadership styles of 176 business leaders were studied. These leaders were identified through various lists in the popular print or online media. Extensive literature and Internet-based research was conducted to understand their leadership styles. In addition, it was researched if these leaders were outwardly proponents of quality management and drove or supported quality initiatives within the organizations. We found clear evidence that 144 leaders in the list were proponents of quality management. For the remaining 32 leaders, no patent evidence of being quality proponents was obtained. Of the 144 leaders in the first category, literature and Internet-based evidence was gathered to categorize them into ten different leadership styles. These ten leadership styles were reduced to two broad leadership categories: employee-oriented and production-oriented. An attempt was made to determine if the leadership styles varied across different types of businesses or organizations.[N6]

Some of the key findings are: 1) All (100%) leaders in the non-profit organizations in our database were found to be employee-oriented in their leadership style. This is consistent with Connolly's (2006) research using both quantitative data from surveys and qualitative data from in-depth interviews that concluded non-profit leaders in the United Kingdom

were significantly more employee-oriented than production-oriented; 2) Among leaders who were found to be proponents of quality, the employee-oriented leadership style was more popular than the production-oriented styles by almost a 4 to 1 ratio (114 vs. 30). The production-oriented style was more prominent in the past, but now leaders who can effectively inspire, motivate and encourage their workforce to succeed in their jobs have gained popularity (Hamel, 2009); 3) Table 3 shows that the least popular leadership styles for our dataset were the transactional and bureaucratic styles under the production-oriented category. Transactional and bureaucratic styles do have their environments where they can be effective. These types of leaders do not develop personal bonds with followers; rather, they reward for desired performance and there are cultures or environments where these two leadership styles may be effective, such as the military. The most popular styles were the democratic and the people-oriented styles that fall under the employee-oriented category. This makes sense today where more organizations encourage creativity and employee input/participation. 4) The percentage of employee-oriented leaders in each industry group ranged from a low of 65% in retail/wholesale to a high of 100% in agriculture / mining / construction and government / non-profit. However, these differences were not found to be statistically significant (p-value of 0.665); 6) Among leaders not patently found to be proponents of

quality, the employee-oriented leadership style was still more popular at a ratio of 2 to 1 ratio (21 vs. 11). This observation, though not statistically significant at the 1% or 5% confidence level, does stand out from other x^2-tests performed in this study with a p-value of 0.101.

In spite of our extensive and thoughtful effort, it must be stated that classifying leaders into one style was not an exact science. Often, there was evidence to support more than one style of leadership attributable to a leader; or, for some leaders, their leadership style changed as they progressed in their careers. The researchers used their judgment in such cases. If the research were to be replicated by another set of experts, it is possible the results could differ. Another caveat: we found no clear evidence that 32 out of 176 leaders supported quality. That does not necessarily mean that those 32 leaders did not support or believed in quality. Rather, it simply means that there was nothing mentioned in the popular media (print or the Internet) about their quality-related efforts.

Future research is needed to expand this study. First of all, it would be worthwhile to expand the list of leaders to a much larger number for a more robust statistical analysis. Secondly, the current study used secondary sources data collection and analysis. Perhaps, future research could be conducted by utilizing a survey or direct interview methodology to address limitations of the current study. In addition, future research could determine if a

leader's preference for a specific leadership style has changed over a period of time. We suspect that the production-oriented style of leadership was more prevalent in the past versus an employee-oriented leadership style being more pervasive today.

Notes:

N1 - When pursing quality, there is no significance difference in leadership styles among different sectors or leadership styles is independent of sectors when pursuing quality.

N2 - Complex hypotheses. May be leadership style is independent of quality.

N3 - Stratified random sampling technique or purposive sampling technique.

N4 - x^2 test application limitation.

N5 - Accept H_0 , i.e., leadership styles is independent of sectors when pursuing quality.

N6 - p<0.001. x^2 calculated value is 144.9153, reject H_0, May be leadership style is independent of quality.

N7 - p value suppose to be rewritten.

References

Bass, B. M., & Stogdill, R. M. (1990). Bass & Stogdill's handbook of leadership : theory, research, and managerial applications (3rd ed.). New York: Free Press.

Bennis, W. G. (2004). The Seven Ages of the Leader. Harvard Business Review, 82(1), 46-53.
Bernett, R., & Nentl, N. (2010). Opinions and Expectations About Continuous Improvement Programs. Journal for Quality & Participation, 32(4), 35-38.

Blake, R. R., & Mouton, J. S. (1964). The Managerial Grid. Houston: Gulf Publishing Co.
Buffalo Section 0201. (n.d.). Retrieved May 31, 2013, from http://asq.org/sections/mini-sites/0201/about.html

Burke, W. W. (1994). Organization Development: A Process of Learning and Changing. Reading, MA: Addison-Wesley Publishing Company.

Burns, J. M. (1978). Leadership (1st ed.). New York: Harper & Row.

Ciampa, D. (1992). Total Quality. Reading, MA: Addison-Wesley Publishing Company.

Cole, R. (1990). U.S. Quality Improvement in the Auto Industry: Close but No Cigar. California Management Review, 32(4), 71-85.
Collins, J. C. (2001). Good to great : why some companies make the leap--and others don't (1st ed.). New York, NY: HarperBusiness.

Connolly, P. (2006). Management style in the non-profit sector in Ireland. Irish Journal of Management, 26(2), 129-147.

Coulson-Thomos, C. (2013). Quality leadership for sustainability. Management Services, 57 (1), 14-18.

Covey, S. R. (1990). The seven habits of highly effective people : restoring the character ethic (1st Fireside ed.). New York: Fireside Book.

Demars, L. (2007). Six Stigma? CFO, 23(3), 18-18.

Den Hartog, D. N., Caley, A., & Dewe, P. (2007). Recruiting leaders: an analysis of leadership advertisements. Human Resource Management Journal, 17(1), 58-75.

Douglas, T. J., & Judge Jr, W. Q. (2001). Total Quality Management Implementation and Competitive Advantage: The Role Of Structural Control and Exploration. Academy of Management Journal, 44(1), 158-169.

Easton, G. S., & Jarrell, S. L. (1998). The effects of total quality management on corporate performance: an empirical investigation. Journal of Business, 71(2), 253-307.

Goldsmith, M. (2009). How to Increase Your Leadership Effectiveness. BusinessWeek Online, 13-13.

Hamel, G. (2009). Moon Shots for Management. Harvard Business Review, 87(2), 91-98.

Hendricks, K. B., & Singhal, V. R. (1997). Does implementing an effective TQM program actually improve operating performance? Empirical evidence from firms that have won quality awards. Management Science, 43, 1258-1274.

Hendricks, K. B., & Singhal, V. R. (2001). The Long-Run Stock Price Performance of Firms with Effective TQM Programs. Management Science, 47(3), 359.

Hersey, P., & Blanchard, K. H. (1981). So you want to know your leadership style? Training and Development Journal (June), 34-54.

If Japan Can...Why Can't We? NBC White Paper television broadcast. (1980).

Kosicek, P.M., Soni, R., Sandbothe, R. & Slack F. (2012). Leadership Styles, Industry Fit, and Quality Focus. Competition Forum, 10(2), 49-54.

Likert, R. (1961). New Patterns of Management. New York: McGraw-Hil.

Manktelow, J. (2007). Mind Tools: Practical Thinking Skills for an Excellent Life. London: Mind Tools, Ltd.

Merino-díaz De Cerio, J. (2003). Quality management practices and operational performance: empirical evidence for Spanish industry. International Journal of Production Research, 41(12), 2763-2786.
Robbins, S. P., & Judge, T. A. (2013). Organizational Behavior (15th ed.). Upper Saddle River, NJ: Prentice Hal.

Samad, S. (2011). The Contribution of Quality Management System on Quality of Product and Organizational Performance in Malaysian Logistics Companies. European Journal of Social Science, 25(1), 66-77.

Seo, M., Taylor, M. S., Hill, N. S., Zang, X., Tesluk, P. E., & Lorinkova, N. M. (2012). The role of affect and leadership during organization change. Personal Psychology, 65(1), 121-165.

SIC Code List. (n.d., 19 January, 2011). Retrieved July 11, 2012, from http://www.ehso.com/siccodes.php

Tyagi, R., & Piccotti, J. (2012). A service framework. Quality Progress (October), 40-45.

York, K. M., & Miree, C. E. (2004). Causation or covariation: an empirical re-examination of the link between TQM and financial performance. Journal of Operations Management, 22(3), 291-311.

About the Authors:

Dr. Ramesh Soni is a Chair personand Secretary at Eberly, IUP. The author can be reached at rqsony@iup.edu

Dr. P. Michael Kosicek is an Assistant Professor at IUP. The author can be reached at kosicek@iup.edu

Dr. Richard Sandbothe is an Assistant Professor at IUP. The author can be reached at rsandbot@ipu.edu