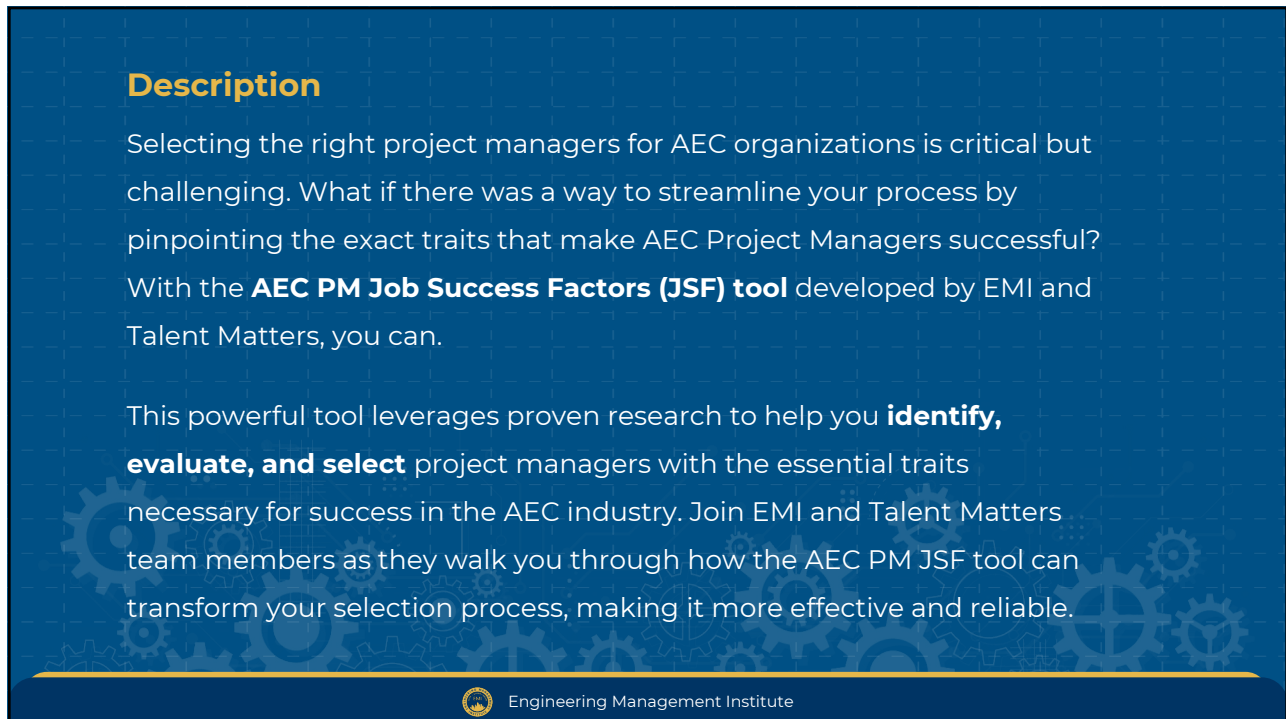


Hire AEC PMs Better
Understanding Essential
Traits for AEC PMs During
the Hiring Process

Engineering Management Institute

1



Description

Selecting the right project managers for AEC organizations is critical but challenging. What if there was a way to streamline your process by pinpointing the exact traits that make AEC Project Managers successful? With the **AEC PM Job Success Factors (JSF) tool** developed by EMI and Talent Matters, you can.

This powerful tool leverages proven research to help you **identify, evaluate, and select** project managers with the essential traits necessary for success in the AEC industry. Join EMI and Talent Matters team members as they walk you through how the AEC PM JSF tool can transform your selection process, making it more effective and reliable.

Engineering Management Institute

2



Session Outline (1 Hour Total)

1. **Introduction** (5 minutes)
2. **The Challenge of Hiring AEC Project Managers**
(10 minutes)
3. **Proven Research & Methodology** (10 minutes)
4. **Essential Traits of Successful AEC Project Managers** (20 minutes)
5. **Applying the Traits in the Hiring Process** (10 minutes)
6. **Q&A Session** (5 minutes)
7. **Closing Remarks & Resources** (5 minutes)



Engineering Management Institute

3

1. Introduction

- Brief overview of the importance of selecting the right AEC Project Managers.
- Introduction of EMI and Talent Matters collaboration.
- Explanation of the research-based approach.
- What participants will learn: *How the JSF tool helps you identify, evaluate, and select for essential AEC PM traits.*



TALENT
M A T T E R S



Engineering Management Institute

4

2. The Challenge of Selecting AEC Project Managers

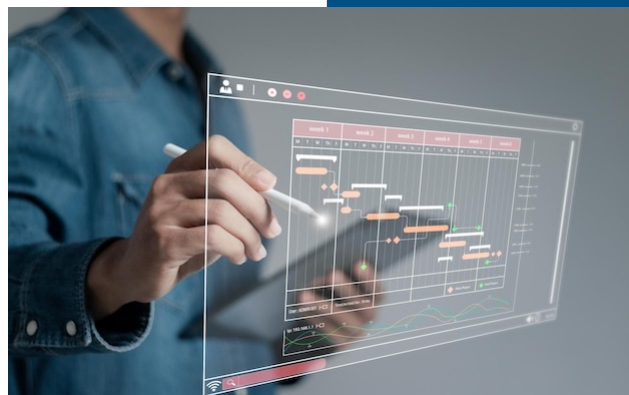


- Common pain points in the selection process.
- The evolving demands and expectations of AEC project management.
- The consequences of poor selection decisions.
- Why traditional selection methods may fall short.



3. Proven Research & Methodology

- Overview of the research conducted.
- Sources of data (e.g., surveys, interviews, case studies).
- Validation process of traits identified.
- How the research applies to the selection process.
- Introduction to how the JSF tool was built based on this research.





ENJOYMENT PERFORMANCE THEORY

HARRISON
assessments

 Engineering Management Institute

7

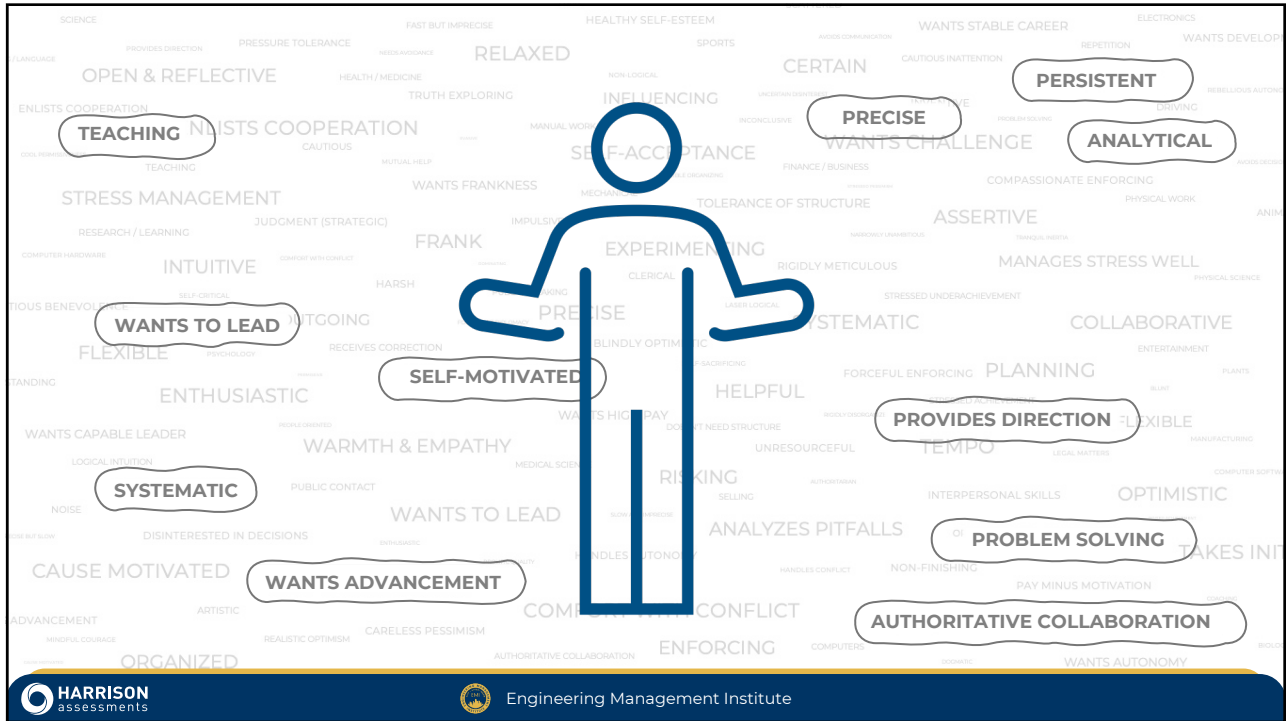


**175
Behaviors
&
Tendencies**

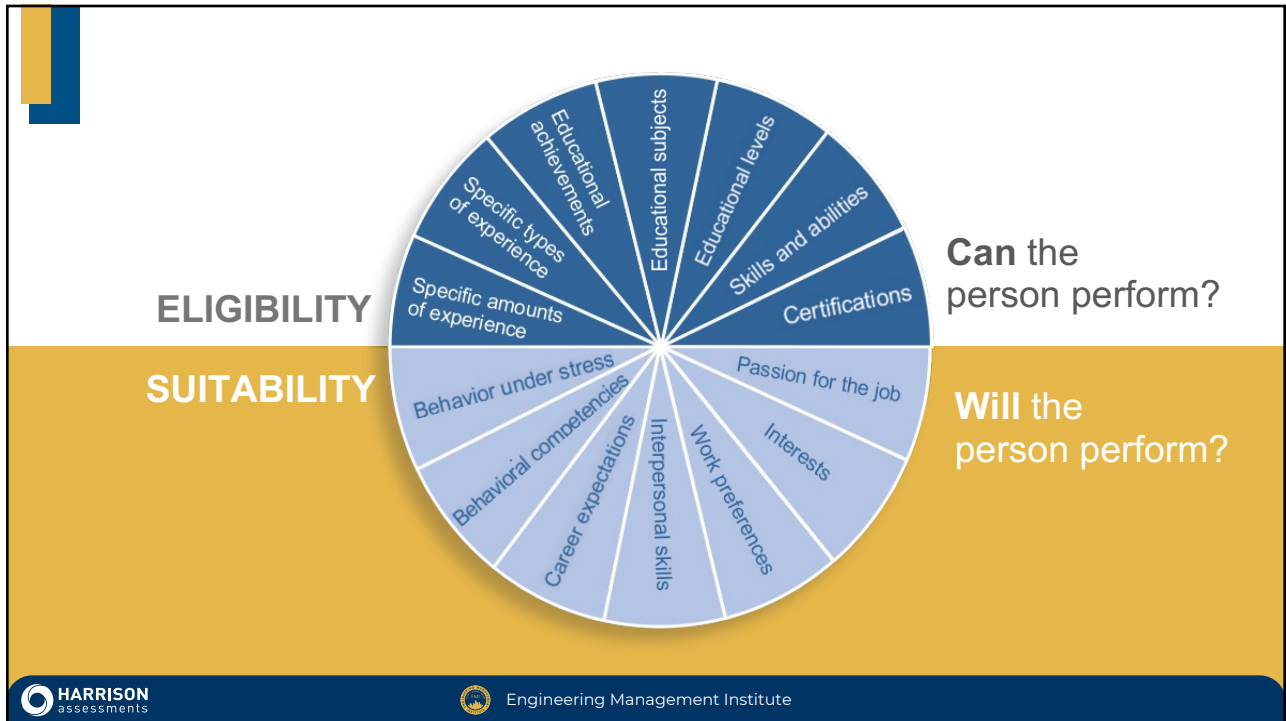
HARRISON
assessments

 Engineering Management Institute

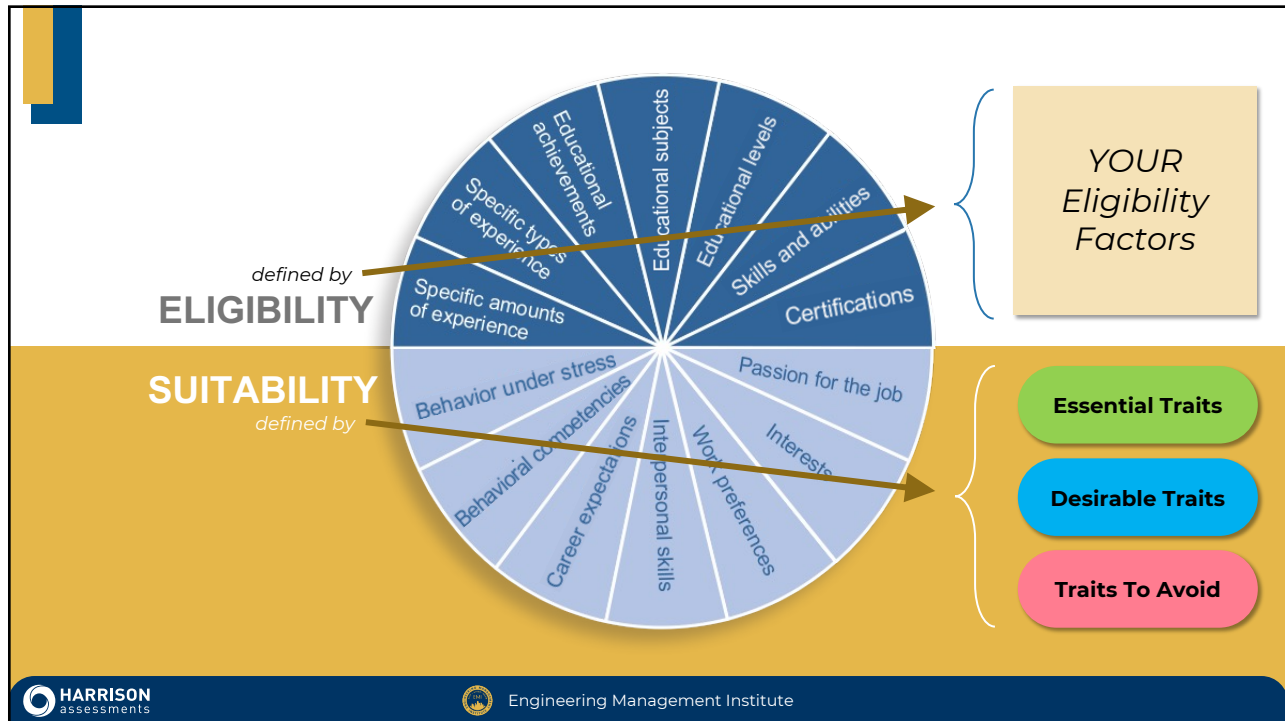
8



9



10



11

Suitability Trait Categories

Connecting **behaviors** to success and satisfaction

- Essential Traits** Traits most important to the role—the stronger the more positive impact on job success.
- Desirable Traits** “Threshold” traits. Less than a moderate amount can hinder performance.
- Traits To Avoid** Negative traits that can derail effective performance.

HARRISON assessments | Engineering Management Institute

12

Connecting behaviors to PM PERFORMANCE

Traits Common To:

Essential Traits	TOP PERFORMERS
Desirable Traits	AVERAGE & TOP PERFORMERS
Traits To Avoid	LOW PERFORMERS

HARRISON assessments | Engineering Management Institute

13

JOB SUCCESS FORMULA

YOUR DETERMINATION OF CANDIDATE **ELIGIBILITY** (~50%)

HARRISON **SUITABILITY SCORE** (~30%)

YOUR **INTERVIEW SUITABILITY SCORE** (~20%)

ELIGIBILITY + SUITABILITY = **OVERALL JOB FIT**

ET, DT, TTA

Essential Traits, Desirable Traits, Traits To Avoid

HARRISON assessments | Engineering Management Institute

14

THE RESEARCH PROCESS

Engineering Management Institute

15

RATING Project managers

STEP 1: Select Research Participants → → → CRITICAL SUCCESS FACTOR

Top Performers	Average Performers	Low Performers
The research group contained 79 PM's across 6 AEC organizations with at least 1 year of experience and about 30% top, 40% average and 30% low performers.		

Engineering Management Institute

16

RATING Project managers

STEP 2: Assemble and Educate Raters on Rating Criteria

Rating Criteria by Process Group					HOW COMPLETION OF THESE PROCESS GROUPS ARE BEST OBSERVED					
Process Groups	Process Groups Defined	Key Tasks	Key Outputs	Weight	Initiating	Planning	Executing	Monitoring & Controlling	Closing	
Project Manager Process Groups	Initiating	The processes performed to define a new project or a new phase of an existing project by obtaining authorization to start the project or phase.	<ul style="list-style-type: none"> * Assess company cap/lms for project * Go/No-Go Decision * Assemble the Team * Assess Client Needs 	<ul style="list-style-type: none"> * Project Charter * Identify Stakeholders 	15%	Initiating	Scope Development Create a sound and accurate scope of work through an understanding of the project requirements through communication with client. Review and preparation of proposal and follow up with the client. Creation of Work Breakdown Structure (WBS) and budgeting.	Schedule Development (Based on the scope of services and manpower needed).	Stakeholder Planning Identify and develop a plan for managing all (internal/external) project stakeholders.	Assess client needs Assessing and accurately identifying the needs of the client(s) at the bottom line)
	Planning	The processes required to establish the scope of the project, refine the objectives, and define the course of action required to attain the objectives that the project was undertaken to achieve.	<ul style="list-style-type: none"> * Scope Development * Schedule Development * Stakeholder Planning * Planning Documents Preparation * Project Setup 	<ul style="list-style-type: none"> * Project Scope Statement * Project Management Plan * Work Breakdown Structure (WBS) * Project Schedule * Baselines, Activity Cost Estimates, etc. 	25%	Initiating	Deciding on Pursuit (Go or No/Go) Thoroughly evaluating the opportunity, current workload, Client, risks, potential profit, competition, etc. and making an informed decision/recommendation to/ret to initiate or pursue the project.	Assemble team Identify the project managers and the team for the project. Procure the resources needed to execute the project. Execute a Proposal Kick-meeting.	Assess client needs Assessing and accurately identifying the needs of the client(s) at the bottom line)	
	Executing	The processes performed to complete the work defined in the project management plan to satisfy the project requirements.	<ul style="list-style-type: none"> * Kick-off Meeting(s) * Project Meetings * Project Communication * Delivering Project 	<ul style="list-style-type: none"> * Deliverables * Change Requests * Updates to the Project Plan * Quality Reports * Project Team Assignments * Updates to the Issue Log 	20%	Planning	Scope Development Create a sound and accurate scope of work through an understanding of the project requirements through communication with client. Review and preparation of proposal and follow up with the client. Creation of Work Breakdown Structure (WBS) and budgeting.	Schedule Development (Based on the scope of services and manpower needed).	Stakeholder Planning Identify and develop a plan for managing all (internal/external) project stakeholders.	Planning Document Preparation & Project Setup Secure the signed contract with the client. Prepare PMP & QA/QC and other plans for the project.
	Monitoring & Controlling	The processes required to track, review, and regulate the progress and performance of the project; identify any areas in which changes to the plan are required; and initiate the corresponding changes.	<ul style="list-style-type: none"> * Financial Tracking (Accounting, Budgeting & Procurement) * Extra Work and Change Requests * Manage Scope and Schedule * Deliverables/Milestone Tracking 	<ul style="list-style-type: none"> * Validate Scope * Control Scope * Quality Control Measurements * Control Communications * Control Risks 	30%	Executing	Kick-Off Meeting(s) Plan and run kick-off meeting(s) at the beginning of the project.	Project Meetings Plan and run project status/update meeting(s) throughout the project.	Project Communication Effective and documented communicating with client, team members and other key stakeholders.	Delivering Project Consistent delivery or project milestones throughout the project with quality.
	Closing	The process performed to formally complete or close a project, phase, or contract.	<ul style="list-style-type: none"> * Project Closeout Process * Document Lessons Learned * Create Marketing Materials * Finalize Invoices, Inspections, and Quality Assurance * Ensure Client Satisfaction 	<ul style="list-style-type: none"> * Project Document Updates * Final Product * Service or Result Transition * Final Report * Updates to Organizational Process Assets 	10%	Monitoring & Controlling	Financial Tracking (Accounting, Budgeting & Procurement) Ensuring people charge to the right phases. Issues are identified immediately, and budgets fall within expectations. Following up with the client to ensure payments are received in an acceptable timeframe.	Extra Work Managing scope creep and extra work orders internally and externally prior to doing this work.	Managing Scope & Schedule Manage the scope of work and schedule throughout the project, updating it regularly.	Deliverables/Milestone Tracking Tracking key project deliverables and keeping client informed of progress.
Closing	The process performed to formally complete or close a project, phase, or contract.	<ul style="list-style-type: none"> * Project Closeout Process * Document Lessons Learned * Create Marketing Materials * Finalize Invoices, Inspections, and Quality Assurance * Ensure Client Satisfaction 	<ul style="list-style-type: none"> * Project Document Updates * Final Product * Service or Result Transition * Final Report * Updates to Organizational Process Assets 	10%	Closing	Project Closeout Process Utilize a process or checklist to close out the project.	Documenting Lessons Learned Document lessons learned for sharing with others.	Create Marketing Materials Create marketing profits or materials for project.	Finalize Finalize invoices, inspections, & quality assurance/control. Confirm client satisfaction and ask for next opportunity.	

17

RATING Project managers

STEP 3: Rate PM performance

Rating Rubric			
Performance Levels:	Exceeds Expectations	Meets Expectations	Below Expectations
score options:	90 or 95	70, 75, 80 or 85	50 or 60
Quality of Key Outputs:	Above standard	At Standard	Below standard
Level of Autonomy in Completing Key Tasks:	Requires little to no supervision or help	Requires some supervision or help	Requires close supervision and help

Breakdown of Ratings by Performance Level							
	Initiating	Planning	Executing	M&C	Closing	Overall Performance	GOAL
Exceeds	20%	27%	33%	18%	9%	27%	~30%
Meets	62%	66%	62%	67%	63%	46%	~40%
Below	18%	8%	5%	15%	28%	28%	~30%

18

Avoid Rating Pitfalls

- **Central Tendency**
- **Leniency Effect**
- **Recency Effect**
- **Halo Effect**
- **Similarity Effect**

ASK: Is my rating what I think/feel or what I have observed?



4. Essential Traits of Successful AEC Project Managers

- Breakdown of essential traits
- Explanation of each trait and why it matters in selection.
- Real-life examples and case studies.
- How the JSF tool helps evaluate these traits in candidates.



Analysis

Trait	Average	Correlation	88 - 100 (Top)	75 - 88 (Medium)	1 - 74 (Low)	Trait 6+	Trait 5.0 to 5.99	Trait 4.0 to 4.99	Trait 3.0 to 3.99	Trait <3.0
Precise	6.7	0.2647	7.3	6.7	6.0	79.3	68.9	77.3	74.7	63.3
Analytical	8.0	0.1855	8.4	7.9	7.7	77.2	66.2	70.3	90.0	0.0
Risking	4.5	0.1802	5.2	4.3	4.2	80.2	76.9	71.8	77.5	73.9
Problem Solving	7.6	0.1401	7.9	7.6	7.3	77.7	68.6	68.0	77.5	0.0
Organized	7.0	0.1375	7.5	6.7	7.0	77.4	73.8	73.2	78.2	0.0
Persistent	7.0	0.1291	7.2	7.1	6.8	77.8	73.7	52.5	77.7	0.0
Tolerance Of Structure	6.1	0.1205	6.6	5.9	5.9	78.5	68.9	76.6	82.1	60.0
Wants Challenge	7.0	0.1130	7.2	7.1	6.7	77.8	65.6	81.9	80.4	50.0
Enforcing	5.7	0.1094	5.9	6.0	5.2	76.8	76.9	80.2	70.8	74.2
Certain	5.6	0.1072	6.1	5.4	5.5	77.0	80.7	72.0	74.2	74.3

Traits to Avoid	Average	Correlation	88 - 100 (Top)	75 - 88 (Medium)	1 - 74 (Low)	Trait 6+	Trait 5.0 to 5.99	Trait 4.0 to 4.99	Trait 3.0 to 3.99	Trait <3.0
Scattered	0.7	-0.2073	0.4	0.8	0.9	0.0	84.0	69.3	81.0	76.5
Avoids Decisions	0.1	-0.2040	0.0	0.0	0.2	0.0	0.0	50.0	0.0	76.7
Stow And Imprecise	0.7	-0.1944	0.6	0.5	1.2	83.0	60.0	0.0	65.0	76.9
Fast But Imprecise	0.5	-0.1716	0.1	0.7	0.6	75.0	79.5	50.0	75.0	76.6
Precise But Slow	0.9	-0.1448	0.8	0.7	1.3	74.0	73.0	68.7	57.5	77.5
Non-Logical	0.1	-0.1443	0.0	0.1	0.2	0.0	0.0	0.0	55.0	76.6
Non-Finishing	0.8	-0.1331	0.6	0.9	1.0	0.0	0.0	79.0	72.0	76.5
Permissive	1.7	-0.1219	1.7	1.2	2.2	71.7	64.4	81.4	77.3	76.8
Careless Pessimism	0.8	-0.1019	0.7	0.7	1.0	71.5	66.7	79.0	77.0	76.8
Evasive	1.1	-0.1015	1.1	1.0	1.4	82.0	67.8	77.0	73.3	77.1

21

Analysis

Research PM All 2-4-25

ESSENTIAL A high score (the higher the better) is likely to contribute to job satisfaction and success for that job

	Analytical	Autonomous Collaboration	Persistent	Precise	Problem Solving	Precise Decision	Self-Motivated	Systematic	Teaching	Wants Advancement	Wants To Lead
CHANGE											
Trait Score	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
Average	8.0	7.8	7.0	6.7	7.6	7.4	7.2	7.1	7.2	7.7	7.3
Correlation coefficient vs. performance	0.1855	0.0355	0.1291	0.2647	0.1401	0.1067	0.0808	0.0376	-0.0003	0.1176	0.0936
88 - 100 (Top)	8.4	8.0	7.2	7.3	7.9	7.7	7.4	7.2	7.6	8.4	7.7
75 - 88 (Medium)	7.9	7.8	7.1	6.7	7.6	7.4	7.2	7.0	7.0	7.7	7.4
1 - 74 (Low)	7.7	7.8	6.8	6.0	7.3	7.2	7.2	7.1	7.2	7.2	6.9
Contact E-mail	990	100%	90	90	90	90	90	90	90	90	90
Average	763	77%	76	71	65	65	71	69	67	65	68
Average	728	74%	71	70	64	61	68	67	64	63	63
Average	705	71%	69	70	61	54	65	65	64	63	65

AVOID The ideal score for these traits is zero which indicates the trait is not present. As the score gets higher, it could hinder success and satisfaction for that job

	Avoids Decisions	Fast But Imprecise	Scattered	Slow And Imprecise	Careless Pessimism	Disinterested In Decisions	Blunt	Defensive	Evasive	Inconclusive	Non-Finishing	Permissive	Precise But Slow	Cautious Intention	Self-Sacrificing
0.1	0.5	0.7	0.7	-0.1944	0.8	0.5	1.3	0.9	1.1	1.8	0.8	1.7	0.9	1.4	3.1
-0.2040	-0.1716	-0.2073	-0.1944	-0.1019	-0.0513	-0.0925	-0.0204	-0.1015	-0.0383	-0.1331	-0.1219	-0.1448	-0.0932	0.0389	
0.0	0.1	0.4	0.6	0.7	0.4	1.1	0.5	1.1	1.1	0.6	1.7	0.8	1.4	3.1	
0.0	0.7	0.8	0.5	0.7	0.6	1.1	1.3	1.0	2.2	0.9	1.2	0.7	1.1	3.3	
0.2	0.6	0.9	1.2	1.0	0.7	1.7	0.8	1.4	1.7	1.0	2.2	1.3	1.9	2.9	
-216	-168	-168	-168	-144	-144	-120	-120	-120	-120	-120	-120	-120	-96	-58	
0	0	1	1	1	1	1	0	1	0	1	4	2	3	0	
0	0	-43	-1	-57	-109	-14	0	-52	0	-5	-23	-31	-25	0	
0	4	2	1	2	1	4	5	4	8	1	3	2	4	0	
0	-70	-54	-83	-45	-37	-22	-16	-21	-25	-13	-18	-25	-9	0	
1	1	2	3	3	3	7	2	3	4	1	6	4	5	0	
-74	-39	-30	-23	-50	-19	-17	-44	-46	-17	-7	-33	-29	-17	0	

22

FINAL RESULT - PM Job SUCCESS FACTORS

Essential Traits

- Analytical
- Authoritative Collaboration
- Persistent
- Precise
- Problem Solving
- Provides Direction
- Self-Motivated
- Systematic
- Teaching
- Wants Advancement
- Wants To Lead

Desirable Traits

- Analyzes Pitfalls
- Finance / business
- Organized
- Wants Opinions Valued
- Certain
- Effective Enforcing
- Forthright Diplomacy
- Optimistic
- Planning
- Prolific Quality
- Self-Improvement
- Stress Management
- Negotiating
- Pressure Tolerance
- Tempo
- Handles Autonomy
- Tolerance Of Structure
- Repetition

Traits To Avoid

- Avoids Decisions
- Fast But Imprecise
- Scattered
- Slow And Imprecise
- Careless Pessimism
- Disinterested in Decisions
- Blunt
- Defensive
- Evasive
- Inconclusive
- Non-Finishing
- Permissive
- Precise But Slow
- Cautious Inattention
- Self-Sacrificing

23

COMMUNICATION

PARADOX THEORY

24

5. Applying the Traits in the Selection Process

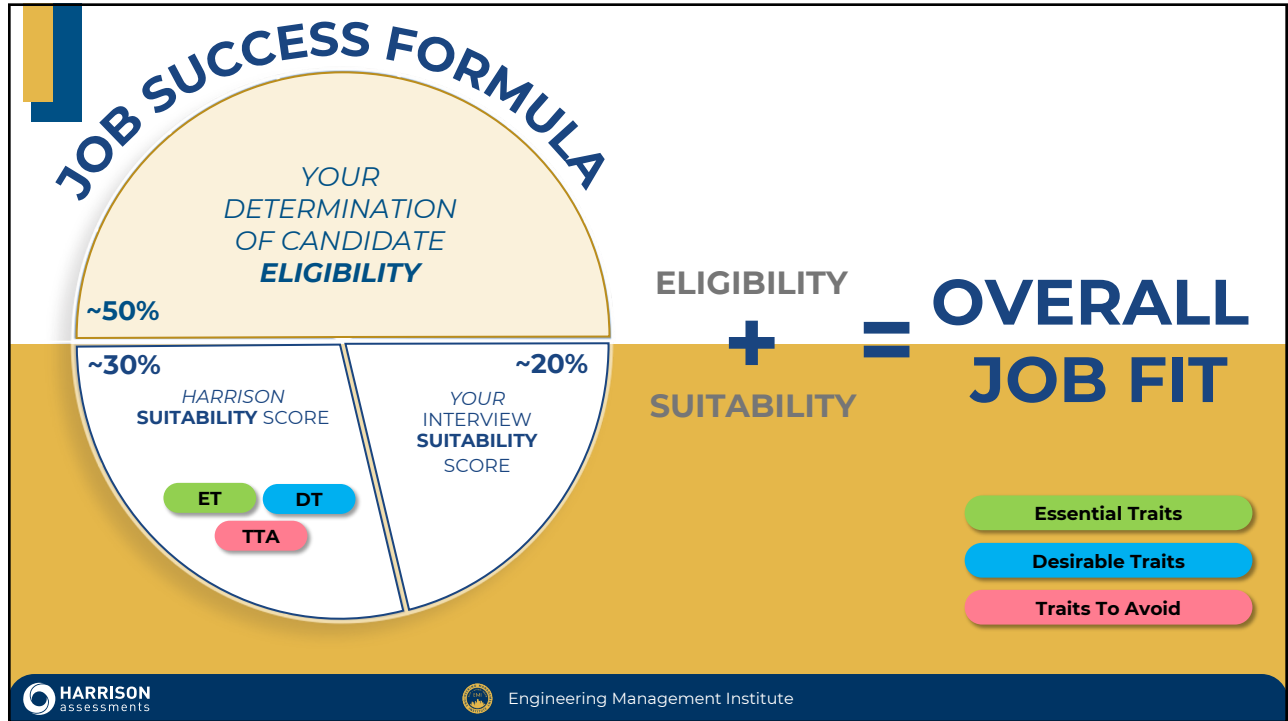


- Tools and techniques provided by the JSF tool to identify traits during interviews.
- Evaluation frameworks and assessment methods built into the JSF tool.
- Tailoring job descriptions and interview questions using the JSF tool to target essential traits.
- Incorporating traits assessment into selection decisions with the JSF tool.



SHOW REPORT EXAMPLE





27

Selection Dashboard

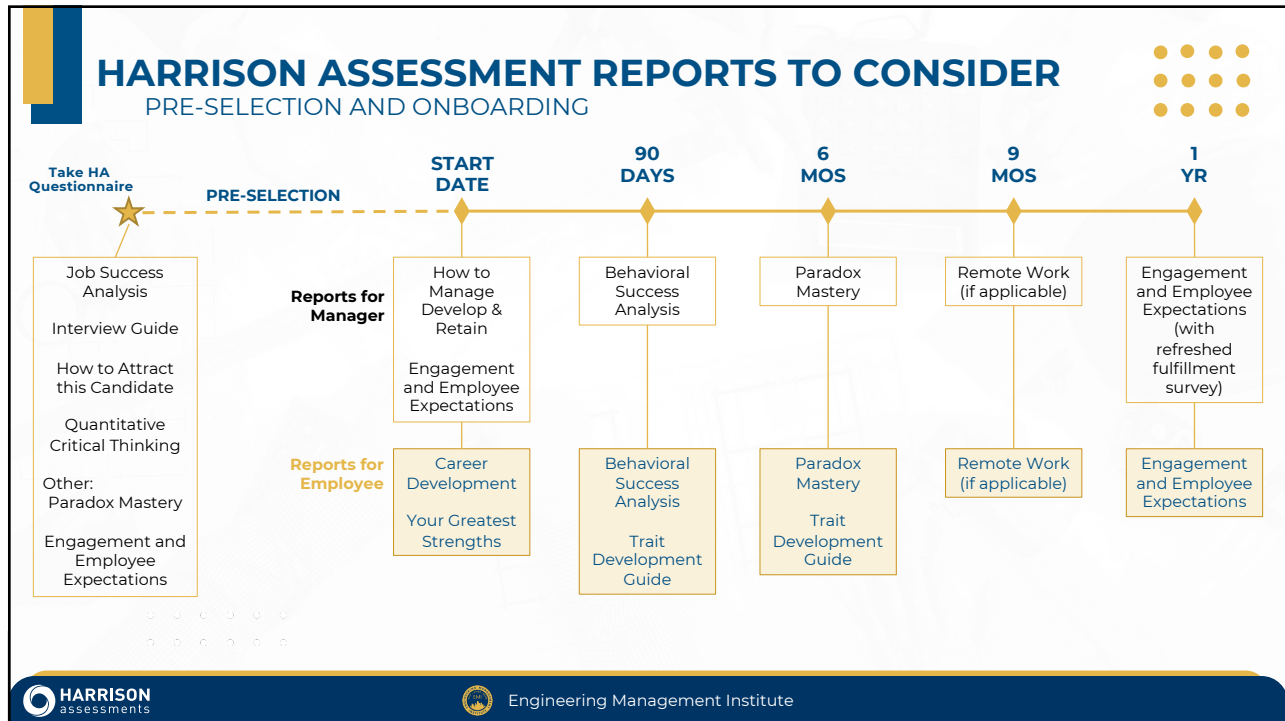
Employee Dashboard
Recruitment Dashboard
Individual Reports
Group Reports
Analytics
Job Setup
Training/Help
Administration

Department: All departments

Date	Job name	Eligibility	Suitability	QCT Cognitive	Total score	Last name	First name	Decline	Run Reports
10/24/2019	AEC Project Manager	80	75 (62/95)		78	R Adams	Stacy	<input type="checkbox"/>	Run Reports>
10/23/2019	AEC Project Manager	83	80 (77/85)		82	R Lindgren	Elsa	View Email	Run Reports>
10/22/2019	AEC Project Manager	84	85 (76/99)		85	R King	Jack	<input type="checkbox"/>	Run Reports>
10/18/2019	AEC Project Manager	75 ?	82 (78/89)		79	R Zamid	Natasia	<input type="checkbox"/>	Run Reports>
10/22/2019	AEC Project Manager	Rejected ?	Not Reliable		Rejected ?	R Chong	Cathy	<input type="checkbox"/>	Run Reports>
10/18/2019	AEC Project Manager	84	Incomplete		84 ?	R Zen	Tiffany	<input type="checkbox"/>	Run Reports>
10/18/2019	AEC Project Manager				Awaiting response	Kemp	Coraine		
10/22/2019	AEC Project Manager	80 ?	71 ?		77	R Thong	Jacklyn	<input type="checkbox"/>	Run Reports>
10/22/2019	AEC Project Manager	82	70 ?		78	R Kek	Carmel	<input type="checkbox"/>	Run Reports>
10/22/2019	AEC Project Manager	81	71 (68/75) →		76	R Finn	Matt	<input type="checkbox"/>	Run Reports>
10/22/2019	AEC Project Manager	86	84 (76/45)		75	R Garcia	Zoe	<input type="checkbox"/>	Run Reports>
10/24/2019	AEC Project Manager	Rejected ?	56 (77/25)		Declined Rejected	R Park	Seol Fun	<input type="checkbox"/>	Run Reports>
10/24/2019	AEC Project Manager	85	85 (72/55)		Declined Rejected	R Wong	Abigail	View Email	Run Reports>
10/23/2019	AEC Project Manager	Rejected	62 (74/45)		Declined Rejected	R Go	Aerin	<input type="checkbox"/>	Run Reports>
10/22/2019	AEC Project Manager	90 ?	66 (66/65)		Declined Rejected	R Kamaruddin	Zareena	<input type="checkbox"/>	Run Reports>




28



29

Validity of Job Success Formulas

Face Validity
Face validity refers to what the test appears to measure. Face validity refers to assessment questions that are work-related and report results that appear to relate to the requirements of the specific job.

Test-Retest
Test-retest is a method to determine the reliability of tests. It is determined by testing a group of people and then retesting them after a period of time to determine the consistency of the results.

Construct Validity
Construct validity examines the question: Are the assessment method and results consistent with the related theory or concept the assessment intends to measure?

Criterion Validity
Criterion validity is generally considered to be the most important aspect of validity for employment assessments. It indicates the degree to which a set of scores from test results relate to and accurately predict job performance.

Engineering Management Institute

30

Compliance



Complies with EEOC regulations



Complies with ISO 10667



Complies applicable OFCCP regulations



Positioned to comply with your data protection and privacy policies, such as **EU GDPR Data Protection Law**



31

7. Closing Remarks & Resources

- Recap of key takeaways.
- How to get in touch to learn more about JSF tool

Engineering Management Institute

32



33



34