



TALENTMINE INDEX (TMI) RESEARCH WHITE PAPER SUMMARY

I. APPROACH - STUDY SUCCESS

TalentMine® has built its business around understanding and measuring the consistent patterns of thought, feeling and behavior that define the success of individuals within given jobs and cultures. These patterns that contribute to the success of an individual within a given position are defined as Talents for that position. TalentMine's research studies have targeted associates within five core job families in leading service organizations. TalentMine scientists have developed, validated and cross-validated success profiles for each job family through ongoing qualitative and quantitative research with thousands of high performing associates across America.

INSTRUMENT DESIGN

Qualitative research, including focus groups and discovery interviews, helped identify the consistent patterns that have served as the baseline for development of the TalentMine success profiles. Performance-based success models have been developed and refined for measuring an engaged work culture and for individuals in the following job families: manager (frontline manager), professional, sales, service, and team associate. Each of the Standard TalentMine assessments was developed by Dr. Courtney McCashland. Dr. McCashland brings more than 20 years of experience as a test developer, during which time she analyzed more than 1500 interviews and conducted more than 200 focus groups with top performing associates across Fortune 100 companies. Throughout her career, Dr. McCashland has found that there exist "Universal Truths" about the needs and tendencies of people that transcend departments, industries, demographic profiles and geographies. Among these "Universal Truths" are Six High Impact Talents that were found to consistently characterize highly successful people across levels of endeavor: Achievement, Team, Problem Solver, Responsibility, Structure and Direction (see Appendix A for Talent Dimension Definitions).

HISTORY

In 1998, an academic team of research experts joined to evaluate a doctoral dissertation that measured the relationships among the elements of engaged employee cultures that consistently contribute to high performance. As part of her doctoral program at the University of Southern California, Dr. Courtney McCashland worked under the advisement of Dr. Dennis Hocevar of the University of Southern California and Dr. Phillip Stone of Harvard to build and validate a structural model of the direct and indirect links between manager talent, employee engagement, customer satisfaction, customer retention and unit profitability. The model was heavily influenced by historical research conducted by Haskett, Sasser, Schlesinger and Schmidt.

Dr. McCashland's study found that 40 percent of the variance in customer retention and unit profitability is accounted for by the relationship talent of the unit supervisor. The results of this research model were initially validated within the healthcare industry, and cross-validated in the financial services industry. These research findings are consistent with findings reported by The Gallup Organization in Marcus Buckingham's bestseller, *First Break All the Rules*. The learning from the doctoral research prompted the inception of the concept, strategy, research team and measurement system for building a high performing work culture: TalentMine. With the age of the Internet and a void of scientifically validated online tools, Dr. McCashland applied knowledge from her career as a full-time talent consultant to serve as the Chief People Officer of one of the fastest growing financial services companies in America. During this time, Dr. McCashland conducted focus groups with top performers to develop the TalentMine® series of online Assessments and a database of questions to measure the success attributes for target positions in financial services. Concurrent and predictive research over time helped refine the core database, which has been expanded to include research from the study of core positions across leading global and national service providers within healthcare, hospitality, financial services, retail and airline industries.

II. RESEARCH METHOD - QUALITATIVE / QUANTITATIVE

In order to customize and validate the TalentMine® assessments and indexes within target positions and cultures, TalentMine® deploys a standard mixed-method (qualitative/quantitative) research design that follows the methodology recommended by the national leader in research design: Dr. John Creswell.

For the development of the standard TalentMine Indexes (TMI), qualitative research - including focus groups and one-on-one interviews with senior executives - was conducted to understand the core talents needed for success. The input of job experts was also sought through the administration of an online instrument to better understand the demands of each job family, and the culture in which successful candidates would be required to work. In parallel, job incumbent data was collected using a web-delivered questionnaire. These job incumbents were associates in active service with clients of TalentMine®.

The job expert data were combined with job incumbent data in order to conduct quantitative analyses regarding the reliability and concurrent validity of each TMI. The TMI scoring algorithm is unique to the industry in its ability to capture how well an individual's natural talents and preferences match the success profile of a specific job and culture.

III. VALIDATION - CONTENT / CONCURRENT / PREDICTIVE

The data gathered from Pilot research studies were used to assess the psychometric properties of each statement, each dimension, each category and each assessment as a whole. The data were also used to compare associates on a job performance variable and conduct criterion-related analyses to establish concurrent validity. For each index, these criterion-related analyses were completed using Strengths Inventory Total scores and the job performance variable. The job performance variable was a composite of three job performance questions, included as part of the

candidate application, and external performance data when available per position. Different job performance questions were asked of candidates depending on the job family of interest and validated by client records. These were combined with external criterion measures including performance reviews and performance results (i.e. profitability, employee retention, sales production, customer service quality).

CONTENT

TalentMine® conducted content validity analyses using the expert judgment of experienced personnel analysts, who were consulted from within and outside the organization. During the content analyses, each statement was examined to determine whether it was an appropriate measure of the talent dimension hypothesized as essential for success in the specific position. Each statement was also evaluated to determine whether it was conceptually clear, and whether target respondents would be able to understand the wording of the statement. Only statements that met these criteria were included in the pilot questionnaire.

CONCURRENT

As part of the research studies, TalentMine® computed standard psychometric indices and conducted correlational analyses, as well as reliability analyses of the dimensions, categories and total instrument. TalentMine® scientists paid due attention to fairness issues and conducted analyses to ensure that the Strengths Total was developed to be in compliance with the Uniform Guidelines on Employee Selection Procedures (EEOC, OPM, DOJ, DOT, OFCCP, CSC and CCR, 1978), the Principles for the Validation and Use of Personnel Selection Procedures (SIOP, 2003), and the Standards for Educational and Psychological Testing (AERA, APA and NCME, 1999).

PREDICTIVE

In a predictive validity study, objective criteria for success in a specific job are collected in the months and years after people are hired, and correlated with Strengths Total scores obtained at the time of hire. Through a world-class Research and Development Laboratory, TalentMine® is one of the few research firms in North America with the ability to track measures of talent across studies to refine those questions that consistently predict performance and comply with EEO requirements.

TalentMine® has historic data to support that its questions are fair and do not discriminate against protected classes including age, gender and race. All of the TalentMine® Assessments are designed to comply with the Uniform Guidelines on Employee Selection Procedures. Predictive validity research also constitutes the basis for evaluations and/or revisions of TalentMine® Inventories.

IV. TALENTMINE INDEX

The TalentMine Index [TMI] is a single composite score and the best predictive measure of an individual's likelihood to succeed within a given position based upon their responses provided through the TalentMine® Strengths and Interests Inventories. The TalentMine Index is unique in that it captures both the individual's talents for the job as well as the congruence of his/her interests and values with the

culture. Through a single number, the TalentMine Index summarizes an individual's degree of fit with a specific job within a specific culture.

JOB FIT INDEX:

The Job Fit Index results from the appropriate TalentMine® inventory of questions accounts for approximately 70 percent of the TMI composite score. The TalentMine® inventory of questions applied to compute the Job Fit Score varies based upon the Job Family of the target position. During the eight years following this initial research, standard predicting screening assessments and scoring have been subsequently developed for job families by industry for Healthcare, Financial Services and Retail clients.

Below is a summary of the types of positions included in each Job Family.

- Service: call center service, retail service, support, administrative
- Sales: outside sales, inside sales, professional sales
- Professional: technical position, corporate professional, analyst
- Team: associate who works as part of an inter-dependent team
- Manager: managers of people with results accountability for the team

CULTURE FIT INDEX:

The Culture Fit Index captures the degree of congruence between the candidate's work preferences and the existing culture. To create the Culture Fit Index, select job experts complete an online analysis of the current culture. This information is used to compute a Culture Fit Index for every new applicant. The Culture Fit Index results account for approximately 30 percent of the TMI composite score.

TalentMine automatically rank orders all applicants according to the company's customized TMI for the given job and culture. This enables employers to focus their recruiting efforts on high potential applicants.

V. RESULTS BY INDEX

ASSESSMENT RELIABILITY

In classical test theory, reliability refers to consistency. The reliability coefficients shown in Table 1 are Cronbach Alpha Coefficients, and measure internal consistency reliability. These coefficients are all above .90, and indicate that the respondents answered the questions in a consistent manner. If these numbers were much lower, it would suggest that the respondents responded to questions measuring the same construct in an inconsistent manner; that is, when presented with similar stimuli, they sometimes rated themselves high and sometimes low, and did not do so in a systematic way.

The most important psychometric quantity is validity. However, an assessment cannot provide valid results for its intended purposes unless it is a reliable assessment. The internal consistency reliability of all of the TMIs presented in Table 1 are appropriately high and suitable for instruments used in making personnel selection decisions. The high reliability of each index is critical for criterion-related validity, which is addressed in the next section.

TALENTMINE INDEX (TMI) JOB FAMILY	RESULTS		
	NUMBER OF DIMENSIONS	NUMBER OF ITEMS	RELIABILITY
Manager n = 257	14	70	Alpha = .94
Professional n = 2358	10	55	Alpha = .94
Sales n = 116	12	58	Alpha = .93
Service n = 232	10	50	Alpha = .92
Team n = 98	12	70	Alpha = .97

VALIDITY

Validity refers to the accuracy of the inferences that can be drawn from scores produced by an assessment. In order to produce scores that facilitate valid inferences, test validation involves research in three major areas: content, construct and criterion-related validity. As described above, TalentMine® has appropriately addressed all three of these components; the results have been test scores that are accurate and useful for personnel selection purposes.

CRITERION-RELATED VALIDITY

There are two types of criterion-related validity: concurrent validity and predictive validity. When the results of an assessment are used for making personnel selection decisions, the most important single number that speaks to the quality of the assessment for the intended job, is the predictive validity coefficient. In a predictive validity study, objective measures of job performance are collected in the months and years after people are hired, and correlated with assessment scores obtained at the time of hire. Assessments with predictive validities in the range of .30 to .50 have been shown to result in benefits of millions of dollars to the companies that use them (Hunter and Schmidt, 1982).

When personnel selection assessments are developed, it is proper to conduct a concurrent validity study. Such studies enable researchers to identify the questions that work best to produce scores that hiring managers can use to make valid decisions. The results reported in Table 2 are from concurrent validity studies conducted to develop the TMIs. Predictive validity studies will follow as objective measures of job performance are collected in the months and years after people are hired. TalentMine collects ongoing data to track predictive validity results.

TALENTMINE INDEX (TMI) JOB FAMILY	CRITERION-RELATED VALIDITY
Manager	r = .31 n = 215
Professional	r = .42 n = 2163
Sales	r = .53 n = 91
Service	r = .36 n = 219
Team	r = .45 n = 81

VI. IMPLICATIONS

TalentMine® is the only online assessment available today that has been designed and validated to measure an individual's skills, talents and preferences as they match a specific job and culture. Through sophisticated analyses supported by ongoing research, scientists from the TalentMine® team have refined the composite TalentMine Index (TMI), which is efficiently customized for leading employers to capture an individual's likelihood to succeed within target jobs and cultures per organization.

FOCUSED ON JOB AND CULTURE FIT

TalentMine® assists employers in better understanding an applicant's match potential at the onset of the recruiting process. Through the completion of the TalentMine® Inventories, an applicant can be matched and ranked for fit with open job requisitions based upon their skills, talents and preferences for the job and culture. Recruiters can post positions and search the TalentMine® database in order to focus their recruiting efforts on applicants who best match the success profile for the open position.

ACCURATE RESULTS

The reliability and criterion-related validity research that has been conducted on the TalentMine® Inventories supports the accuracy of the TalentMine® measures in assisting human resource professionals in better selecting for success. As compared to other self-report, online assessments, TalentMine's criterion-related validity results consistently outperform industry research and provide valuable information to assist human resource professionals in making better hiring decisions.

EASY IMPLEMENTATION

The TalentMine® Inventories are applied through an ASP model that operates within an open architecture to facilitate data integration with partner companies. This open, .Net platform and XML interface are ideally designed to transfer candidate results to and from existing HRIS and applicant tracking systems.