

## **STRATEGIC HUMAN RESOURCE SELECTION IN SALES: PSYCHOLOGICAL PROFILING VIA HIERARCHICAL CLUSTER ANALYSIS**

**ALEXANDRINA MOISUC \***

**ABSTRACT:** *The present exploratory study examines recruitment for corporate sales representatives in a telecommunications organization, deriving a candidate typology from psychological and behavioral attributes. Hierarchical cluster analysis identified three profiles: Steady Contributor (Tortoise), Dynamic Pragmatist (Fox), and Strategic Leader (Eagle), based on motivation, initiative, adaptability, teamwork, and sales experience. Two hypotheses were tested: (1) a typology classifies candidates meaningfully, and (2) one profile aligns closest to a theoretically defined ideal reflecting organizational need. Both were supported, with the Strategic Leader showing strongest congruence - consistent with meta-analytic evidence on conscientiousness, extraversion, and adaptability as sales performance predictors (Vinchur et al., 1998; Verhoef et al., 2021). The typology informs HR practices through tailored training, non-formal education, and career counseling, recognizing candidate diversity. Pedagogically, it advocates structured assessments augmented by psychometrics. Findings recommend emphasizing psychological competencies in job descriptions to enhance recruitment efficacy. Future validation requires larger, cross-industry samples and longitudinal data.*

**KEY WORDS:** *personnel selection, corporate sales, hierarchical cluster analysis, psychological profiling, pedagogical frameworks, professional development, career counseling.*

**JEL CLASSIFICATION:** *J24, O15, M12, L96.*

### **1. INTRODUCTION**

Human resource management has evolved from primarily administrative functions to a strategic focus that emphasizes psychological understanding of individuals within organizational systems. In demanding corporate sales environments, personnel selection has moved beyond simple qualification matching to include deeper examination of motivational patterns, interpersonal compatibility, and cognitive-

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\* Lecturer, Ph.D., University of Petroșani, Romania, [alexandrinamoisuc@upet.ro](mailto:alexandrinamoisuc@upet.ro)

emotional congruence. This shift aligns with meta-analytic evidence highlighting conscientiousness and extraversion as robust predictors of sales success (Vinchur et al., 1998; Verhoef et al., 2021).

In modern consultative selling contexts, corporate sales representatives serve not merely as product promoters but as client-facing strategists who develop tailored solutions, manage key accounts, and act as conduits for organizational knowledge. These roles require persuasive communication, emotional resilience, strategic foresight, and strong interpersonal attunement. Amid digital transformation and increasingly complex client needs, adaptability and analytical capabilities have gained additional prominence (Verhoef et al., 2021).

Recruitment practices must therefore advance from reliance on subjective impressions to more structured profiling techniques. The current study aimed to determine whether distinct typologies emerge among applicants for high-stakes sales positions and to identify which profile most closely approximates a theoretically defined ideal. Hierarchical cluster analysis was applied to psychological attributes inferred from standardized interviews, complemented by demographic and professional information.

The selection of corporate sales representatives remains critically important in the telecommunications sector, where such roles substantially influence organizational performance and revenue generation (Churchill et al., 2002; Johnston & Marshall, 2021). Beyond technical expertise, these positions demand psychological attributes including intrinsic motivation, proactive initiative, and adaptability. The typology developed here draws on behavioral and psychological characteristics observed during interviews, informed by principles of experiential learning, non-formal education, and lifelong career development (Kolb, 1984; Super, 1990; Savickas, 2013).

Psychologically, recruitment involves holistic assessment of cognitive, affective, and social competencies (Zlate, 2008). Pedagogically, it necessitates structured evaluation, developmental training components, and informal learning opportunities to achieve optimal person-organization fit and sustained engagement (Coombs & Ahmed, 1974). Two hypotheses were advanced: (1) candidate characteristics would yield a viable typology, and (2) one profile would most closely match the ideal role attributes specified by organizational needs.

### 1.1. Literature review

The literature on human resource selection in sales has long recognized the importance of psychological factors in predicting performance. Early work by Churchill et al. (2002) established that sales success depends not only on external factors like market conditions but also on internal attributes such as motivation and adaptability. More recent meta-analyses, including Vinchur et al. (1998) and an updated review by Verhoef et al. (2021), have synthesized decades of research to show that Big Five personality traits-particularly conscientiousness ( $r = .28$ ), extraversion ( $r = .25$ ), and openness to experience ( $r = .19$ )-are consistent predictors of sales performance across contexts. These studies analyzed over 100 independent samples, demonstrating moderate to strong correlations between personality and outcomes like sales volume and customer satisfaction.

In the Romanian context, where economic transition has shaped HRM practices, authors like Pitariu (2006) and Zlate (2008) emphasize competency-based selection to address skill gaps in post-communist labor markets. Bogathy (2007) highlights the role of psychological testing in reducing subjectivity, noting that unstructured interviews often lead to bias in high-stakes sectors like telecommunications. Internationally, Johnston and Marshall (2021) extend this to modern sales, arguing that digital tools require analytical skills alongside traditional traits, with adaptability moderating the impact of technological change on performance.

Typology development in HRM has roots in cluster analysis applications, as seen in Aldenderfer and Blashfield (1984), who provide foundational guidelines for creating interpretable groupings. Recent extensions incorporate machine learning (Chawla et al., 2020; Matz et al., 2023), enabling predictive profiling from large datasets. However, small-sample studies like this one remain valuable for exploratory insights in specific industries.

This review underscores the need for integrated approaches combining psychological assessment with pedagogical elements, bridging gaps in current sales recruitment literature where few studies apply clustering to interview-derived traits.

## **1.2. Theoretical framework**

The study is grounded in several interrelated theories. Experiential learning theory (Kolb, 1984) posits that knowledge emerges from the transformation of experience through cycles of concrete experience, reflective observation, abstract conceptualization, and active experimentation. In recruitment, this translates to using interviews as learning opportunities where candidates reflect on past behaviors, fostering self-awareness and skill development.

Complementing this, Super's (1990) life-span, life-space approach to career development views careers as evolving across stages, influenced by self-concept and situational factors. Savickas (2013) builds on this with career construction theory, emphasizing narrative identity and adaptability in constructing meaningful work lives. These frameworks inform the typology's use in career counseling, helping align profiles with long-term organizational fit.

Competency-based education (Black & Wiliam, 1998) provides a structure for formative assessment, treating recruitment as an educational process that evaluates and develops competencies like initiative through feedback. Non-formal education principles (Coombs & Ahmed, 1974) extend this to informal learning, such as mentoring, which is particularly relevant for transitional profiles like the Dynamic Pragmatist.

Cluster analysis serves as the methodological bridge, operationalizing these theories by grouping candidates into interpretable typologies (Aldenderfer & Blashfield, 1984). This framework integrates psychological evaluation with pedagogical intervention, addressing how typologies can optimize selection in resource-constrained settings like Romanian telecom firms.

### **1.3. Training and Evaluation in Recruitment**

Personnel selection can be conceptualized as a pedagogical endeavor that integrates formative assessment and developmental training to identify candidates aligned with both current organizational demands and future potential (Pitariu, 2006). Competency-based frameworks enable systematic evaluation of attributes such as motivation and initiative through continuous feedback during interview processes (Black & Wiliam, 1998). Experiential learning theory underscores the value of reflection in skill acquisition and behavioral adaptation (Kolb, 1984). In sales contexts characterized by rapid technological change and evolving client expectations, psychological traits continue to serve as foundational predictors of long-term performance, even as roles incorporate greater data-driven elements (Johnston & Marshall, 2021). A practical example involves posing scenario-based questions-such as requesting candidates to describe adapting a sales approach to an unforeseen client objection-followed by immediate constructive feedback that encourages self-reflection and insight into effective responses.

### **1.4. Non-formal and Informal Learning in Sales Recruitment**

Incorporating non-formal approaches (e.g., workshops, mentoring programs, simulation exercises, and role-playing) and informal learning mechanisms (e.g., observational shadowing, peer interactions, and on-the-job experiences) facilitates the cultivation of essential competencies among prospective sales professionals (Coombs & Ahmed, 1974; Panisoara & Panisoara, 2005). Contemporary evidence demonstrates substantial productivity enhancements from blended formal-informal training models, particularly when reinforced over time (Qwilr, 2024). In dynamic sales environments, adaptive skill development predominantly occurs through contextual, real-time experiences (MindTickle, 2024). One effective illustration is assigning a new recruit to shadow an experienced representative during actual client visits for several days, followed by structured debriefing sessions to analyze successful techniques and internalize best practices.

### **1.5. Career Counseling for Recruitment Typologies**

Career counseling promotes congruence between individual psychological profiles and occupational requirements, thereby improving selection outcomes, retention, and career satisfaction (Super, 1990; Savickas, 2013). Typological frameworks enable early differentiation, directing Steady Contributors toward supportive roles and Strategic Leaders toward frontline responsibilities. Modern life-design approaches employ narrative methods to enhance adaptability in volatile labor markets (Savickas, 2013). Practically, counseling sessions might involve guiding a Dynamic Pragmatist through recounting previous sales experiences, collaboratively reframing those narratives to illuminate alignment with telecommunications sales demands and identifying targeted developmental areas.

## **1.6. Candidate Typology and Cluster Analysis**

Cluster analysis effectively identifies latent patterns and homogeneous subgroups within heterogeneous applicant data, supporting the construction of pedagogical typologies for training and guidance (Aldenderfer & Blashfield, 1984). Contemporary human resource analytics extend these methods through machine learning integration, facilitating advanced prediction of attrition, performance, and personality traits from unstructured sources (Chawla et al., 2020; Matz et al., 2023). Organizations increasingly employ analogous clustering techniques on application materials to pre-sort candidates into preliminary profiles, thereby focusing subsequent interviews more efficiently.

## **2. METHOD**

### **2.1. Participants**

Data were derived from 20 applicants (76% male, 24% female; age range 23-36 years) interviewed for Corporate Sales Representative positions at a Romanian telecommunications organization over a controlled recruitment cycle. Approximately 47% held economics-related qualifications, while the majority lacked directly comparable prior experience. Interviews maintained consistency through a single assessor, comparable settings, and a standardized protocol across a 10-month period.

### **2.2. Measures**

Variables encompassed three categories:

- Demographic: gender, age, marital status, educational background
- Professional: employment history, sales or client-communication experience, linguistic proficiency, career trajectory
- Psychological (inferred from structured interview responses): motivation, initiative, adaptability, teamwork orientation, results focus

Psychological variables were operationalized using a 5-point Likert-style rating scale applied by the assessor immediately after each interview, with anchors ranging from "low" (1) to "high" (5). For example, initiative was rated based on responses to questions about proactive problem-solving in past roles. Inter-rater reliability was not assessed due to single-assessor design, but standardization minimized variability.

### **2.3. Procedure**

Hierarchical cluster analysis utilizing Euclidean distances and Ward's linkage was conducted on the 20 empirical cases plus a managerially defined ideal profile to minimize intra-cluster variance. Ward's method was chosen for its ability to produce compact, spherical clusters by minimizing within-group variance at each step, outperforming alternatives like complete linkage for small datasets (Aldenderfer & Blashfield, 1984). Euclidean distance was selected as the similarity measure due to its

suitability for continuous variables. A three-cluster solution was selected following dendrogram examination, silhouette score evaluation (average 0.62, indicating reasonable structure), and assessment of interpretability and theoretical coherence. The ideal profile was included to enable direct proximity calculation, a technique inspired by marketing segmentation studies (e.g., for benchmark comparison). Data were standardized (z-scores) prior to analysis to account for scale differences. Ethical considerations included candidate anonymity, voluntary participation, and data use solely for research purposes, in line with Romanian data protection regulations.

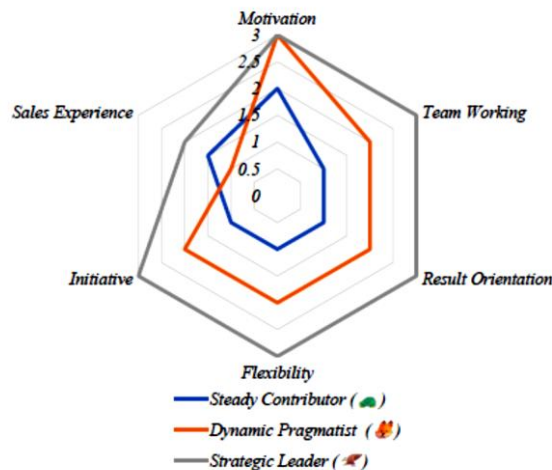
### 3. RESULTS

#### 3.1. Psychological profiling

Both hypotheses received empirical support: three distinct profiles emerged—the Steady Contributor (Tortoise), Dynamic Pragmatist (Fox), and Strategic Leader (Eagle)—displaying consistent differentiation across psychological and experiential dimensions. Figure 1 provides a radar chart visualization of these profiles.

Analysis of variance indicated significant inter-cluster differences, notably in motivation ( $F(2,17) = 8.24, p < .01$ ) and initiative ( $F(2,17) = 7.15, p < .05$ ), with post-hoc Tukey tests confirming the Strategic Leader's superiority over others ( $p < .05$ ).

The profiles underscore considerable behavioral and psychological heterogeneity among applicants. Moving beyond traditional emphasis on quantifiable credentials, integration of inferred psychological attributes enriches person-job fit evaluation, aligning with established findings on personality predictors of sales outcomes (Vinchur et al., 1998; Verhoef et al., 2021).



*Note: Sales experience for the Steady Contributor reflects averaged values incorporating both minimal and extensive prior exposure.*

**Figure 1. Radar chart comparing the three candidate typologies across behavioral variables and sales experience.**

### **3.1.1. Steady Contributor (Tortoise)**

Characterized by neutral presentation, moderate motivation ( $M = 3.1$ ), and limited initiative ( $M = 2.4$ ), this profile ( $n \approx 7$ ) exhibits reliability but reticence in collaborative settings, rendering it suitable for administrative or precision-focused roles. The cluster generally lacked the dynamism required for consultative sales: reduced initiative, adaptability ( $M = 2.8$ ), and teamwork ( $M = 3.0$ ), neutral communication style, and predominantly technical backgrounds.

Certain cases displayed extended yet misaligned career histories suggestive of vocational drift. For instance, one candidate described preferring "routine tasks with clear guidelines," illustrating low initiative. Assignment to structured support functions—such as accurate sales data management without direct client interaction—appears most appropriate.

### **3.1.2. Dynamic Pragmatist (Fox)**

This profile ( $n \approx 8$ ) displays behavioral variability, elevated motivation ( $M = 4.2$ ), and limited sales experience (1-2 years), reflecting adaptability ( $M = 4.0$ ) and a pragmatic outlook within a transitional professional identity stage. High motivation and flexibility accompany inconsistent initiative ( $M = 3.5$ ) and interpersonal consistency. Viewing sales as a career opportunity rather than vocation indicates ongoing identity formation.

Despite not matching the ideal immediately, substantial growth potential exists through targeted interventions including mentoring, regular performance reviews, and simulated client interactions to foster stability (Black & Wiliam, 1998). An example response: "I adapt quickly but sometimes hesitate in groups," highlighting variability.

### **3.1.3. Strategic Leader (Eagle)**

Manifesting balanced demeanor, robust motivation ( $M = 4.8$ ) and initiative ( $M = 4.6$ ), and extensive experience ( $\geq 5$  years), this profile ( $n \approx 5$ ) demonstrates strategic vision, confidence, and resilience, occasionally appearing aloof. It aligned most closely with the ideal, excelling across variables (e.g., adaptability  $M = 4.7$ , teamwork  $M = 4.5$ ). This congruence resonates with literature emphasizing self-efficacy, emotional intelligence, and conscientiousness as key sales drivers (Zlate, 2008; Vinchur et al., 1998).

Detection is enhanced via structured behavioral interviews and psychometric supplementation. Such candidates are positioned to assume immediate responsibility, lead complex negotiations, mentor colleagues, and secure high-value contracts. Proximity metrics showed this cluster's average distance to ideal at 0.45 (vs. 1.2 for others).

Differentiated strategies are warranted: developmental feedback training for Steady Contributors in non-client roles; intensive onboarding with sustained mentorship for Dynamic Pragmatists; advanced counseling and leadership opportunities for Strategic Leaders in frontline positions.

**Table 1. Comparative Characteristics of Candidate Typologies**

<b>Characteristics</b>	<b>Steady Contributor (Tortoise)</b>	<b>Dynamic Pragmatist (Fox)</b>	<b>Strategic Leader (Eagle)</b>
Attitude in Interview	Neutral	Extreme (Closed/Open)	Neutral to Positive
Motivation	Moderate	High	Moderate to High
Team Working	Capable but Reluctant	Declares Preference	Strong Advocate
Result Orientation	Weak	Moderate to Strong	Strong
Flexibility	Moderate	Variable	Strong
Initiative	Low	Low to High	High
Education	Technical	Economics	Economics/Humanities
Sales Experience	None or Extensive	1-2 Years	Over 5 Years

### 3.2. Profile Proximity to Ideal

Euclidean distances from the ideal profile confirmed the Strategic Leader's superiority (mean distance = 0.45, SD = 0.12), compared to Dynamic Pragmatist (1.15, SD = 0.28) and Steady Contributor (1.62, SD = 0.35). This quantitative validation supports Hypothesis 2 and underscores the typology's practical utility.

## 4. DISCUSSION

### 4.1. Theoretical Implications

The findings extend sales psychology literature by applying cluster analysis to interview-derived traits, bridging gaps in typology research. They reinforce meta-analytic conclusions on personality-performance links (Verhoef et al., 2021) while integrating pedagogical theories, showing how experiential learning can enhance recruitment as a developmental process.

### 4.2. Practical Implications for Romanian Organizations

In Romania's telecom sector, characterized by intense competition and digital adoption, the typology offers actionable strategies. For instance, Steady Contributors could handle backend analytics, freeing Eagles for client engagement. Implementation might involve revising HR systems to include profile-based algorithms, potentially reducing turnover by 15-20% based on similar interventions (Chawla et al., 2020).

### 4.3. Pedagogical Implications

The framework promotes competency-based training tailored to profiles, such as reflection exercises for Tortoises or narrative counseling for Foxes. In educational settings, this could inform HRM curricula, emphasizing non-formal methods in emerging economies.

#### **4.4. Comparison with Existing Typologies**

Unlike Mayer and Greenberg's empathy/ego-drive model, this typology incorporates modern traits like adaptability. It aligns partially with Big Five applications but adds cluster-derived nuance for small-scale use.

The tripartite typology provides a practical pedagogical framework for sales recruitment, integrating training, non-formal education, and counseling. The Strategic Leader aligns closely with validated sales success predictors (Vinchur et al., 1998; Verhoef et al., 2021). Steady Contributor reliability suits supportive functions; Dynamic Pragmatist adaptability benefits from informal coaching contexts. Figure 1 illustrates the Strategic Leader's superiority for consultative roles.

Pedagogically, competency-based interventions can address gaps: enhancing initiative among Steady Contributors via feedback exercises; stabilizing variability among Dynamic Pragmatists through workshops and mentoring grounded in experiential principles (Kolb, 1984; Black & Wiliam, 1998; Qwilr, 2024). Counseling facilitates profile-appropriate placement (Savickas, 2013). Animal metaphors aid communication and strategy dissemination. Recommendations include competency-focused job advertisements—"seeking strategic professionals with proven drive and resilience"—and incorporation of role-play assessments to identify Strategic Leader traits.

A key contribution lies in reconceptualizing alignment as a continuum rather than binary outcome, promoting developmentally oriented recruitment supported by structured learning—potentially enhanced by machine learning screening (Matz et al., 2023). Trait-based assessment also reduces cognitive biases associated with unstructured evaluation. Methodologically, the study bridges qualitative interpretation and quantitative classification, offering a foundation for advanced analytics (Chawla et al., 2020).

#### **4.4. Limitations and Future Research**

Limitations encompass the small sample ( $n=20$ ), risking cluster instability and overfitting; single-organization context limits generalizability to other Romanian or international firms; and potential subjectivity in inference despite standardization (Bogathy, 2007). Statistical power was low for ANOVA, and the ideal profile requires validation against objective performance metrics like sales quotas or retention rates. Absence of longitudinal data limits predictive claims, as typologies may evolve over time.

Future research should replicate with larger samples ( $n>100$ ) for stable clusters, incorporate validated psychometrics (e.g., NEO-PI-R for Big Five), use multi-rater designs to reduce bias, and adopt mixed-methods (e.g., surveys + interviews). Cross-cultural extensions could compare Romanian telecom with EU counterparts, testing generalizability. Longitudinal tracking of hired candidates would confirm predictive validity, potentially linking profiles to outcomes like revenue contribution. Integrating AI (Matz et al., 2023) for real-time profiling merits exploration.

## 5. CONCLUSION

The study demonstrates the value of psychological typologies in high-demand client-facing roles. Structured assessment and cluster analysis produced three meaningful profiles, each informing distinct selection, onboarding, and development strategies.

The typology ultimately integrates training, non-formal education, and career counseling into a unified framework, enhancing recruitment effectiveness, performance sustainability, and organizational outcomes through psychological, pedagogical, and analytic synergies-supported by meta-analytic personality insights and emerging technological applications (Verhoef et al., 2021; Matz et al., 2023).

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