HOGAN
RESEARCH DIVISION

ROI Whitepaper

Transportation Industry Summary

Overview

About Hogan

Hogan has decades of experience providing cutting-edge assessment and consulting solutions. Our assessments can be used for a variety of talent management initiatives, from pre-hire selection to executive-level development. Our tools:

- Predict job performance – hire better people by measuring basic employability, work style, safety consciousness, and organizational fit.

- Evaluate career derailers – identify and mitigate performance risks that can degrade leadership success, erode relationships, and damage professional reputation.

- Identify potential – find and develop your organization's next generation of top talent.

- Develop leaders – leverage the strategic self-awareness gained through Hogan's assessment process with executive development and coaching.

- Pair with 360° data and other performance indices – reveal the underlying characteristics and values that drive the behaviors identified in the 360° process. In progressive development programs, 360s provide the what; Hogan provides the why.

Our Tools

Hogan's assessment offerings measure normal personality characteristics, career derailment risks, core value drivers, and cognitive style. Hogan's selection and development solutions are driven by a targeted mix of the following assessments:

- HPI – the Hogan Personality Inventory measures normal personality characteristics necessary for job fit, effective relationships, and career success.

- HDS – the Hogan Development Survey is the industry standard for measuring career-derailing personality characteristics.

- MVPI – the Motives, Values, Preferences Inventory reveals a person's core values, goals, and interests, which impact organizational fit and indicate environments in which individuals will be motivated and satisfied.

- HBRI – the Hogan Business Reasoning Inventory describes a person's ability to evaluate sets of data, make decisions, solve problems, and avoid repeating past mistakes.

The Hogan Archive

Hogan maintains the industry's largest and most well-developed archive of original research, affording access to hundreds of real-world validity studies demonstrating the extent to which our assessments predict performance.

- Our research department, composed of masters- and doctorate-level I-O psychologists, regularly conducts return-on-investment (ROI) studies establishing the impact of personality-based selection and development activities on real-world performance outcomes.

- The Hogan archive contains case studies demonstrating ROI across virtually every industry for nearly all job titles listed in the U.S. Department of Labor's Occupational Information Network (O*NET).

- Performance data are available for more than 375 jobs ranging from Clerk to CEO, including transportation-related jobs such as truck drivers, mechanics and pilots.

Industry Background

In the early 1980s, Hogan worked extensively in the Transportation sector – in fact, 5 of the first 10 studies in the Hogan archive evaluated long-haul drivers, mechanics, and terminal managers for a national trucking company. Over the years, numerous transportation companies have employed Hogan as a core assessment for selecting and developing employees across a variety of job types, including freight handlers, claims adjusters, flight attendants, and train dispatchers. In addition, Hogan has worked with (a) city governments to decrease bus driver accidents, (b) airports to enhance public safety, (c) airlines to reduce pilot turnover, and (d) trucking companies to minimize driver citations.

Hogan's archive now contains over 1,000 research studies with 150 studies focused on the Transportation sector. We have categorized occupations that share common underlying characteristics into broad categories that allow us to examine the utility of our assessments in measuring these shared competencies. Hogan classified these Transportation jobs into one of our seven job families, as described in the table below.

Hogan Job Family	Definition
Managers & Executives	Employees assigned to positions of administrative or managerial authority over the human, physical, and financial resources of the organization.
Professionals	Employees with little legitimate authority, but high status within the organization because of the knowledge and/or skills they possess. These employees are usually experts with a broad educational background and rely primarily on their knowledge and intellect to perform their duties.
Technicians & Specialists	Employees who rely on the application of highly specific knowledge in skilled manipulation (e.g., operation, repair, cleaning, and/or preparation) of specialized technology, tools, and/or machinery.
Sales & Customer Support	Employees who use appropriate interpersonal style and communication techniques to establish relationships, sell products or services that fulfill customers' needs, and provide courteous and helpful service to customers after the sale.
Operations & Trades	Employees who are craft workers (skilled), operatives (semi-skilled), and laborers (unskilled) whose job knowledge and skills are primarily gained through on-the-job training and experience; little prerequisite knowledge or skill is needed.
Service & Support	Employees that perform protective services for individuals and communities (e.g., police, fire fighters, guards) and non-protective services for individuals that require little to no formal training but a high degree of interaction with people (e.g., food service, recreation and amusement).
Administrative & Clerical	Employees who plan, direct, or coordinate supportive services of an organization. These employees engage in variety of non-manual activities, such as: recordkeeping, mail distribution, handling information requests, telephone operator/receptionist, preparing correspondence, arranging conference calls, scheduling meetings, and other office support services.

Competency Studies

Organizations often use competency models to provide a common framework for aligning human capital initiatives such as recruitment, selection, training, and promotion. Hogan offers a variety of competency-related solutions that allow organizations to incorporate personality assessments into these programs.

Each approach begins by mapping client competencies to those from the Hogan Competency Model. We then rely on synthetic and content validity evidence to align assessment scales from the HPI, HDS, and MVPI with each competency. This helps us determine which personality characteristics drive performance related to the specific competency. As seen in the table below, two recent clients have used our tools to predict competencies specific to their organization:

Sector	Job Title	Study #	Competency	Key Scales
Energy	Senior Leaders	806	Customer Service	HPI Adjustment, HPI Interpersonal Sensitivity, HDS Reserved, & MVPI Altruistic
Logistics	Sales Representative	658	Works with Others	HPI Sociability, MVPI Affiliation, & MVPI Hedonism

Validity Generalization Studies

Given the vast number of local validation studies stored in the Hogan archive, we can use these criterion-related validity studies as the foundation for generalizing validity. Validity generalization methods are supported by a large body of empirical literature, and we use the following three methods in our research design:

- Meta-Analytic Validity Generalization – which uses meta-analytic procedures for determining the relationship between the Hogan scales and job performance at a broad, job family level.

- Transportability of Validity – which involves using validity evidence from one or more criterion-related validity study found to be similar to the target job under study.

- Synthetic Validity – which establishes the validity of a set of measures for predicting specific job components (i.e., competencies) considered important for a job.

As seen in the following table, multiple clients have used our validity generalization approach to predict success in transportation jobs.

Job Type	Job Title (Study #)
Airline Personnel	Air Rescue Helicopter Pilots (951), Pilots (940, 488, 454), Flight Attendants (461), Flight Simulator Technicians (302), Public Safety Officers (347)
Customer Service	Customer Facing Roles (867), Service Advisors (623), Concierge (621), Customer Service Representatives (405)
Drivers	Truck Drivers (411), Semi-Truck Drivers (331), Cement Truck Drivers (306)
Management	Airport Station Managers (624), Marketing Managers (585), Managers (473.1, 421, 409), Directors (473), Financial Managers (415), Field Supervisors (414), Leaders (408), Supervisors (390)
Rail Services	Locomotive Conductors (255.1, 456, 654, 915), Locomotive Engineers (916, 653, 283, 255), Rail Traffic Controllers (917), Train Dispatchers (923), Suburban Train Drivers (576)
Sales	Sales Agents (935), Reservation Sales Agents (989), Customer-Facing Sales (748), Global/Enterprise Account Managers (407), Sales Consultants (622), Account Managers (334)

Criterion-Related Validity Studies

Hogan conducts criterion-related validity studies using a three-step process: (1) collecting Hogan assessment data, (2) collecting job performance data (i.e., supervisor performance ratings and objective performance metrics), and (3) conducting analyses examining the relationships between the assessment and performance data.

When conducting criterion-related validity research, we find it useful to demonstrate what a selection system based on the Hogan profile means in practical terms, or ROI. The following ROI case studies were excerpted from the Hogan archive to show how using our assessments translates into measurable results when companies hire candidates into transportation-related jobs. More detailed information for each study can be found in the job type hyperlinks below.

Managers & Executives

- Customer Service Managers (495) – A global airline used the HPI, HDS, and MVPI to hire Customer Service Managers.
    - Hogan demonstrated that the best Customer Service Managers are self-confident and driven (HPI Ambition, MVPI Power), perceptive and tactful (HPI Interpersonal Sensitivity), task-focused (HDS Excitable), and enjoy working as part of a team (HDS Reserved, MVPI Affiliation).
    - Candidates who fit the Hogan profile were 10 times more likely to be a high performer.

- [Marketing Directors](#) (749) - A national shipping, supply chain, and logistics company used the HBRI to select Marketing Directors.
    - Hogan revealed that Marketing Directors who scored high on the HBRI are strong problem-solvers and can quickly and effectively make business-related decisions.
    - Candidates who fit the Hogan profile made greater managerial contributions, had stronger critical thinking skills, and higher overall performance.
- [Leaders](#) (835-838) - A global logistics company used the HPI, HDS, and MVPI to hire Station Managers, Directors, Vice Presidents (VP), and Senior Vice Presidents (SVP).
    - Hogan showed that successful Leaders are results-oriented and driven (HPI Ambition) and skilled at implementing solutions (HPI Inquisitive). Also, strong performers value achievement and competition (MVPI Power) and strive for a balance between analysis and action (MVPI Science).
    - Managers who fit the Hogan profiles were 7 times more likely to be a strong performer; VP/SVPs who met the Hogan profile were 5 times more likely to be a high performer.

Professionals

- [Marketing Professionals](#) (77) –An international provider of rail, container shipping, and logistics services used the HPI and MVPI to hire Marketing Directors, Market Managers, and Market Analysts.
    - Hogan demonstrated that successful Marketing Professionals are driven (HPI Ambition), perceptive and tactful (HPI Interpersonal Sensitivity), and conscientious (HPI Prudence). In addition, strong performers value achievement (MVPI Power) and stability (MVPI Security).
    - Candidates who fit the profile were 4 times more likely to be rated as a high performer.
- [Claims Adjusters](#) (139) – A global moving and storage company used the HPI to select Claims Adjusters.
    - Hogan found that high performing Claims Adjusters remain composed under stress (HPI Adjustment), take initiative (HPI Ambition), encourage cooperation (HPI Interpersonal Sensitivity), and are detail oriented (HPI Prudence).
    - Candidates who fit the profile received higher performance rankings by their supervisors.

Technicians & Specialists

- [Locomotive Engineers](#) (185) - A national railroad service used the HPI to screen Locomotive Engineers.
    - Hogan demonstrated that that successful Locomotive Engineers act calm and even-tempered (HPI Adjustment), are good listeners (HPI Sociability), appear dependable and organized (HPI Prudence), and stay up to date on technical trends (HPI Learning Approach).
    - Candidates who met the profile were more likely to be rated higher in core training dimensions (e.g., good judgment) necessary for Locomotive Engineer success.

- Mechanics (241) – A national parcel transportation company used the HPI to hire Mechanics.
  - Hogan showed that the best Mechanics are calm under stress and pressure (HPI Adjustment), remain task-focused (HPI Sociability), and are dependable and conscientious (HPI Prudence).
  - Candidates who fit the profile received higher performance ratings from their supervisors.
- Pilots (413) – A regional airline used the HPI and HDS to hire Pilots.
  - Hogan revealed that high performing Pilots remain calm under pressure (HPI Adjustment), are continuous learners (HPI Learning Approach), stay confident during times of stress (HDS Cautious), and make good decisions and think before they act (HDS Mischievous).
  - Candidates who fit the profile were 4 times more likely to be a strong performer; pilots not fitting the profile were 2 times more likely to have been terminated three years later.

Sales & Customer Support

- Customer Service Representatives (102) – A national propane delivery provider used the HPI to select Customer Service Representatives.
  - Hogan revealed that high performing Customer Service Representatives are even-tempered (HPI Adjustment), goal-oriented (HPI Ambition), enjoy social interaction (HPI Sociability), and are concerned with building job-related knowledge (HPI Learning Approach).
  - Candidates who fit the Hogan profile were nearly twice as likely to be rated as a high performer.
- Flight Attendants (511) – A global airline company used the HPI to hire Flight Attendants.
  - Hogan demonstrated that the best Flight Attendants are calm under pressure (HPI Adjustment), perceptive and tactful (HPI Interpersonal Sensitivity), rule-abiding (HPI Prudence), and concerned with building job-related knowledge (HPI Learning Approach).
  - Flight Attendants who met this profile were over 2 times more likely to be a high performer.
- Sales Representatives (611) – A global logistics provider of truck, rail, ocean, and air transportation used the HPI to select Sales Representatives.
  - Hogan showed that successful Sales Representatives are resilient and steady under pressure (HPI Adjustment), self-confident (HPI Ambition), good with people (HPI Sociability), and remain up to date on business and technical trends (HPI Learning Approach).
  - Candidates who fit the profile were more than twice as likely to be a strong performer.

Operations & Trades

- Truck Drivers (94) – A national trucking company used the Hogan Safety report to examine on-the-job injuries for Truck Drivers.
    - Hogan demonstrated that Truck Drivers who tend to ignore company policies (Compliant) and lose their tempers (Cheerful) were more likely to have on-the-job injuries.
    - Using the Hogan Safety report to hire only those in the above average safety group would have resulted in a 52% injury reduction.

- Truck Drivers (104) – A national freight transportation company used the Hogan Safety report to examine the occurrence of traffic citations for Truck Drivers.
    - Hogan showed that the best Truck Drivers are more alert and attentive (Vigilant) and listen to advice (Trainable).
    - Truck Drivers with low Hogan Safety scores received more traffic citations.

- Dockworkers (130) – An overnight package transportation company used the HPI to hire Dockworkers.
    - Hogan revealed that successful Dockworkers are calm and even-tempered (HPI Adjustment), goal-oriented (HPI Ambition), and organized and dependable (HPI Prudence).
    - Candidates who met the profile showed higher levels of attendance, initiative, consistency, thoroughness, teamwork, and communication.

- Bus Drivers (203) – A large metropolitan transit authority used the HPI to select Bus Drivers.
    - Hogan showed that the best Bus Drivers are even-tempered (HPI Adjustment), perceptive (HPI Interpersonal Sensitivity), and conscientious (HPI Prudence).
    - Individuals who fit the profile showed a 25% decrease in total number of worker compensation claims over 4 years.

- Truck Drivers (209) – A national freight company used the HPI to hire Truck Drivers.
    - Hogan found that successful Truck Drivers are friendly and warm (HPI Interpersonal Sensitivity), appear dependable and easy to supervise (HPI Prudence), and are calm and self-confident (HPI Adjustment).
    - Candidates who met the profile were 1.5 times more likely to be rated as a high performer.

- Truck Drivers (311) – A global provider of supply chain and consulting services used the HPI to select Truck Drivers.
    - Hogan revealed that high performing Truck Drivers are resilient and self-confident (HPI Adjustment), driven and achievement-oriented (HPI Ambition), and dependable and organized (HPI Prudence).
    - Candidates who met the profile were nearly 4 times less likely to be involved in an accident and 1.3 times less likely to suffer an on the job injury.

- Transport Drivers (627) – An international trucking company used the HPI to hire Transport Drivers.
  - Hogan revealed that poor-performing Transport Drivers are tense under pressure (HPI Adjustment), careless with respect to policies and procedures (HPI Prudence), unassertive and uninterested in advancement (HPI Ambition), and harsh and insensitive towards others (HPI Interpersonal Sensitivity).
  - Candidates who received a Low Fit score on the profile were more than 3 times as likely to have an accident.

- Long Haul Drivers (804) – A global transportation company used the Hogan Advantage report to hire Long Haul Drivers.
  - Hogan found that high performing Long Haul Drivers follow established rules and procedures (Dependability), can relate to customers in a friendly, helpful manner (Customer Focus) and handle stress without becoming upset (Composure).
  - Dependable Long Haul Drivers were 2.5 times more likely to be rated as a high performer and Long Haul Drivers with a strong Customer Focus were almost 3 times as likely to be rated as a high performer.

Service & Support

- Reservation Sales Representatives (106) – A global car rental company used the HPI to hire Reservation Sales Representatives.
  - Research revealed that effective Reservation Sales Representatives were detail-oriented and conscientious (HPI Prudence), strong problem solvers (HPI Inquisitive), and interested in learning and staying up to date on technical trends (HPI Learning Approach).
  - Candidates who fit the profile spent less time on calls and reduced time between each call.
- Telephone Sales Representatives (263) – A national automotive rental company used the HPI to hire Telephone Sales Representatives.
  - Hogan demonstrated that high performing Telephone Sales Representatives are calm under stress and pressure (HPI Adjustment), appear dependable and conscientious (HPI Prudence), and are considerate and easy going (HPI Interpersonal Sensitivity).
  - Candidates who fit the profile earned higher supervisory performance ratings.

Administrative & Clerical

- Clerical Employees (114) – A national logistics and supply chain company used the HPI to select Clerical employees.
  - Hogan found that the best Clerical workers are composed under pressure (HPI Adjustment), encourage cooperation (HPI Interpersonal Sensitivity), pay attention to details (HPI Prudence), and remain up-to-date on industry trends (HPI Learning Approach).
  - Candidates who met the profile were 3 times more likely to be identified as a high performer.

- [International Relocation Consultants and Assistants](#) (125) – An international moving and storage company used the HPI to hire International Relocation Consultants and Assistants.
    - Hogan revealed that successful International Relocation Consultants and Assistants are composed under stress and pressure (HPI Adjustment), take initiative (HPI Ambition), are dependable (HPI Prudence), and value continuous learning (HPI Learning Approach).
    - Candidates who met the profile were nearly 2 times more likely to be identified as a strong performer.

- [Credit/Collections Analysts](#) (472) – An international carrier, brokerage, and warehousing services company used the HPI and MVPI to hire Credit/Collections Analysts.
    - Hogan showed that the best Credit/Collections Analysts are dependable (HPI Prudence), stay up to date on industry trends (HPI Learning Approach), and want to make an impact (MVPI Power).
    - Candidates who met the profile were 6 times more likely to be rated as a high performer by their supervisor.

Additional Validity Studies

In addition to the ones described above, the Hogan Archive contains several other criterion-related validity studies within the Transportation sector. These jobs range from transportation supervisors to freight handlers. As seen in the table below, this sample of job titles further demonstrates Hogan's history and experience within the Transportation industry.

Job Title (Study #)	Job Family
Administrative (114.1)	Administrative and Clerical
Clerical Employees (37, 43, 114)	Administrative and Clerical
Credit/Collections Agent (472)	Administrative and Clerical
International Relocation Assistants (125)	Administrative and Clerical
Coordinators, Terminal and Regional Managers (10)	Managers and Executives
Director (837)	Managers and Executives
Management Trainee (458.4)	Managers and Executives
Manager (114.2, 836)	Managers and Executives
Specialist & Volume Business Managers (157)	Managers and Executives
Supervisors (155)	Managers and Executives
Terminal Managers (200)	Managers and Executives
Vice President/Senior Vice President (838)	Managers and Executives
Bus Operators (206)	Operations and Trades
City Drivers (124.2)	Operations and Trades
Conductors, Switchmen, Trainmen (235)	Operations and Trades

Job Title (Study #)	Job Family (continued)
Dock Worker (458.2, 552)	Operations and Trades
Drivers (5, 16, 23, 58, 64, 68, 76, 90, 91, 96, 110, 111, 129, 140, 148, 162.1, 181, 242, 553)	Operations and Trades
Freight Handlers (112)	Operations and Trades
Line-Haul Drivers (11, 458.1)	Operations and Trades
Logistics Personnel (377)	Operations and Trades
Owner/Operator (35)	Operations and Trades
Pick-up & Delivery Drivers (15, 458)	Operations and Trades
Regional Drivers (280)	Operations and Trades
Road Drivers & Jockey (124)	Operations and Trades
Account Manager (458.3)	Sales and Customer Support
Customer Operations (276)	Sales and Customer Support
Customer Service Representatives (91.1, 162, 554)	Sales and Customer Support
Deliver/Install Service (102.1)	Sales and Customer Support
International Relocation Consultants (125.1)	Sales and Customer Support
Sales Representative (7, 73, 555)	Sales and Customer Support
Service Operation Coordinators (70, 123)	Sales and Customer Support
Telemarketers (88, 135)	Sales and Customer Support
Cabin Attendants (92)	Service and Support
Locomotive Engineer Trainees (252)	Technicians and Specialists
Mechanics (8, 117, 124.1)	Technicians and Specialists