Leadership Best Practices for Scientists and Engineers

The results of a recent global study of 1,814 Scientists and Engineers in management roles identify key leadership practices tied to effectiveness.

Effective Practices for Scientists and Engineers

Although scientists and engineers play a vital role in success and growth of organizations, little actual empirical research on the characteristics of effective technical professionals actually exists.

Management Research Group®, a global leader in assessment-based individual and organizational development, has been studying leadership empirically for over four decades. In a recent global study of leadership effectiveness among scientists and engineers in a wide array of industries we found that a number of leadership behaviors reliably distinguish superior leaders (the superstars) from less effective ones.

The Study

1,814 scientists and engineers from over 500 organizations were included in the current study. Each leader completed MRG's LEA 360™ leadership assessment and development tool that measures 22 dimensions of leadership practice (what leaders actually do) and 22 dimensions of leadership effectiveness (how effectively they're perceived by their bosses, peers, and direct reports).

A number of key practices were identified that significantly predicted higher leadership effectiveness ratings.

The Findings

In order of importance (starting with the <u>most</u> important) superior technical leaders:

> Analyze the future impact of their decisions and understand the impact of these decisions throughout the organization.

> Clearly express their thoughts and ideas, keeping others informed of their expectations.

> Energize others, getting them enthusiastic and involved.

> Are comfortable being the one in charge and seek out opportunities to be influential. They know and accept the fact that they will be under constant scrutiny.

> Are willing to seek input from others, rather than believing that they are the only one with answers to questions.

> Maintain in-depth knowledge and expertise in their area.

> Set deadlines and monitor the progress of activities to ensure success.

> Challenge the perceptions and mandates of superiors.

Study Details

Participants were selected from MRG's extensive global databases of leadership information. Each was evaluated during ongoing developmental programs, by their bosses, peers, and direct reports. Participant breakdown by geographic region, management level, and industry are presented below.

Region

Management Level

Business
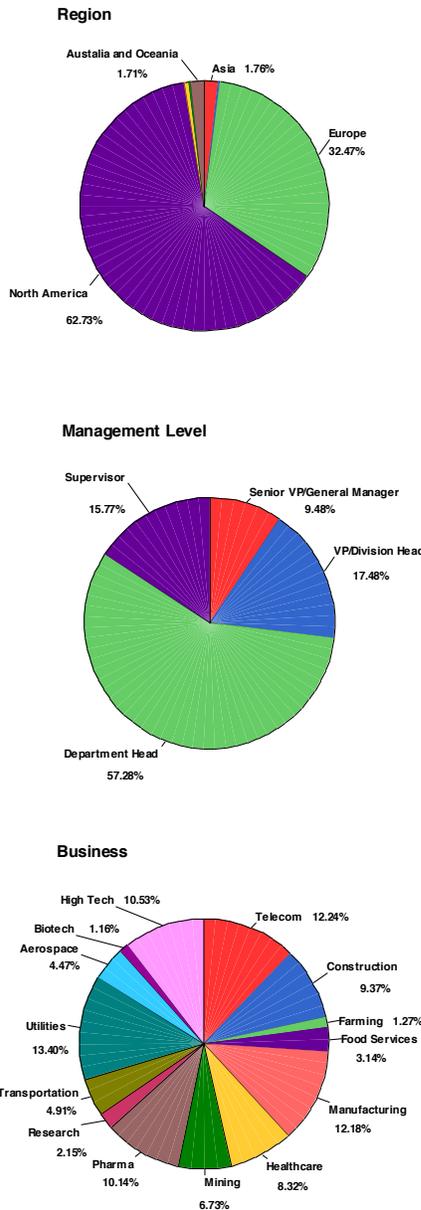
A weighted mean procedure was employed to combine the rating of bosses, peers, and direct reports for each participant. An overall measure of leadership effectiveness (based on the summation of 22 effectiveness scales) was regressed on ratings of 22 common leadership practices. As a set, the 22 practices accounted for 53% of the individual variation in overall effectiveness.

Relative importance measures were calculated for each predictor and are displayed in the figure below. Bars indicate the percent of the variation accounted for by each predictor. Light bars indicate an inverse relationship (i.e., higher levels of the practice were associated with poorer effectiveness ratings.

Leadership Best Practices

Relative Importance of Behaviors for Effectiveness
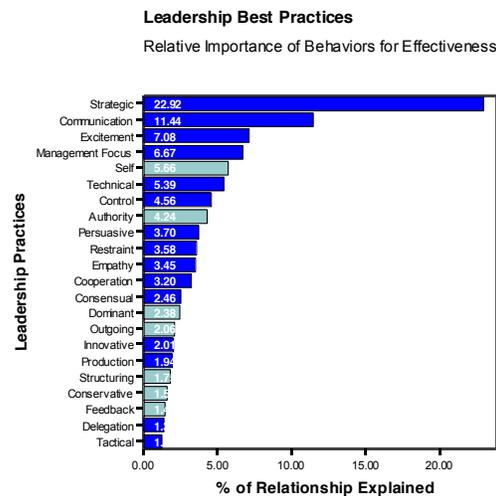
Total Percent of Effectiveness Explained = 53%

Using these Results

Understanding the relative importance of leadership practices for achieving success in technical management roles is a vital first step in planning developmental programs. For information on applying this research to executive coaching, succession planning and selection, please contact MRG or an MRG Network affiliate.

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