

## **Abstract**

Two studies are conducted to provide an understanding of effective R&D project leadership. The first study, adopting a qualitative method, explores the attributes and behaviors of effective R&D project leaders. Thirty successful scientists from 20 publicly funded R&D laboratories in India were interviewed. Thematic analysis of the responses of the participants reveals two themes: attributes and behaviors. The attributes identified are: problem-solving skills, cognitive complexity, cognitive flexibility, divergent thinking, interpersonal skills, entrepreneurial skills, diversity management skills, grit, humility, and networking. The leader behaviors identified are: task-, relations-, and change-oriented. Findings offer an integrated snapshot for understanding project leaders' effectiveness. The second study, adopting a quantitative approach, examines the relative impact of leaders' cognitive and interpersonal attributes, grit, and humility on leader performance, leader acceptance, and team performance via leaders' task-, relations-, and change-oriented behaviors. Data were collected from 280 project leaders and two team members working under each project leader from 30 publicly funded R&D laboratories in India. Results reveal that cognitive attributes and grit positively relate to leader performance, and interpersonal attributes and humility positively relate to leader acceptance. Task-oriented behavior positively relates to all dimensions of leader effectiveness, relations-oriented behavior to leader acceptance and team performance, and change-oriented behavior to leader acceptance. Cognitive attributes via task-oriented behavior affect all leader effectiveness dimensions. Creative problem-solving, divergent thinking, and humility via change-oriented behavior affect leader acceptance. Interpersonal attributes and humility via relations-oriented behavior affect leader acceptance and team performance. Specific attributes via specific behaviors are found to affect specific leader effectiveness dimensions. Implications are discussed for research and practice.

*Keywords:* R&D; project leaders; attributes; behaviors; leader effectiveness