

# Predicting and Improving Team Performance

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## Introduction

The soft stuff is the hard stuff

Chris Cool, Vice President Quality and Lean, Northrop Grumman

DMAIC is the heart of Six Sigma, leadership effectiveness is the soul.

Nori Morimoto, ITT Champion

## Introduction

Having the best data, tools, and improvement methods in the world won't help you much if you don't have black belts who are effective team leaders. **Lean Six Sigma is about leveraging the knowledge, energy, and passion of the whole team: the green belts, process owners, and other team members.** Time and again, at company after company, experience shows that **being able to deal effectively with the human element of improvement is a more critical determinant of team success than the rational, analytical processes and tools.**

The simple fact is that while good technique is critical in achieving Lean Six Sigma levels of performance, change and improvement happen through people, not data. In fact, leadership skills and effective team performance are key elements in the Six Sigma infrastructure and culture that are necessary for successful implementation of Lean Six Sigma.

## Introduction

There are many dimensions to team effectiveness—basic facilitation skills, conflict resolution, goal setting, problem solving, etc.—most of which you can learn about from myriad resources. Two areas that aren't given as much attention are:

1. Understanding how team members' strengths and weaknesses can either complement each other to make for an effective team or conflict and lead to failure despite the talent of individuals.
2. Building leadership skills so that black belts can fully utilize team members on projects. These skills include self-management skills, inquiry (rather than advocacy) skills, and communication skills.

## Understanding Individual Performance

There are many approaches to understanding individual performance such as Myers-Briggs, Grid, Teleometrics, and Belbin among others. That so many different researchers would have such a wide area of agreement argues for the validity of their conclusions.

Though the use of teams has become standard in most businesses, there are two competing models that represent polar opposite views about how to structure teams to obtain optimum performance.

## Preferred Team Roles as Predictors of Team Success or Failure

The first, intuitive model would suggest that assembling brilliant individuals creates a great team. However, that approach can fail.

The failure of the “collection of brilliance” approach to team effectiveness was first analyzed in an industrial setting at Imperial Chemical Industries (ICI) in the UK. ICI recruited only the absolute top chemical talent, but the result was very poor team performance. This phenomenon attracted the attention of Dr. R. Meredith Belbin of Cambridge University, with far-reaching consequences.

Belbin and his team of researchers spent nine years in an intensive study of management teams undergoing executive development and working in simulations that mimicked real world challenges. Every individual involved in the team exercises also underwent detailed psychometric and mental ability testing prior to participating in the simulations. During team activities, an observer tabulated data on the subjects’ behavior at 30-second intervals. Belbin was able to amass a huge amount of information on the relationship among team success, personality factors, mental capabilities, and creativity.

## Preferred Team Roles as Predictors of Team Success or Failure

Role	Team-Role Contribution	Allowable Weaknesses
Plant	Creative, imaginative, unorthodox. Solves difficult problems.	Ignores details. Too preoccupied to communicate effectively.
Resource Investigator	Extrovert, enthusiastic, communicative. Explores opportunities. Develops contacts.	Overoptimistic. Loses interest once initial enthusiasm has passed.
Coordinator	Mature, confident, a good chairperson. Clarifies goals, promotes decision-making, delegates well.	Can be seen as manipulative. Delegates personal work.
Shaper	Challenging, dynamic, thrives on pressure. Has the drive and courage to overcome obstacles.	Can provoke others. Hurts people’s feelings.
Monitor Evaluator	Sober, strategic, and discerning. Sees all options. Judges accurately.	Lacks drive and ability to inspire others. Overly critical.
Team Worker	Cooperative, mild, perceptive, and diplomatic. Listens, builds, averts friction, calms the waters.	Indecisive in crunch situations. Can be easily influenced.
Implementer	Disciplined, reliable, conservative, and efficient. Turns ideas into practical actions.	Somewhat inflexible. Slow to respond to new possibilities.
Completer Finisher	Painstaking, conscientious, anxious. Searches out errors and omissions. Delivers on time.	Inclined to worry unduly. Reluctant to delegate. Can be a nitpicker.
Specialist	Single-minded, self-starting, dedicated. Provides knowledge and skills in rare supply.	Contributes only on a narrow front. Dwells on technicalities. Overlooks the “big picture.”
<i>Strength of contribution in any one of the roles is commonly associated with particular weaknesses, called “allowable” weaknesses. Executives are seldom strong in all nine team roles.</i>		

Table 9-1. Nine team roles

## Preferred Team Roles as Predictors of Team Success or Failure

You'll note that Belbin discovered that the personal attributes that enable a person to make a particular type of contribution also create weaknesses that must be accommodated. In other words, our strengths are often accompanied by associated weaknesses. The footnote to the table points out another important lesson: seldom is an executive (or anyone else, for that matter) strong in all nine roles. Finally, every person's preferred role is a good role, if they are aware of it and play it on the team.

## Preferred Team Roles as Predictors of Team Success or Failure

The obvious conclusions are that teams will do best with a combination of roles and that imbalances need to be recognized and dealt with. In fact, Belbin's research identified specific team dynamics that were predictive of team effectiveness (or lack thereof):

### **Factors contributing to ineffective teams**

1. No Monitor Evaluators: the team is unlikely to carefully weigh options when making decisions.
2. Too many Monitor Evaluators: "paralysis by analysis" outweighs creative ability
3. No Completer Finishers and Implementers: teams that create good strategies but can't execute.

## Preferred Team Roles as Predictors of Team Success or Failure

### Factors contributing to effective teams

1. Teams with Plant role: more ideas lead to better strategies. (Note: Team with Plants require Monitor Evaluators and Coordinators.)
2. Teams with Resource Investigator role: external orientation.
3. Teams with Shaper role: recognize need for urgency, which leads to significant impact on results, approaching high-performance teams.
4. Too many Shapers leads to excessive conflict, so a Team Worker is needed to facilitate relationships and allow team to succeed.
5. Teams with Specialist role: crucial in many situations where specialized knowledge is required, to become effective technical team.
6. Each role has “allowable weaknesses” that require compensation to result in highly effective teams, but weaknesses are OK because they result from strengths.

## Preferred Team Roles as Predictors of Team Success or Failure

If the team does not have a balance of roles, this can be detected by software testing and a compensation strategy can be devised. Belbin's findings show the following:

- ✓ It is necessary to understand a person's preferred team roles. (There are usually more than one.) These are the roles for which that person has natural and learned skills as well as an aptitude.
- ✓ The structure and composition of a team need to be carefully considered.
- ✓ The team must consciously use the different strengths of its members and manage their weaknesses.
- ✓ A team that does not have a balance of these roles or a plan to address the team deficiencies can be predicted to fail.

## Applying Belbin's Research

The process of evaluating team strengths and weaknesses has been made practical and inexpensive by software that automates the process. Using that software, you can ...

- ✓ Determine an individual's preferred role, as perceived by both the individual and his or her teammates.
- ✓ Evaluate team dynamics, suggesting who should fill which role.

## Applying Belbin's Research

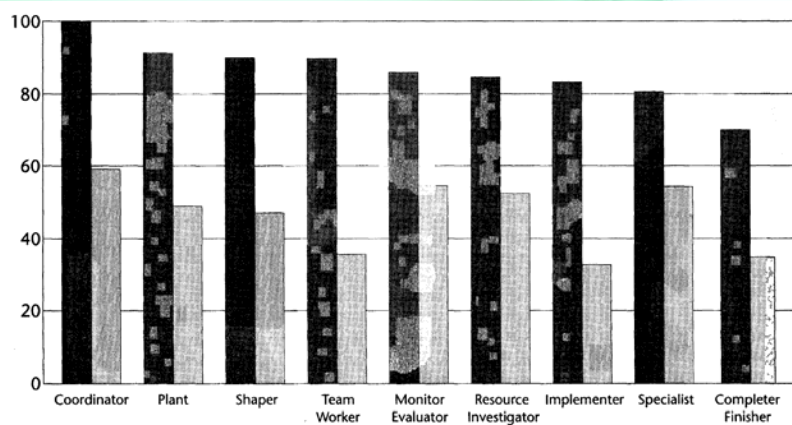


Figure 9-1. Team role combinations report

## Applying Belbin's Research

The preceding figure shows a sample preferred roles report from one team. Each of the roles is represented by a bar. The bar on the left represents the individual with the highest score; the bar on the right represents the average score of the whole team.

This team shows pretty good balance. However, it shows a much higher average on Monitor Evaluator than in Team Worker and is just average as Shaper. The report will warn that this team will be prone to “paralysis by analysis” and make specific recommendations by person on who should be empowered as a Shaper, etc.

A preferred roles chart helps a team to understand where it is strong or weak and where specific individuals can contribute. For example, where an individual score is much greater than the team on a particular role, the team will have a better opportunity for success by leaving that activity to the individual with the strength.

## Applying Belbin's Research

After a team is evaluated, you'll be able to decide what types of corrective actions, if any, would help improve the team's chances of success. In some cases, you'll find that the team composition is off; in other cases, you'll find that a person's self-perception differs markedly from the perception by teammates.

Another strategy would be for certain team members to “flex” into roles that may not be their preferred roles. Belbin identifies three levels of aptitude for a role: *preferred*, *manageable*, and *least preferred*. It is possible for an individual to assume a role that falls into the manageable category, although this will result in a certain amount of stress on that team member. It is not advisable to have an individual fill a role that falls into the least preferred category—it is highly likely that the team member will under-perform in this role.



## The Importance of Team Leadership

Next to understanding how to structure a team based on preferred roles, **the biggest determinant of team success is linked to the team leadership skills** (especially productive problem solving and team facilitation) exhibited by the team's black belt. Organizations experienced in the implementation of Six Sigma programs, ITT Industries and Starwood Hotels & Resorts, have found that the team leadership component of Six Sigma training is capable of driving higher levels of performance by

- ✓ Increasing trust.
- ✓ Facilitating the sharing of knowledge.
- ✓ Generating synergistic solutions and innovation through productive problem solving and high-performance teamwork.

## The Importance of Team Leadership



Figure 9-2. Team leadership and team dynamics

## The Importance of Team Leadership

### Beware of Dictatorial Black Belts

Most leadership training includes exercises that challenge black belts to reconsider their own ideas of the problem and its solution in the light of input from the team. The development of inquiry skills (in which black belts learn to first understand others' positions) rather than solely advocacy of their own positions is a key success factor in team performance. No one person, not the black belt or the process owner, can know all the issues that may affect cost, quality, or delivery time. Leadership training creates the awareness of the power of collaborative, inclusive thinking—which is a powerful latent source of energy within the team—and tests the black belt's ability to subordinate his or her original thesis to a new thesis based on team input. You can expect that about 20% of your black belts will need remediation and about 5% will, despite their intellect, be unqualified to lead teams. There is a vast body of research that supports this conclusion.

## Implications for Black Belt Training

Team and leadership skills should be provided to all your black belts and champions. For example:

- ✓ Use the Belbin technique or other instruments to identify team members' skills and aptitudes. Incorporate the lessons into how you structure teams, making sure that the roles necessary to your team's success are filled.
- ✓ Include a one-week Increasing Leadership Effectiveness (ILE) workshop in black belt training and encourage participative decision making. These courses explain the impact of employing various management and social styles in managing teams and allow participants to develop their skills in a workshop environment.

## Implications for Black Belt Training

- ✓ Make your workshops interactive so the potential team leaders can develop inquiry skills (where they seek to understand some- one else) over advocacy (where they seek to be understood). Good inquiry skills can draw out the best ideas of the team rather than constrict solutions to those already formed in the team leader's mind. Such skills prepare black belts to address complex situations such as identifying opportunities, involving process owners in projects, and successfully managing their sphere of influence to ensure project completion.
- ✓ Train participants to handle various forms of defensiveness. For example, people need to express their frustrations before they can deal more objectively with issues that are influenced by defensive routines—yet many leaders have a very low tolerance for what they perceive as whining. Experienced facilitators intuitively understand this fact and suppress any intolerance they have in favor of allowing team members to vent.

## Implications for Black Belt Training

- ✓ Monitor the effectiveness of black belts as team leaders. In the author's experience, about 20% of the trainees require additional training or coaching beyond the one week ILE course, and about 5% never succeed in the role.

Remember: Your champions and black belts will become the catalysts of your culture change, bringing new ideas to their teams and creating a positive chain reaction of improvement in your organization. These skills will enable them to maintain the momentum for improvement as they assume leadership roles in the future.

## Implications for Black Belt Training

As we approach Black Belt certification, we have reflected on the training we have received. It is our belief that the week of ILE Training was the strongest package we attended. In our opinion Value Based Six Sigma relies on a structured methodology, detailed statistics, but most of all the ability to lead, facilitate, and create synergy within a cross-functional team.

ILE has helped with the following:

- ✓ Creation of self-awareness and the value of personal feedback.
- ✓ Understanding of social and behavioral styles.
- ✓ Facilitation skills.
- ✓ Development of effective meeting tools/techniques.
- ✓ Decision making.

Peter Bounsall and Mark Bracey, ITT Jabsco (UK)

## References

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