Leadership for Enduring Organizations℠

Baldrige CEO Attitudes and Motivations: Developing a Model of Excellence

Research Report

Charles A. Appleby
Carl L. Harshman
John R. Latham

The SUSTAINABLE Transformation Program℠

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Introduction

This report details the findings from an exploratory study on the motivational and attitudinal patterns (MAPs) of CEOs who have led organization transformations resulting in recognition of the Malcolm Baldrige National Quality Award. The report identifies a Baldrige CEO Model of Excellence with seven differentiating factors and 17 common leadership factors. The results are based on a survey of 12 CEOs who led organizations that received the Malcolm Baldrige National Quality Award and in-depth interviews with CEOs of 14 Baldrige recipients. Nine of the participants were included in both groups for a total sample of 17. The Baldrige CEOs were compared to two groups: (a) the iWAM U.S. Standard Group (n = 1921) and (b) a sample of top leaders from various organizations (n=12) - nine from business, one non-profit, one government, and one university administrator. The sample of top leaders is referred to in the study as the "Leader Comparison Group" (LCG).

Why pursue the question of MAPs, leadership in general, and Baldrige Award-winning CEOs in particular? Baldrige Award Recipients have two common overarching questions: (a) how can high performing organizations (e.g., Baldrige recipients) sustain their current levels of performance given constantly changing external and internal environments and (b) how can they lead their organizations to even higher levels of performance? In 2006 executives from several Baldrige recipients along with academics from several universities and the Monfort Institute met at a Summit meeting in Colorado to develop and prioritize a research agenda to begin answering these two questions (Latham, 2008). The culture and leadership questions were ranked as the top two research priorities. Two specific leadership questions that emerged included: (a) how do leaders and leadership processes differ between Baldrige adopters and non-adopters and (b) what are the most effective methods to institutionalize leadership development? While many aspects of leadership have been researched extensively, as Bennis and Nanus (1985) note, "Never have so many labored so long to say so little" (p.4).

What is missing from our understanding of leadership? One possible answer lies in the fact that, at this point, there is almost no research on the motivational and attitudinal patterns in North America and even less on leadership MAPs in particular. Second, unlike some assessment instruments that measure constructs like personality and intelligence and that have been in place for years, there is no large national database on motivational and attitudinal patterns with which to compare this group of CEOs. At the same time, some studies of the relationship between motivational and attitudinal patterns (MAPs) in the U.S. and abroad indicate that they are very powerful predictors of a significant portion of performance. Typically MAPs will account for 35-55% of performance ratings for a given role in a given context (Harshman, 2009). jobEQ, the publisher of the *Inventory for Work Attitude and Motivation (iWAM)*, does not encourage the creation of models for individuals who are in different contexts because the context (e.g., the nature of the business or organization, the preferred culture of an organization, the region in which the organization functions) may have different requirements that drive success. However, there may be some patterns that are common to success in certain roles and contexts with common elements. Beyond the "context" of a specific organization, Baldrige leaders share the context of "leading organization transformation" using a common model, the Malcolm Baldrige National Quality Award Criteria for Performance Excellence (CPE), to guide their individual organization transformations. It seems clear from this study that this common context results in common motivational and attitudinal patterns related to excellence.

The main question that drove this study is whether the top leaders in organizations that achieve Baldrige Award recognition somehow differ in their MAPs from those leaders who are at the top of non-Baldrige Award organizations. Applied work by Carl Harshman, the leading proponent of the application of MAPs to performance in North America, and his colleagues across leadership in a number organizations (private sector, government, and non-profit) suggest some ways in which top leaders differ from the U.S. Standard Group (2007). For example, leaders tend to be more proactive and more goal-oriented than members of the Standard Group. Shelle Rose Charvet of Success Strategies, the leading expert internationally on the Language and Behavior (LAB) Profile, an interview tool for assessing motivational and attitudinal patterns, says that the majority of leaders in the U.S. are "Internal;" that is, they want to make their own decisions based on criteria they hold versus being influenced by input from others or

having someone else make the decisions. The model of excellence developed from the analysis of the survey data and the in-depth interviews seems to support the notion that the MAPs of Baldrige CEOs and leaders in general do differ.

This research is based on data collected through the administration of the Inventory for Work Attitude and Motivation (iWAM) survey and in-depth interviews with Baldrige Award CEOs. The primary analysis focused on two kinds of differences in motivational and attitudinal patterns: (1) the iWAM patterns for which the Baldrige CEOs were significantly different from those of the LCG and (2) those patterns for which the combined Baldrige CEO-LCG group was significantly different from the Standard Group. The results from these two categories of MAPs form the Model of Excellence (see appendix for more on the Model of Excellence and the analysis).

When there are differences in MAPs, the results for the iWAM are followed by a brief description of results from the analysis of the interview data. The interview data was analyzed using an inductive approach supported by NVivo8 a qualitative data analysis software package (Latham, 2009). This provides a "validation" test of the iWAM results and some deeper insights into the nature of Baldrige CEOs and effective leaders in general.

Baldrige CEO "Differentiating" Factors

This study identified seven motivational and attitudinal patterns that seem to differentiate Baldrige CEOs from the Leader Comparison Group. These factors would be weighted heavier than the "culture" factors that are common to effective leaders. The seven differentiating patterns are described in Figure 1.

Figure 1 – Baldrige CEO Differentiating Factors

iWAM Pattern	Direction	Implication
Sole Responsibility	Lower	Baldrige CEOs are less likely to think that having sole responsibility is important.
Evolution	Higher	Baldrige CEOs are more likely to want to evolve change and drive continuous improvement.
Past	Higher	Baldrige CEOs concentrate on the past and uses experience to make decisions.
Tolerance	Lower	Baldrige CEOs have a strong tendency to want to impose their "rules" on others (this is "Assertive"). A low score means that the individual is likely to be intolerant of the actions of others when they differ from their own or are not consistent across the workforce; that is, they are not very motivated to deal with people who have rules different than their own. [Note: Individuals can have very different tolerance patterns in different contexts and low tolerance should not be confused with the extent to which an individual cares about people.]
Focus on Systems	Higher	Baldrige CEOs are strongly motivated to work with systems and processes.
Focus on Information	Higher	Baldrige CEOs are strongly motivated to work with facts and knowledge (information).
Achievement	Lower	Baldrige CEOs are less motivated by a desire to be recognized for achievements.

Note: "Direction" indicates how the mean of the Baldrige CEO Group (BCG) compares to the Leader Comparison Group (LCG).

Sole Responsibility

Quantitative Analysis - iWAM

- Baldrige CEOs are less likely to think that having sole responsibility is important.
- Baldrige CEOs are more team-oriented than self-oriented in terms of responsibility. They would rather share responsibility than keep it themselves.

Qualitative Analysis – NVivo

Themes from the in depth interviews that are consistent with the iWAM results.

- All of the Baldrige CEOs (14 of 14) described situations that indicated that they often were very collaborative in their approach to leading the organization.
- Most of the Baldrige CEOs (13 of 14) demonstrated a high degree of humility through their descriptions of how they handled particular situations, the credit that they gave to the team, etc. This seems to support the behavior of collaboration.
- Most of the Baldrige CEOs (13 of 14) also identified the involvement and engagement of employees as a key to organization learning and transformation.
- Teamwork was the most common organizational culture value identified by 12 of 14 Baldrige CEOs.

Evolution

Quantitative Analysis - iWAM

- Baldrige CEOs are more likely to want to evolve change and drive continuous improvement.
- Baldrige CEOs have a very strong orientation to planned, evolutionary change rather than to radical, large change. This often translates to a focus on continuous improvement.

Qualitative Analysis - NVivo

Themes from the in depth interviews that are consistent with the iWAM results.

- As one Baldrige CEO put it, “While you may have to put the ‘rudder over hard,’ the ship doesn't turn quickly. It takes time for culture change and you have to take the group along with you.” In addition, “Baldrige companies expect continuous improvement in all areas but definitely must have specific breakthrough improvements to achieve World Class performance. I think of continuous as 3-5% and breakthrough as 20% plus. I can't think of any Baldrige recipients as not having both.” The Baldrige CEOs “pushed” for both continuous improvement and breakthrough improvement but they realized that the overall organization transformation was a long-term evolutionary process.
- All of the Baldrige recipient organizations used four key continuous improvement processes including strategic management system, continuous improvement process (e.g., PDSA), benchmarking, and Baldrige-based assessment and improvement.
- Possibly the most important culture theme that emerged in most of the interviews (12 of 14) was the length of time the culture had been in place or as this theme was labeled how ingrained are the "habits." The system changes had to be in place for a while before they became imbedded in the culture.
- As one Baldrige CEO noted, “Their is no doubt that the Baldrige process changes you forever...how you think, work and see yourself and others as well as your organization. In a good way, you are never finished and never satisfied...you and all around you can improve!”

Past

Quantitative Analysis - iWAM

- Baldrige CEOs concentrate on the past and use experience to make decisions.
- Baldrige CEOs have a higher than average “Past” orientation to time. This indicates the importance of experience, may well motivate them to learn from experience, and provides the experience base with which they may use to make decisions about the present or future.
- Note: the Baldrige CEOs also have a focus on the future score that is significantly higher than the standard group (Figure 2). The combination of using the past and future perspectives means that these leaders are motivated to learn from the past and develop strategies for the future.

Qualitative Analysis - NVivo

Themes from the in depth interviews that are consistent with the iWAM results.

- As previously noted, all of the Baldrige cases used four methods to facilitate continuous learning and improvement – strategic management, organization assessment using the Baldrige Criteria for Performance Excellence (CPE), benchmarking, and continuous improvement. All four approaches involved assessments of previous performance and the results associated with changes. In other words, they all learned from performance "trends" which provided feedback on the effectiveness of previous changes.

Tolerance

Quantitative Analysis - iWAM

- Baldrige CEOs have a strong tendency to want to impose their “rules” on others; that is they are “Assertive.”
- A low score means that the individual is likely to be intolerant of the actions of others when they differ from their own or are not consistent across the workforce; that is, they are not very motivated to deal with people who have rules different than their own.
- Note: Individuals can have very different tolerance patterns in different contexts and low tolerance should not be confused with the extent to which an individual cares about people.

Qualitative Analysis - NVivo

Themes from the in depth interviews that are consistent with the iWAM results.

- Many of the Baldrige CEOs (10 of 14) described how they had to deal with resistance to change. "And my basic belief in people is that I would rather work with you and do everything I can to help you get through denial and get on the right track and go." Or as another Baldrige CEO described it, “we are going to try it one year, if it doesn’t work we will go back to what’s not working now.”
- Most of the Baldrige CEOs (12 of 14) also identified follow through and persistence as key to successful transformation.
- Many of the Baldrige CEOs (10 of 14) identified accountability as key to getting people to actually take the actions necessary.
- Most of the Baldrige CEOs (12 of 14) had to get rid of employees that didn't change and support the transformation and desired reality. While some of these employees left on their own, half of the Baldrige CEOs (7 of 14) had to force some employees to leave.

Focus on Systems

Quantitative Analysis - iWAM

- Baldrige CEOs are strongly motivated to work with systems and processes.
- The focus on systems is characteristic of Baldrige CEOs. Combined with the Breadth (big picture) pattern, the Baldrige CEOs have a combination of patterns that would motivate them to work with relationships among components of the organization and the synergy of those components as system. It may also relate to how they see the relationship between the organization and the larger context.

Qualitative Analysis - NVivo

Themes from the in depth interviews that are consistent with the iWAM results.

- Many of the Baldrige CEOs (9 of 14) demonstrated an ability to understand the organization as a system. Systems thinking came out in many forms but often was focused on an understanding of the causal chain of engaged employees, quality products and services, customer satisfaction and financial success.
- Organizational Learning was focused on three key elements: the systems, the people, and the culture. All of the cases used four methods to facilitate system and process redesign and improvement.
- While this is a minor theme with less than half of the Baldrige CEOs (6 of 14) identifying alignment and integration as a key activity, the Baldrige CEOs that did talk about it, indicated that it was a key part of the transformation.

Focus on Information

Quantitative Analysis - iWAM

- Baldrige CEOs are strongly motivated to work with facts and knowledge (information).
- Baldrige CEOs works best with facts and knowledge. Having the right information and/or knowing where and how to get it is important.
- Baldrige CEOs always want to know more; gathering information, getting the facts, knowing what there is to know is important

Qualitative Analysis - NVivo

Themes from the in depth interviews that are consistent with the iWAM results.

- All of the Baldrige CEOs used a comprehensive scorecard and results that included the current performance levels, trends over time, and comparisons to other high performing organizations to understand their performance and develop plans for improvement.
- All of the Balrige CEOs used four very fact-based continuous improvement processes including strategic management system, continuous improvement process (e.g., PDSA), benchmarking, and Baldrige-based assessment and improvement.
- As one Baldrige CEO noted, “Baldrige organizations are very fact based. They also know that running tests and trials are critical to successful product or service changes that will impact customers and clients. The companies tend to be more measurement based (objective) vs. subjective. There is an old saying about ‘In God We Trust...all others must bring the facts’....”

Note: While the Baldrige CEOs motivation to work with information was not significantly different than the Standard Group, it was significantly different than the Leader Comparison Group. Experience suggests that many executives do not want a lot of information; instead they want the “bottom line” or a few options to choose from. It appears that the Baldrige CEOs may have a stronger pattern for

information possibly due to the fact-based nature of the Baldrige Criteria for Performance Excellence Model.

Achievement

Quantitative Analysis - iWAM

- Baldrige CEOs are less motivated by a desire to be recognized for achievements.
- Baldrige CEOs would like others to evaluate them based upon what they say or think more than on the basis of their achievements.
- For Baldrige CEOs the evaluation of their short-term performance on the job might seem unnatural and could be demotivating; they may be motivated by something else (e.g. fear of failure).

Qualitative Analysis - NVivo

Themes from the in depth interviews that are consistent with the iWAM results.

- All of the Baldrige CEOs (14 of 14) described situations that indicated that they often were very collaborative in their approach to leading the organization.
- Most of the Baldrige CEOs (13 of 14) demonstrated a high degree of humility through their descriptions of how they handled particular situations, the credit that they gave to the team, etc. This seems to support the behavior of collaboration.
- Most of the Baldrige CEOs (13 of 14) also identified the involvement and engagement of employees as a key to organization learning and transformation.
- Teamwork was the most common organizational culture value identified by 12 of 14 Baldrige CEOs.

Due to the variation among the Baldrige CEOs, this pattern remains in question. The statistics indicate that the pattern is a differentiator, but when one looks at the distribution of scores, the Baldrige CEOs reflect a positively skewed distribution with 1/3 of the CEOs falling in the “very low” range. One is in the high range and the other 58% are clustered fairly tightly around and just below the mean of the Standard Group. The LCG members, on the other hand, are more normally distributed. There seems to be something different about the Baldrige CEOs, but it is impossible from the data alone to tell what it is.

Leadership “Culture” Factors

There were 17 patterns for which the combined Baldrige CEOs and Leader Comparison Group were significantly different from the Standard Group. These are shown in the Figure 2 along with a statement of the implication for each difference.

In making decisions about the results, the researchers used both the results of the t-tests and a scan of the distribution (variability) of scores. For example, the comparisons to the Standard Group of both the Baldrige CEOs and the Combined Group for “Convinced by Reading” were statistically significant. However, when one looks at the distribution of scores, there is such wide variance that building the factor into a model would be deceptive; that is, it would be difficult, if not impossible, to determine the range of the effective leader. On the other hand, over 85% of the Baldrige CEOs’ scores on the “Convinced by Doing” scale were in the low-extremely low categories. We include the Doing pattern and exclude the Reading pattern for that reason. The factors in this table would seem to apply generally to leaders who have a positive track record in their role.

Figure 2 – Culture Factors Common to both Baldrige CEOs and the LCG

iWAM Pattern	Direction	Implication
Goal Orientation*	Higher	Leaders are more likely to want/need goals toward which they work.
Breadth	Higher	Leaders are more likely to want to see the big picture.
Depth	Lower	Leaders are less motivated to want to deal with details.
Neutral Communication*	Lower	Leaders want to pay less attention to the specific content of messages.
Group Environment	Higher	Leaders tend to want to have contact with people as part of their work.
Individual Environment	Lower	Leaders have less of a tendency to want to work alone.
Shared Responsibility	Higher	Leaders are more likely to want to share responsibility with the team.
Sameness	Lower	Leaders are less motivated to maintain the status quo; to resist change.
Use	Lower	Leaders are less likely to want to implement or do the task.
Future*	Higher	Leaders are more motivated to pay attention to the future.
Indifference	Lower	Leaders view rules as more important than those in the standard group.
Convinced by Doing*	Lower	Leaders are less likely to want to be convinced by trying something.
Convinced by Consistency	Higher	Leaders will both need consistent convincing and may be very persistent; that is, they are not convinced easily nor are they likely to stay convinced (may be seen as skeptics). Individuals who score very high may be very persistent. In this case, the pattern results in someone who is very difficult to convince that "it can't be done."
Interest in People*	Higher	Leaders who score high are more likely to want to deal with people as part of work. Conversely, leaders who score low are more likely to want to deal with "things" (tools, numbers, products, processes, facilities, etc.) as part of their work.
Interest in Tools	Higher	Leaders are more likely to want to work with tools as part of a role. The notion of tools could be equipment, software, or even processes. A high score indicates an interest in a tool or tools as part of the work.
Interest in Money	Lower	Leaders are less likely to want to manage money as part of a role. One would expect a controller or director of budget to have a high score on this pattern. A lower score among leaders is not unusual and they will almost always use money as a goal factor, but they are not motivated to work with it directly or to manage directly.
Interest in Activity	Lower	Leaders are less likely to want to deal with/have a lot of activity in work. High activity leaders need action or movement. Low activity leaders might be seen as "thinkers rather than doers." A low score is not an indicator of energy, it reflects a need or motivation for action.

Note: “Direction” is an indicator of how the combined mean of the Baldrige CEOs (BCG) and Leader Comparison Group (LCG) compare to the mean of the Standard Group.

*Five of the common patterns deserve further exploration: goal orientation, neutral communication, future, convinced by doing, and interest in people.

Goal Orientation

Quantitative Analysis - iWAM

- Leaders are more likely to want or need goals toward which they work.

Qualitative Analysis - NVivo

Themes from the in depth interviews that are consistent with the iWAM results.

- Not only did all (14 of 14) Baldrige CEOs identify setting direction as one of their key activities, it was by far the most mentioned activity. In fact, there were 194 sections of text coded as setting direction. This is nearly double the second most commonly mentioned activity involvement in assessment at 100 instances.
- All of the Baldrige CEOs (14 of 14) identified strategy as a key activity for setting direction. While this is not surprising since it is expected that CEOs are involved in strategy. It is interesting that it plays such a prominent part of organization transformation including people and culture.
- Nearly all (13 of 14) Baldrige CEOs identified setting priorities and focus as important activities for setting direction.
- Ultimately goals were developed by all Baldrige CEOs to provide tangible guidance.

Neutral Communication

While the iWAM results indicate that Baldrige CEOs are not motivated to focus on the content of communications, according to the interviews Baldrige CEOs did pay close attention to the content of their communications. As one Baldrige CEO noted, “A Baldrige company generally not only communicates the what but also the why to insure greater understanding.” The potential contrast between the MAP and the Baldrige CEOs’ attention to the content of their communication may have two qualifiers. First, the pattern speaks to how much an individual “wants” to do something, not how much they “can” do something. So, if a leader is behaving in a high neutral manner, but has a low pattern, it will simply take more energy to maintain that behavior over a long period of time versus behaving consistent with the pattern. One possibility is that the Baldrige CEOs paid attention to content when it was important—much as those of us with low depth (detail) patterns pay attention to detail when it is important—and do not focus on it when it is not. Another possibility is that their attention to communication is a product of goal orientation or achievement orientation more than orientation to communication.

Focus on the Future

Quantitative Analysis - iWAM

- Leaders are more motivated to pay attention to the future.

Qualitative Analysis - NVivo

Themes from the in depth interviews that are consistent with the iWAM results.

- Tension was created by a fact-based understanding of the current reality (or past – see differentiating factors) and a compelling future or desired reality. This tension created an energy for change.

- A compelling vision was the most common (13 of 14) method for describing the desired reality. Other descriptions of the future included desired values, mission, and purpose.

Convinced by Doing

According to the survey results leaders are less likely to want to be convinced by trying something. The Baldrige CEOs are convinced by results from planned actions and changes (doing). However, they do not have to do something themselves to be convinced.

Interest in People

Quantitative Analysis - iWAM

- Leaders are more likely to want to deal with people as part of work.

Qualitative Analysis - NVivo

Themes from the in depth interviews that are consistent with the iWAM results.

- Most of the Baldrige CEOs (13 of 14) identified getting the right talent on board as a key to transforming the organization.
- Most of the Baldrige CEOs (13 of 14) also identified employee development as a key enabler of the transformation.
- Most of the Baldrige CEOs (13 of 14) also identified the involvement and engagement of employees as a key to organization learning and transformation
- Most of the Baldrige CEOs (12 of 14) also identified recognition and rewards aligned with the desired behaviors as a key to reinforcing the right behavior.
- By far one of the most interesting findings during this study was that the Baldrige CEOs "got their kicks" by making a difference in peoples lives. Almost all of the Baldrige CEOs (13 of 14) shared anecdotes of how employees had done great things, developed, found meaning in their works, etc.

Potential Applications

There are at least four potential applications for the Baldrige CEO Model of Excellence to help address the two overarching questions: (a) how can high-performing organizations (e.g., Baldrige recipients) sustain their current levels of performance in a constantly changing environment and (b) how can they lead their organizations to even higher levels of performance? And, in particular, the related leadership questions: (a) how do leaders and leadership processes differ between Baldrige adopters and non-adopters and (b) what are the most effective methods to institutionalize leadership development?

Four potential applications:

1. Personal Development - Help leaders understand how they “fit the job” of transforming an organization using the Baldrige model.
2. Leadership Develop Programs - Inform the design and delivery of leadership development for leaders headed to the upper echelon.
3. Succession Planning - Inform the succession planning for the upper echelon.
4. Hiring - Inform the hiring process at the top or for leadership positions with high potential for advancement to the top.

The notions of "fit" and "development" are not inconsistent. One major difference between leader traits, such as intelligence and personality, and MAPs is that traits tend to be fixed and stable over a variety of contexts while MAPs are both adjusted in contexts and may be altered. So, the fact that a leader does not fit a high-performance profile at a given point in time, does not preclude the possibility that he or she can make pattern adjustments that result in better alignment with known performance patterns. The result is that this study begins to shed light on an element of leadership that is not only proving to be fairly powerful in predicting performance, but something that has the potential to be shaped and adjusted to fit a given context, situation, and/or relationship.

Limitations

As with most exploratory research studies there are a few limitations:

1. As is common for exploratory model-building studies, the sample sizes for the Baldrige CEO and Leader Comparison Group were small. This may limit the generalizability of the findings.
2. The study was limited to Baldrige CEOs. It is not clear if the results are applicable to other levels in the organization beyond the upper echelon.
3. There were no female CEOs included in the Baldrige group. Consequently, it is not clear if the findings are equally applicable to female Baldrige CEOs.
4. Industry representation in the Baldrige CEO group does not include Government or Non-profit sectors. While the results for the five sectors that were included (service, manufacturing, small business, healthcare, and education) indicated consistency, it is not clear if the results would be the same for Baldrige CEOs from the Government and Non-profit sectors.
5. This is an *ex post facto* study which does not allow for the determination of whether these motivational and attitudinal patterns were always present in the Baldrige CEO's or instead were a result of personal transformations that occurred due to the experience of leading a transformation using the Baldrige model. As one Baldrige CEO noted, "Their is no doubt that the Baldrige process changes you forever...how you think, work and see yourself and others as well as your organization."
6. A few of the Baldrige CEO participants had left the context and were not currently engaged in the organization where they led the transformation. These participants were instructed to place themselves in the context when answering the survey. There may be some effect on patterns from those Baldrige CEOs who are no longer in the role for which they were responding. Generally, people are able to identify patterns as they were or will be in a context if the pre-test framing is clear.

Recommended Future Research

It will never be possible to build a perfect model because of the nuances of contexts and the potential for differences among individuals. For example, the publisher of the iWAM notes that if one computes the combinations and permutations of the 48 patterns, the result is a number larger than the population of the earth. So, there are going to be differences. The question is: are there some core motivational and attitudinal patterns that tend to characterize the majority of Baldrige CEOs and that might differentiate this group from their counterparts who are effective, but not interested in or able to achieve the Baldrige Award?

Three suggestions for future research:

1. Conduct a longitudinal study by adding more current Baldrige CEOs and continue each year with new recipients. At the same time increase the diversity of the group by including female Baldrige CEOs.
2. Increase the size and diversity of the leadership comparison group.
3. Increase the number of comparison groups. Add a comparison group of leaders who attempted to transform their organizations using the Baldrige model but were unable to achieve performance high enough to receive recognition of the Baldrige award.

Conclusion

It seems clear from the results that several Baldrige CEO motivational and attitudinal patterns are different from other leaders' and from employees in the U.S. Standard Group. This study identifies seven motivational and attitudinal patterns that distinguish Baldrige CEOs from other upper echelon effective leaders and 17 factors that distinguish upper echelon leaders from the overall employee population. These factors provide a Model of Excellence that can be used to select and develop a pipeline of leaders who are naturally inclined to do the things necessary to transform and lead high performing organization using the Baldrige model for performance excellence.

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Appendix - Research Methodology and Results

Model of Excellence

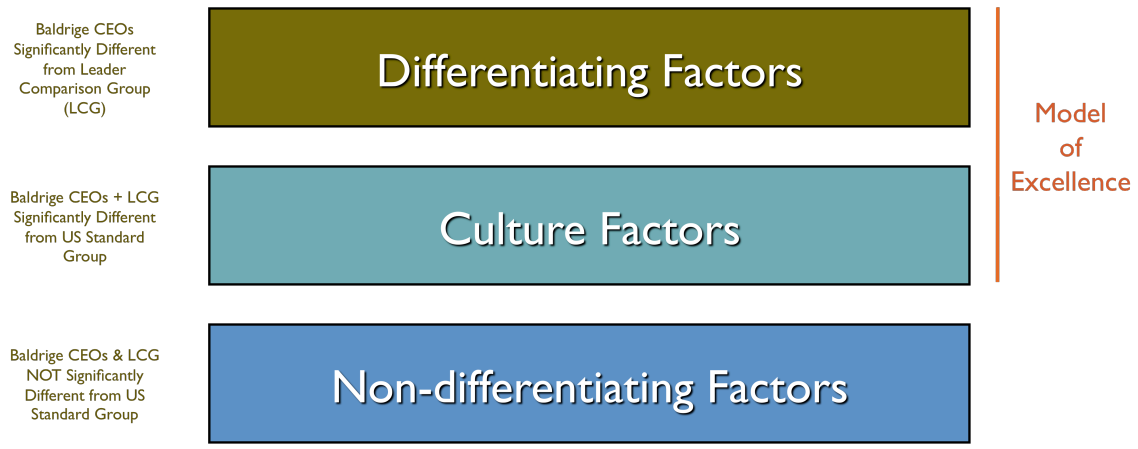
A Model of Excellence is a computer-based tool for comparing an individual's motivational and attitudinal patterns against a set of patterns known to be characteristic of a high performer in a particular role in a particular context (Figure A1). The model is developed through statistical and analytic analysis of high and low performers in a given role in a given context. The resulting correlation (r-value) between the model score and performance rating is squared to provide an indication of how much of the performance rating is accounted for by the motivational and attitudinal patterns. The Baldrige CEO model of excellence is composed of two types of MAPs or factors:

a) The extent to that there are differences between the Baldrige CEOs and the Leader Comparison Group which is an indication of patterns that may differentiate Baldrige-winning CEOs from other effective leaders (**differentiating factor**).

b) Patterns for which there are differences between the Standard Group and All Leaders (Baldrige and LCG) in this study. If there is a significant difference, the implication is that the pattern differentiates motivational and attitudinal patterns that are characteristic of effective leaders (a **culture factor**).

Note: Motivational and attitudinal patterns for which leadership (Baldrige and LCG) are not different from those of the Standard Group (a **non-differentiating factor**) are not included in the Model of Excellence.

Figure A1 – Model of Excellence



The actual model is constructed by identifying both the differentiating factors and the power of predictability. The power is a judgment based on the strength of the t-test and the nature of variability. The scale weighting will range from 1X (times one) to 3X (times three). A scale with a weight of 3X would probably have a t-test probability of $p \leq .01$ and low variability (the members of the group would be fairly close in score; that is, "compact").

Culture factors are also included in the model if two characteristics are true: (1) the group is significantly different from the standard or comparison group and (2) the variance (distribution) is low enough that the predictive range is likely to include most of the people in the group. The primary difference between "differentiating factors" and "culture factors" in the model is in the weighting. Culture factors only receive a weight value of X 0.5 (one-half). The culture factor is usually a characteristic of the culture or context

and equates more to the "price of admission" than to a performance differentiator. The inclusion means it has some importance and the weighting gives it less power overall than the differentiating factors.

Once the model of excellence was developed from the analysis of the iWAM survey results, the differentiating and culture factors were compared to the qualitative themes from 14 Baldrige CEO interviews (Latham, 2009). These themes were derived inductively from in-depth interviews with Baldrige CEOs where they told their "story" of how they lead the transformation of their organization using the Baldrige model as a guide. Consequently, the themes that emerged are the common factors that the CEOs felt were important enough to include in the description of their transformation. The themes (behaviors, actions, etc.) that are consistent with the quantitative model of excellence are identified for each of the seven differentiating factors and a few note worthy culture factors.

Sample

The study included three groups: Baldrige CEOs, a Leader Comparison Group, and the iWAM U.S. Standard Group.

The Baldrige CEO group consisted of 17 participants - 12 iWAM participants and 14 interview participants with nine participants common to both groups. This was a purposive sample with representatives from five industry sectors (Figure A2).

Figure A2 – Baldrige CEO Group Sample

Industry Sector	# of Employees	Interviewed	iWAM
Manufacturing	1 – 5,000	X	X
	1 – 5,000	X	X
	5 – 10,000	X	
Service	> 10,000	X	X
	500 – 1,000		X
	500 – 1,000	X	X
	5 – 10,000	X	
Small Business	50 – 500	X	X
	50 – 500		X
	50 – 500	X	
Healthcare	1 – 5,000	X	X
	5 – 10,000		X
	> 10,000	X	
	5 – 10,000	X	
Education	50 – 500	X	X
	1 – 5,000	X	X
	500 – 1,000	X	X
Totals		14	12

The Effective Leader Comparison (LCG) group was selected by The Institute for Work Attitude & Motivation from the pool of top leaders who completed the iWAM survey as part of a leadership development effort in their company, agency, or organization. The Leader Comparison Group was chosen based on their success as leaders in their respective organizations. Success, in this case, was determined by an experienced consultant who worked with each leader and judged success based on organizational performance and the impact of their leadership. In addition, the LCG group was selected on the basis of being either the head of the organization (comparable to the CEO) or a member of the top team in the organization. The majority (about 75%) of the LCG group were from the private sector.

The remainder consists of a government agency leader, a university administrator, and a not-for-profit chief executive.

iWAM U.S. Standard Group (n = 1921) - The U.S. Standard Group is part of the jobEQ database and can be retrieved for use in statistical analysis. Based on a comparison with the U.S. Department of Labor statistics, the US Standard Group has a larger proportion of management/professionals, is better educated, and has a slightly larger proportion of women in it than does the American workforce.

Quantitative Analysis

A t-test was used to check for differences between the means (averages) of the groups in the three comparisons:

1. Baldrige CEOs vs. the U.S. Standard Group
2. Baldrige CEOs vs. Leader Comparison Group
3. Baldrige CEOs + Leader Comparison Group vs. U.S. Standard Group

The t-value is interpreted at three levels regarding the probability of the differences occurring by chance:

$p < .01$	"Extremely Significant" (extremely low probability of chance)
$.01 < p > .05$	"Significant" (low probability of chance)
$.05 < p > .10$	"Borderline Significant" (some probability of chance)

jobEQ includes the computation of "Borderline Significance" ($.05 < p > .10$) in models because of the potential for it to represent a difference between a group and the Standard/Comparison Group or between a group of high and low performers in a certain role. Classic social science tends to ignore statistical differences that are greater than $p \leq .05$ on the basis that the probability that the difference occurred by chance is too great. The alternative assumption behind Borderline significance is that the potential differences in human beings and their ability to vary those differences means that the classic standards result in Type II errors. That is, the research claims there are no differences when, in fact, there are. Because of the heuristics of modeling, one can test in subsequent "live" situations whether the model is predictive and, if it is not, where the failure to predict as accurately as planned originated. This approach works against "throwing the significant baby out with the insignificant bathwater."

On the other hand, the inclusion of patterns which differ at the level of Borderline significance risks committing a Type I statistical error. This is the error in which one claims a difference, but, in fact, there is not one. Again, the application of the model to "live" activity with subsequent performance measures helps determine if such an error occurred.

In essence, this approach to modeling "moves the fences out" so that we can see a broader range of factors in trying to establish the relationship between motivational and attitudinal patterns and performance.

In statistics, there are two general types of errors in conclusion—one referred to a Type I and the other as Type II. What the errors mean:

> A **Type I error**, also known as an "**error of the first kind**" (an **α error**) or a "**false positive,**" is an error based on rejecting a null hypothesis when it is actually true (i.e., claiming there was a difference when, in fact, there was not). The classic research concluding that African-Americans were not as smart as Caucasians using measures of IQ, turned out to be a Type I error. Statistical differences (rejection of the null hypothesis) turned out to be largely due to cultural differences in the nature of the assessment tools used.
>
> A **Type II error**, also known as an "**error of the second kind**"(a **β error**) or a "**false negative,**" is an error resulting from failing to reject a null hypothesis when, in fact, it is

not true. In other words, this is the error of failing to conclude that there is a significant difference when, in fact, there is one.

Including the "Borderline Significance" provides some protection against making Type II errors in the measurement of motivational and attitudinal patterns.

Results

The results of the analysis are shown in Figure A3. Note again that some patterns which have means that are significantly different are not marked as "model" patterns. This is because when one looks at the distribution of actual scores (variance), it is such that one would not be able to distinguish between the Baldrige model leader and another leader. These patterns are marked differently (•) than patterns that would be included in a model (☒).

Figure A3 – Results of Statistical Tests

✓ - Culture factors (Baldrige and LCG are different than the Standard Group ☒ Baldrige is different than the LCG

• - Statistic is significant, but the distribution of scores makes it impossible to make a claim about the group.

iWAM Survey Scales	Baldrige vs. StdGrp	CEOs + LCG vs. StdGrp	Baldrige vs. LCG
	(B) vs. (S)	(A) vs. (S)	(B) vs. (L)
Operating Factors			
Initiation			
Reflecting & Patience			
✓Goal Orientation	p ≤ 0.05 (B)	p ≤ 0.00 (A)	
Problem Solving		p ≤ 0.10 (S)	
•Individual Motives	p ≤ 0.01 (S)	p ≤ 0.00 (S)	
External Reference			
Alternatives		p ≤ 0.04 (A)	
Follow Procedures			
✓Breadth	p ≤ 0.05 (B)	p ≤ 0.00 (A)	
✓Depth Orientation	p ≤ 0.05 (S)	p ≤ 0.00 (S)	
Affective Communication			
✓Neutral Communication	p ≤ 0.05 (S)	p ≤ 0.10 (S)	
✓Group Environment	p ≤ 0.10 (B)	p ≤ 0.05 (A)	
✓Individual Environment	p ≤ 0.10 (S)	p ≤ 0.05 (S)	
☒Sole Responsibility	p ≤ 0.00 (S)	p ≤ 0.00 (S)	p ≤ 0.05 (L)
✓Shared Responsibility	p ≤ 0.02 (B)	p ≤ 0.00 (A)	
Need for Change			
✓Sameness	p ≤ 0.10 (S)	p ≤ 0.10 (S)	
☒Evolution	p ≤ 0.00 (B)	p ≤ 0.05 (A)	p ≤ 0.00 (B)
Difference			
Distribution of Energy			
✓Use	p ≤ 0.00 (S)	p ≤ 0.00 (S)	
Concept			
•Structure		p ≤ 0.01 (A)	p ≤ 0.10 (L)
Orientation in Time			
☒Past	p ≤ 0.05 (B)		p ≤ 0.05 (B)
Present			

iWAM Survey Scales	Baldrige vs. StdGrp	CEOs + LCG vs. StdGrp	Baldrige vs. LCG
	(B) vs. (S)	(A) vs. (S)	(B) vs. (L)
✓Future	p ≤ 0.05 (B)	p ≤ 0.00 (A)	
Basic Motivation			
Power		p ≤ 0.05 (A)	
Affiliation		p ≤ 0.10 (S)	
•Achievement	p ≤ 0.05 (S)		p ≤ 0.10 (L)
Respect for the Norms			
Assertiveness			
✓Indifference		p ≤ 0.10 (S)	p ≤ 0.05 (B)
Compliance		p ≤ 0.05 (A)	
☒Tolerance	p ≤ 0.00 (S)	p ≤ 0.00 (S)	p ≤ 0.01 (B)
Convincer Patterns			
Convinced by Seeing		p ≤ 0.05 (A)	
Convinced by Hearing		p ≤ 0.05 (A)	
•Convinced by Reading	p ≤ 0.00 (B)	p ≤ 0.00 (A)	
✓Convinced by Doing	p ≤ 0.00 (S)	p ≤ 0.00 (S)	
Convinced by Examples			
Convinced Automatically	p ≤ 0.10 (S)		
✓*Convinced by Consistency*	p ≤ 0.05 (B)	p ≤ 0.05 (A)	
Convinced after Period of Time		p ≤ 0.10 (S)	
Needs to Work With (Success):			
✓Focus on People	p ≤ 0.01 (B)	p ≤ 0.000 (A)	
✓Focus on Tools	p ≤ 0.05 (B)	p ≤ 0.01 (A)	
☒Focus on Systems	p ≤ 0.00 (B)	p ≤ 0.01 (A)	p ≤ 0.01 (B)
☒Focus on Information		p ≤ 0.01 (S)	p ≤ 0.05 (B)
✓Focus on Money	p ≤ 0.10 (S)	p ≤ 0.05 (S)	
•Focus on Place		p ≤ 0.10 (S)	p ≤ 0.01 (B)
•Focus on Time			p ≤ 0.10 (L)
✓Focus on Activity	p ≤ 0.05 (S)	p ≤ 0.00 (S)	

Once the model of excellence was developed, the differentiating and culture factors were compared to the qualitative themes from the interview data (Latham 2009). The MAPs identified in the model were compared to the behaviors, actions, and experiences of senior leaders who lead organization transformations using the Baldrige model. Why this comparison? It is one thing to have a significantly different MAP and another for that to be important to leading a transformation.

Researchers

Charles A. Appleby, PhD

President, Appleby and Associates

Senior Research Fellow, Monfort Institute

Co-Founder, World Institute for Action Learning

chuck@applebyandassociates.com

www.applebyandassociates.com

Carl L. Harshman, PhD

President, Harshman & Associates

Founder/CEO, Institute for Work Attitude and Motivation

carl@harshman.com

www.iwaminstitute.com

John R. Latham, PhD

Director, Monfort Institute at the University of Northern Colorado

Monfort Executive Professor of Management, Kenneth W. Monfort College of Business

john.latham@unco.edu

www.monfortinstitute.org

Monfort Institute

University of Northern Colorado

2915 Rocky Mountain Avenue, Suite 110

Loveland, CO 80537

970.351.2632

www.monfortinstitute.org