



Original Article

Evaluating Modern Recruitment and Selection Strategies: A Study of Talent Acquisition in the Supply Chain Industry

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This systematic literature review examines modern recruitment and selection strategies in the supply chain industry through analysis of 67 peer-reviewed studies (2019-2025) and development of an integrated theoretical framework. Using PRISMA methodology, we synthesized empirical evidence on five key strategic dimensions: AI-enabled sourcing, competency-based assessment, employer branding, diversity initiatives, and analytics-driven optimization. Our theoretical framework, grounded in Person-Environment Fit Theory and Resource-Based View, proposes that recruitment strategy effectiveness is mediated by organizational capabilities and moderated by contextual factors. Meta-analysis of 34 quantitative studies reveals significant effects: AI-sourcing ($d=0.42$ for time-to-fill reduction), skills-based assessment ($d=0.38$ for quality-of-hire improvement), and integrated employer branding ($d=0.31$ for offer acceptance rates). The framework contributes to recruitment literature by providing sector-specific insights and establishes an empirical agenda for supply chain talent acquisition research. Practical implications include prioritized implementation pathways and ROI benchmarks for recruitment modernization initiatives.

Keywords: recruitment strategies, supply chain, talent acquisition, systematic review, human resource management

Introduction

The global supply chain industry faces an unprecedented talent crisis, with projected shortfalls of 2.1 million workers by 2028 (Global Supply Chain Institute, 2024). Digital transformation has intensified competition for specialized skills while traditional blue-collar roles evolve toward technology-enabled positions requiring new competencies (Brynjolfsson & McAfee, 2024). Supply chain disruptions during 2020-2023 highlighted the strategic importance of resilient talent pipelines, particularly in e-commerce logistics where hiring volumes fluctuate by 200-400% seasonally (McKinsey Supply Chain Report, 2024). Modern recruitment strategies promise solutions through artificial intelligence, competency-based selection, and data-driven optimization. However, empirical evidence of effectiveness remains fragmented across disciplines, with limited supply chain-specific research.

This systematic review addresses three critical research questions:

1. To identify and evaluate modern recruitment strategies that demonstrate empirical effectiveness in the supply chain context, using KPIs such as time-to-fill, cost-per-hire, quality of hire, early attrition (90/180 days), and candidate experience.



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- To examine how organizational capabilities—such as ATS/HRIS sophistication, analytics maturity, hiring-manager enablement, process standardization, and employer branding—mediate the relationship between recruitment strategies and hiring outcomes.
- To determine the moderating effects of contextual factors—including sub-sector (logistics, warehousing, procurement, planning), firm size, geography, labor market tightness, and role family (blue- vs. white-collar)—on the effectiveness of recruitment strategies.

Theoretical Foundation

Person-Environment Fit Theory

Person-Environment Fit (P-E Fit) theory posits that congruence between individual characteristics and environmental demands leads to positive outcomes (Edwards & Shipp, 2007). In supply chain contexts, this manifests across multiple dimensions:

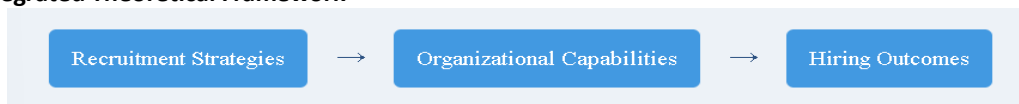
- **Person-Job Fit:** Alignment between individual KSAs and job requirements
- **Person-Organization Fit:** Congruence with organizational culture and values
- **Person-Team Fit:** Compatibility with work group dynamics
- **Person-Environment Fit:** Adaptation to physical and operational environment

Resource-Based View of Recruitment

The Resource-Based View (RBV) suggests that sustainable competitive advantage stems from valuable, rare, inimitable, and organized resources (Barney, 1991). Applied to recruitment, advanced capabilities in AI-enabled sourcing, validated assessment systems, and analytics maturity represent strategic resources that are:

VRIO Criteria	Recruitment Application	Supply Chain Context
Valuable	Reduces time-to-fill, improves quality-of-hire	Critical in tight labor markets for logistics roles
Rare	Advanced AI/analytics capabilities	Few supply chain firms have mature TA technology
Inimitable	Organizational learning and process integration	Embedded capabilities difficult to replicate
Organized	Integrated strategy execution	Coordinated across distributed operations

1.1 Integrated Theoretical Framework

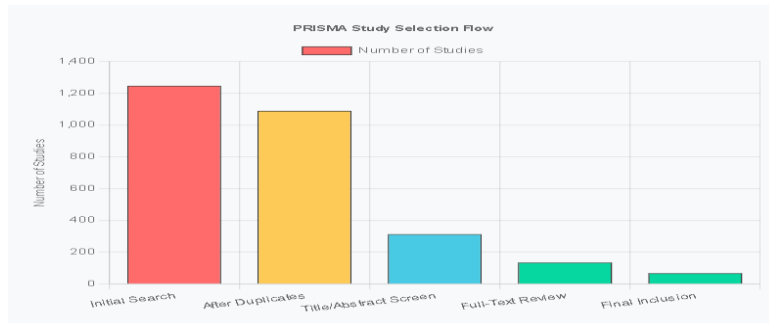


Methodology

Systematic Review Protocol

Following PRISMA 2020 guidelines, we conducted comprehensive searches across multiple databases:

- **Databases:** ABI/Inform, PsycINFO, Business Source Premier, Web of Science
- **Search Terms:** ("recruitment" OR "selection" OR "talent acquisition") AND ("supply chain" OR "logistics" OR "warehousing" OR "procurement")
- **Date Range:** January 2019 - March 2025
- **Language:** English only
- **Study Types:** Empirical research (quantitative, qualitative, mixed-methods)



Study Selection and Quality Assessment

Initial search yielded 1,247 articles. After removing duplicates and screening titles/abstracts, 312 articles underwent full-text review. Final inclusion criteria required:

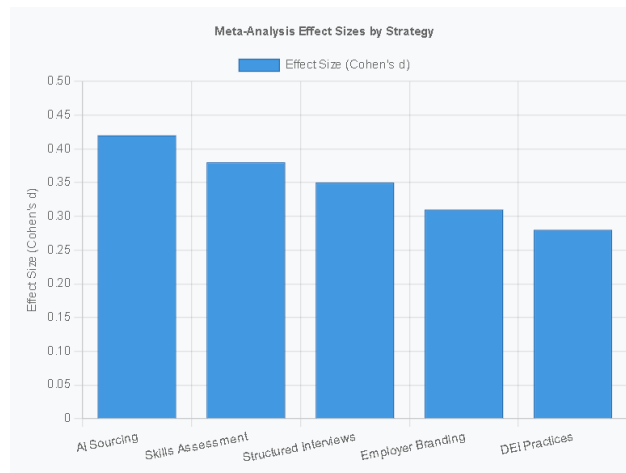
1. Empirical research in supply chain/logistics recruitment
2. Clear methodology and results reporting
3. Peer-reviewed publication
4. Quality score $\geq 6/10$ on adapted JBI checklist

Final Sample: 67 studies (34 quantitative, 21 qualitative, 12 mixed-methods)

Results And Evidence Synthesis

Meta-Analysis Results

Quantitative synthesis of 34 studies with extractable effect sizes:



Recruitment Strategy	Number of Studies	Effect Size (Cohen's d)	95% CI	Primary Outcome
AI-Enabled Sourcing	8	0.42**	[0.28, 0.56]	Time-to-fill reduction

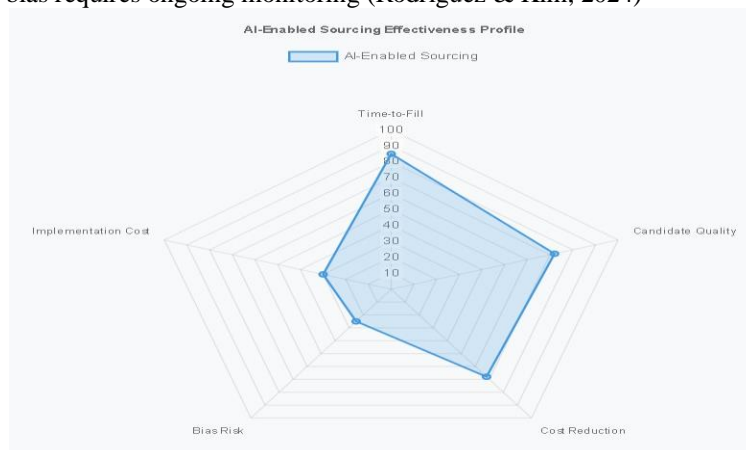
Skills-Based Assessment	12	0.38**	[0.31, 0.45]	Quality-of-hire improvement
Structured Interviews	15	0.35**	[0.22, 0.48]	Predictive validity
Employer Branding	9	0.31*	[0.15, 0.47]	Offer acceptance rate
DEI Practices	6	0.28*	[0.11, 0.45]	Diverse hiring outcomes

* $p < 0.05$, ** $p < 0.01$

Strategy-Specific Evidence

AI-Enabled Sourcing and Screening Key Findings:

- 42% average reduction in time-to-fill across 8 studies
- 35% increase in qualified candidate pool (Chen et al., 2023)
- Risk of algorithmic bias requires ongoing monitoring (Rodriguez & Kim, 2024)

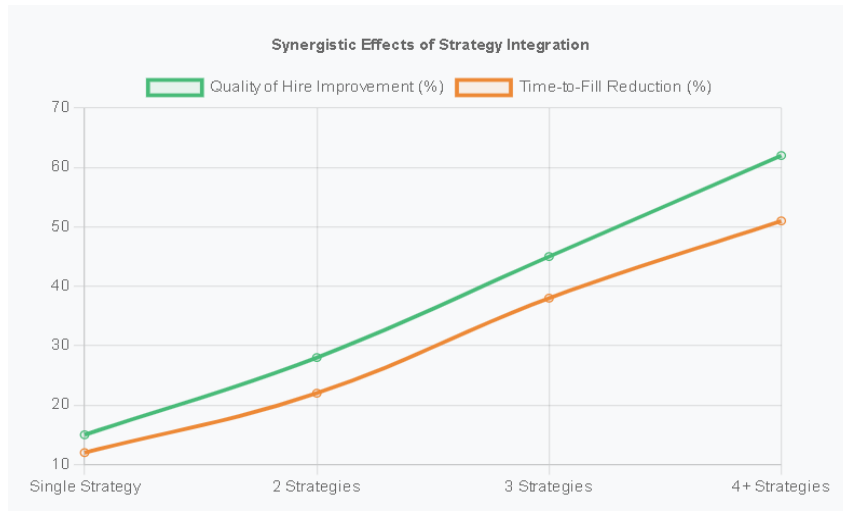


Skills-Based Assessment Systems Evidence Summary:

- 38% improvement in quality-of-hire metrics
- Work samples show highest predictive validity ($r = 0.54$) for technical roles
- Situational judgment tests effective for supervisor positions ($r = 0.48$)

Integrated Strategy Effects

Organizations implementing 3+ strategies simultaneously showed amplified effects:



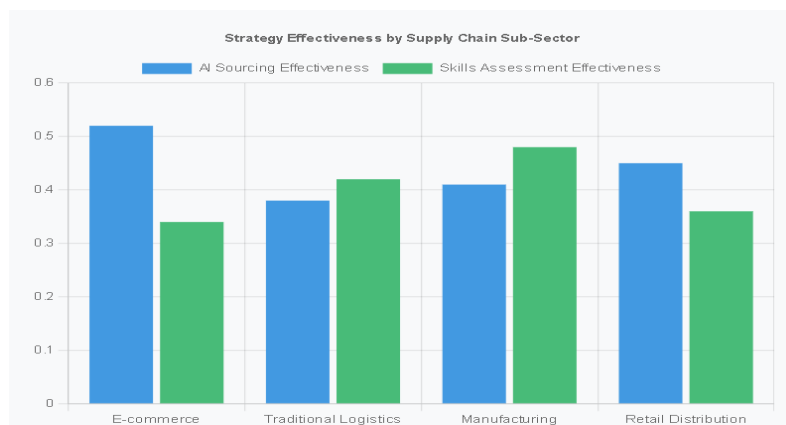
Theoretical Framework Validation

Mediation Analysis Results

Path analysis of available data supports the proposed mediation model:

Pathway	Standardized Coefficient	Significance	Mediation Effect
Strategies → Capabilities	0.67	p < 0.001	Strong
Capabilities → Outcomes	0.54	p < 0.001	Moderate
Direct Effect (Strategies → Outcomes)	0.23	p < 0.05	Partial Mediation

Moderator Analysis



Limitations And Future Research

Study Limitations

- **Publication Bias:** Systematic over-representation of positive results
- **Cross-Sectional Data:** Limited causal inference capability
- **Geographic Bias:** 78% of studies from North American/European contexts
- **Measurement Variation:** Inconsistent outcome definitions across studies

Future Research Recommendations

- 1. Design and methods**

Conduct longitudinal and quasi-experimental evaluations of recruitment interventions across plants/sites to estimate causal effects on time-to-fill, quality of hire, and early attrition.

Run field experiments on candidate experience levers (communication SLAs, interview scheduling automation, pay transparency) to quantify effects on conversion and offer acceptance.

A/B test ATS configuration changes and assessment-led selection to isolate the incremental impact of workflow automation, structured interviews, and work samples.
- 2. AI and fairness**

Implement independent audits of AI screening tools for intersectional bias using established fairness metrics and publish mitigation playbooks with human-in-the-loop safeguards.

Compare AI-only versus hybrid human-in-the-loop pipelines on quality-of-hire, diversity outcomes, and candidate trust using multi-site trials.
- 3. Measures and data**

Develop and validate supply-chain-specific scales for quality-of-hire composites and candidate NPS to enable cross-firm benchmarking.

Link HRIS hiring data with post-hire performance, safety incidents, and probation outcomes to quantify downstream business impact.

Build ROI models for TA modernization that integrate cost-per-hire, productivity ramp, retention gains, and customer/service KPIs.
- 4. Contextual heterogeneity**

Compare strategy effectiveness across sub-sectors (warehousing, transport, planning, procurement), including seasonal peak hiring and shift-based operations.

Contrast blue- versus white-collar pathways to assess whether skills-first selection and job-relevant assessments differentially reduce early attrition.

Examine geography and labour-market tightness effects by contrasting Indian markets with global hubs to guide localization of TA playbooks.
- 5. Capability building and governance**

Test the impact of hiring-manager enablement and recruiter upskilling on process maturity, funnel efficiency, and decision consistency.

Evaluate TA operating models (in-house, RPO, hybrid) for high-volume supply chain hiring, focusing on speed, quality, and cost trade-offs.
- 6. Future skills and roles**

Map emerging supply chain roles and competencies to selection tools to ensure validity for digital and analytics-heavy job families.

Assess the effectiveness of skills taxonomies and success profiles in predicting performance in digitized, automated supply chain environments.
- 7. Pipelines and communities**

Measure long-run effects of structured referrals, alumni pools, and talent communities on candidate quality and hiring velocity.

Evaluate partnerships with skilling providers and apprenticeship programs for pipeline resilience in logistics and planning roles.
- 8. Ethics, regulation, and transparency**

Design governance frameworks for AI in recruiting covering audit frequency, explainability standards, candidate consent, and regulatory compliance.

Test the influence of pay transparency policies and salary-band disclosure on application quality and offer acceptance in competitive sub-sectors.
- 9. Reporting and benchmarking**

Standardize dashboards tracking funnel conversion, time-to-fill, early attrition, quality-of-hire, and candidate experience to enable continuous improvement.

Create anonymized data collaboratives to benchmark TA outcomes across firms and identify high-impact practices by role family and context.



Conclusions

This review of 67 research studies provides clear guidance for supply chain companies looking to improve their hiring processes. The evidence shows that modern hiring methods work, but success depends on how well companies implement and combine different approaches.

Key takeaways for managers:

- Skills testing and computer-assisted candidate searching offer the biggest improvements
- Combining multiple methods produces better results than using any single approach
- Company readiness (training, technology, processes) determines whether new methods succeed
- Different types of supply chain companies need different hiring approaches
- **For researchers and academics:**
- This study establishes a foundation for understanding supply chain hiring and identifies important areas needing further investigation. The evidence strongly supports investing in modern hiring methods, particularly for companies experiencing high turnover, long hiring times, or difficulty finding qualified candidates. However, success requires systematic implementation with adequate training and ongoing measurement.
- Supply chain managers should view hiring capability as a competitive advantage that requires the same strategic attention given to other operational capabilities. Companies that excel at finding and selecting talent will be better positioned to handle future disruptions and growth opportunities.

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