Hard Wired

For lean Six Sigma projects to succeed, choose leaders who are innovative with good communication skills | **by Todd Creasy**

A favorite saying among U.S. football fans when describing their favorite teams is: "It's not so much about X's and O's as it is about Jimmys and Joes." This saying minimizes the importance of play designs or schemes and emphasizes the importance of the people on the field.

Over the years, this emphasis on players and leaders has received much attention in sports, world politics, business, academia and lean Six Sigma studies. Fred Fielder, a pioneer in the leadership arena, commented on a leader's effectiveness in getting a group to accomplish its mission. This effectiveness, Fielder wrote, "depends not just on the leader's abilities and attributes, but also on how well the leader's personality, abilities and behaviors match the situation in which the leader operates."[1]

Project managers and their personalities received some additional attention from Andrew Milivojevich when he wrote: "The ability to perceive, assess and

Just the Facts

A leader's ability to communicate, innovate and encourage innovation can make or break an improvement team's engagement in a project and the project's outcome.

The process of selecting a leader for an improvement team often ignores personality traits vital for the project to succeed, according to a new study.

manage the emotions of one's self and others is a useful skill for a project environment that fits well with the Six Sigma methodology."[2]

Milivojevich emphasized the importance of project leaders possessing emotional intelligence. He concluded that project managers high in emotional intelligence skills experience more positive project outcomes than their counterparts scoring low in emotional intelligence.

More specifically, as it pertains to personalities and project leader selection, Carlotta Walker wrote that the key to developing a quality-oriented, high-performing workforce at the macro level is to maximize employee engagement.[3]

This model also applies within a micro level when considering project team member engagement. Necessary to this engagement is a selection process that managers can use when considering project leaders.

Walker recommended using a core self-evaluation that refers to a "subconscious belief that affects the way a person regards him or herself and the environment."[4] The core self-evaluation is a higher-order personality trait consisting of four facets:

1. Self-esteem.
2. Locus of control.
3. Generalized self-efficacy.
4. Emotional stability vs. neuroticism.[5]

Walker suggested administering the self-evaluations during team leader selection to improve the likelihood of team member engagement, which would in turn improve lean Six Sigma project outcomes.

A new study focused on leadership selection work builds on research from:

+ Richard Hutchings, who highlighted the need for social skills within project leadership to include communication and innovation orientation.[6]
+ Perry Parendo, who positioned creativity and innovation orientation as important leadership factors for lean Six Sigma facilitators.[7]
+ Peter Merrill, who focused on the need for better communication skills and innovation aptitude from project leaders.[8]

Over a three-year period, this new study involved four organizations (three hospitals and one mining company) and 56 participants—each selected by their senior management group to engage in lean Six Sigma training for the purpose of lean Six Sigma project leadership. The personality traits and dimensions under study were communication apprehension (CA) and innovativeness.

Similar to Walker's work with core self-evaluation, self-assessments were used to determine levels of CA and innovativeness—with CA measured by James McCroskey's 24-item survey,[9] and innovativeness measured by Thomas Hurt, Katherine Joseph and Chester Cook's eight-item survey.[10]

Communication

McCroskey defined CA as "an individual's level of fear or anxiety associated with either real or anticipated communication with another person or persons."[11] Studies suggest that employees who exhibit certain elements of CA may earn less, be disadvantaged professionally, avoid certain communication channels such as face-to-face or group meetings, receive

Communication apprehension measures the comfort level a person experiences during group discussions, presentations, interpersonal conversations and formal meetings.

fewer offers of employment and maintain lower-ranked positions.[12]

Katie Meyer-Griffith, Robert Reardon and Sarah Hartley reported that employees with CA "prefer occupations such as computer programmer, which require little communication, whereas the opposite is true for individuals with low communication apprehension."[13]

McCroskey collected two features of CA, which he labeled "Traitlike CA" and "Context CA."[14] Based on McCroskey's work, Travis Russ noted, "Traitlike CA is an individual's fear or anxiety about human communication," and "Context CA can be measured across four theoretically unique states … group discussions, interpersonal conversations, formal meetings and presentations."[15]

Context CA provides a more detailed analysis of discomfort across various communication situations. As such, CA measures the comfort level a person experiences during group discussions, presentations, interpersonal conversations and formal meetings.[16]

Based on the importance of communication in a lean Six Sigma project leader's
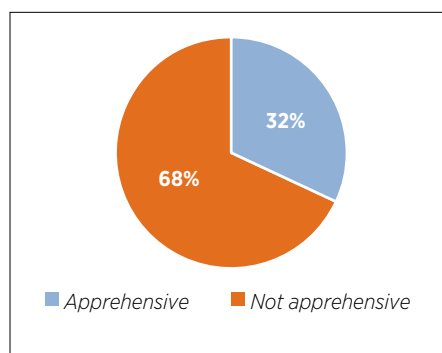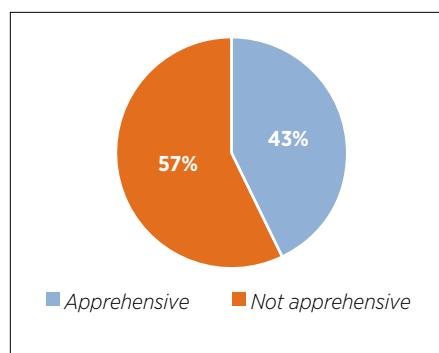
FIGURE 1
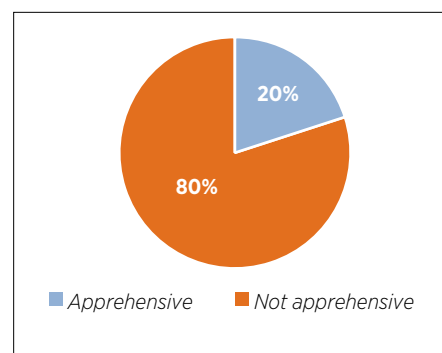# Public speaking

FIGURE 2
Meetings

FIGURE 3
Group discussions

skill set, it seems logical that moderate communication skills (at a minimum) in each of the previously mentioned situations are necessary to achieve successful project outcomes.

Traitlike CA (similar to a personality-type factor) and Context CA can be placed on a separate continuum—those with high and low apprehension levels.[17] In addition, the anxiety levels do not need to be the same when considering high or low apprehension levels.

"It is also possible for someone to be extremely uncomfortable communicating in one context (for example, public speaking), but feel completely at ease in another (for example, interpersonal conversations)."[18]

It is therefore possible for individuals to have high or low levels of apprehension in each of the four environments in which lean Six-Sigma project leaders may often find themselves—presentations, formal meetings, interpersonal conversations and group discussions.

In the new study, each of the future lean Six Sigma project leaders was asked to self-assess his or her CA during training.

Figures 1-5 show the results for total CA and for subcomponent communication arenas such as public speaking, meetings, group discussions and interpersonal communication.

Figure 1 shows that 32% of the sample size have CA with public speaking. While few lean Six Sigma project leaders are faced with the opportunity to speak in public, an occasion may arise that requires them to present to senior management or a board of directors. This prospect for those with apprehension in this domain may cause undue stress and anxiety.

More troubling, Figures 2-3 show that 43% and 20% of the sample size have difficulty with group meeting communication and group discussions. Considering that much of the project work conducted by lean Six Sigma leaders occurs within those scenarios, those suffering from this form of CA will experience discomfort as they engage in group facilitation in hopes of successfully completing a project.

Figure 4 is much less troubling—7% of the sample experience CA when participating in interpersonal conversation. This small subgroup could experience stress when working one-on-one with a subject matter expert or when engaged in stakeholder management.

Figure 5 offers an overall view of the sample's level of CA. With nearly 16% of the selected possible future project leaders suffering from CA (almost one in five), this discomfort resulting from lean Six Sigma project leaders operating beyond their personal communication comfort zone could potentially lessen employee engagement and therefore lead to suboptimal—or failed—project outcomes.

Innovativeness

Improved service or product development can be an outcome when team members collaborate on projects and don't experience ambiguity or a lack of structure. Additionally, a project team's propensity for innovativeness can lead to improvement or modernization of products or services.[19]

Hurt, Joseph and Cook argued innovativeness also can be a personality trait they described as a "willingness to change."[20]

Therefore, innovativeness can exist in a project leader, which can lead to product or service novelty or invention. Defined further, "innovation orientation (or innovativeness) of leadership refers to the degree to which leaders promote subordinates' innovation orientation."[21]

Ruth Stock and Nicolas Zacharias reported leaders with strong innovativeness personality traits exhibited behaviors that emboldened team members to adopt attitudes receptive to change, modification and improvement.[22]

When addressing leadership and its effect on a team's climate, Ali Akgun, Halit Keskin and John Byrne reported that the value of innovativeness among project teams referred to the "deg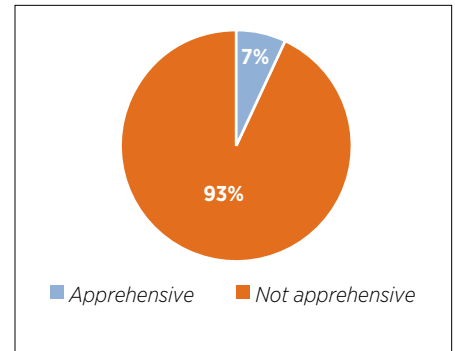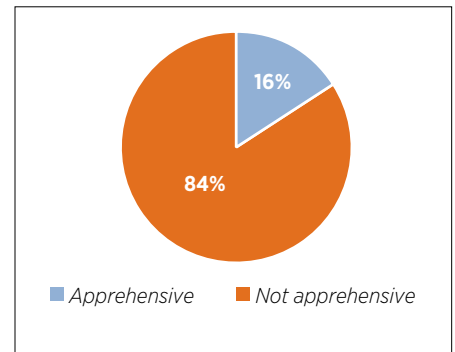ree to which team members viewed the project team as being open to change and supportive of new ideas to adapt to the changing environments."[23]

Furthermore, innovativeness among teams is viewed as "a capacity that incorporates receptivity to new ideas, products, or processes, as well as an

FIGURE 4

Interpersonal conversation

Apprehensive 7%
Not apprehensive 93%

- Apprehensive
- Not apprehensive

FIGURE 5

Total score—communication apprehension

Apprehensive 16%
Not apprehensive 84%

- Apprehensive
- Not apprehensive

increased likelihood of their implementation or adoption."[24]

Based on the actions and disposition of the project leader, a team climate high in innovativeness orientation can create new levels of thinking, services, products or processes.
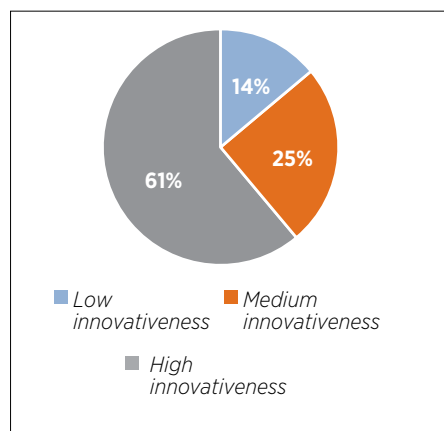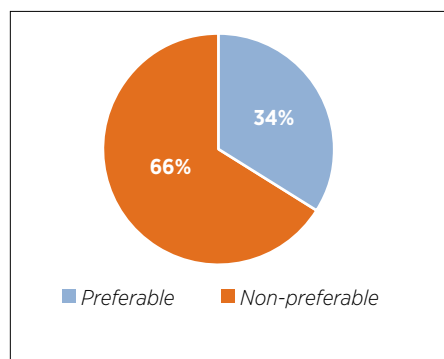
Percentage of sample's innovativeness score

Low innovativeness — 14%
Medium innovativeness — 25%
High innovativeness — 61%

■ Low innovativeness ■ Medium innovativeness
■ High innovativeness

Communication and innovativeness

34% — Preferable
66% — Non-preferable

■ Preferable ■ Non-preferable

Continuing the study of the climate fostered by project leaders and the resulting team innovativeness, Alicia Pirola-Merlo reported a positive innovative climate can lead to improved project performance and rate of progress.[25]

This quantitative analysis theorized that teams experiencing a favorable orientation toward innovativeness nearly doubled the rate of project completion compared to those without it.

In the new study, the innovativeness self-assessment was given to each of the future lean Six Sigma project leaders during their training.

Of the 56 respondents, just over 39% rated themselves as "not excited about new ideas or innovativeness" (low) or "just below or slightly above average interest in innovativeness" (moderate). Figure 6 shows the full results.

Of the respondents, 14% reported they were not naturally prone to innovativeness as a personality trait—a leadership tendency that could have significant detrimental effects on project outcomes. Those scoring in the middle of the innovativeness scale (slightly below or above) could theoretically achieve only a portion of the opportunities present within their lean Six Sigma projects.

Six of 10 viewed innovativeness favorably and therefore may be predisposed to seeing opportunities for breakthrough ideas within their project leadership role.

Overall, about four of 10 did not exhibit overly positive attitudes toward innovativeness. This predisposition could lead to suboptimal results—especially in projects that require innovativeness for success.

Communication and innovativeness

Personalities are complex realms that have several factors. As such, it seems

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prudent to examine the sample considering personality traits, and the resultant population that scored low in CA and high in innovativeness orientation (the desired combination. Based on this sample and the supporting research, only about one of three scored low in CA and high in innovativeness orientation, the desired combination for project leadership (see Figure 7).

Manufacturers often critically consider the quality of the components completing their finished product that they market and sell to the buying public.

Joseph M. Juran, in his persistent quest for improving quality, said variation in the ultimate product's quality can be attributed to five factors:
1. Poor product design.
2. Measurement system validity.
3. Insufficient process capability.
4. Skills or behaviors of employees.
5. Unsound parts or raw materials.[26]

If we consider a successful project completion to be a product, shouldn't we examine the raw materials of the project—that is, the project manager and his or her personality dimensions?

If project managers are considered a value-added human asset of an organization, and if the time and energy invested in project teamwork are considered worthwhile, should we begin to consider project managers as the raw material for the desired end product—projects that end on time, meet budgets and goals and motivate employees?

It seems prudent and practical to begin thinking of project leaders as raw materials that can successfully lead projects on time and on budget, while meeting goals and motivating employees along the way.

Members of senior management often question the degree of success with project results, including lean Six Sigma

projects. This research suggests that a part of the problem could be in the project leader selection process.

What Deming said

W. Edwards Deming proposed a system of profound knowledge, which offered various views on leadership. The system of profound knowledge "is a theory of related principles that requires a leader or manager to consider all … aspects when making decisions."[27]

At its foundation, this leadership system is broken into four components—the fourth one being knowledge of psychology.

This can be defined as "the ability to recognize why people behave as they do and create an environment in which individual differences and skills are used to optimize the system for everyone's benefit."[28]

From a project leadership perspective, this knowledge of psychology could begin with an examination of the project leader selection process, particularly the appropriate personality dimensions and traits for such leadership.

Addressing the acuity and necessity of leader personality and successful project execution, Milivojevich wrote: "When projects have tight timelines, Black Belts (BB) must form strong teams quickly, communicate goals and obtain buy-in from team members, regardless of reporting structure. In this environment, BBs must lead by using sophisticated skills to understand how people think and feel."[29]

While in complete agreement with this assertion, this referenced ability to effectively form, communicate and obtain are functions of the outcome of the project leader selection process.

While not advocating a sole reliance on personality tests for project leader selection, it seems project leaders selected who scored low on CA and high on innovativeness would be able to accomplish those tasks more readily.

Jimmys and Joes who have the right stuff for lean Six Sigma project leadership may improve the project outcome, and it's up to the manager-coaches to identify them. QP

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