1. Target journal for abstract discussion

Systems Research and Behavioural Science (SRBS)

2. Title

From Elimination to Cultivation: A Systems Thinking Reconceptualisation of Applicant Relationship Management

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4. Purpose of the study

Talent acquisition has become one of the most technology-intensive organisational functions, yet its underlying logic has remained largely unchanged since the widespread adoption of Applicant Tracking Systems (ATS) in the early 2000s. ATS platforms operate on a principle of systematic elimination: automated résumé parsing, keyword matching, and Boolean filtering reduce large applicant volumes to manageable shortlists, optimising for speed and cost-efficiency (Cappelli, 2023). This logic, while operationally effective at managing scale, embeds a mechanistic, linear worldview into the heart of talent strategy — one that treats applicants as discrete data points to be sorted rather than as participants in a dynamic organisational relationship.

The consequences of this paradigm are increasingly well documented. Up to 88% of employers acknowledge that qualified candidates are routinely filtered out because they do not match exact job description criteria (Fuller et al., 2021). Applicant experiences are degraded through opaque processes, absent feedback, and one-directional communication, eroding employer brand and organisational reputation (Greenhouse, 2024). The emergence of AI-powered résumé optimisation tools has further destabilised the system, creating an adversarial dynamic between applicants gaming algorithmic filters and organisations tightening them — a reinforcing loop that degrades signal quality on both sides.

Applicant Relationship Management (ARM) was introduced by Specchia (2026a, 2026b) as a comprehensive, relationship-centric paradigm for talent acquisition. ARM's theoretical foundations trace back to relationship marketing (Carlzon, 1987; Parasuraman, Zeithaml & Berry, 1985) and its subsequent formalisation into Customer Relationship Management (Berry, 1983; Grönroos, 1994; Payne & Frow, 2005; Specchia, 2022), extending this relational tradition into Human Resource Management. ARM replaces transactional elimination with relational cultivation, repositioning applicants as stakeholders in a reciprocal value exchange. Its distinctive features include co-creative assessment — where applicants actively participate in reviewing and enriching the AI-generated evaluation of their application — and the systematic re-engagement of Silver Medallists, past applicants who demonstrated genuine potential but were not selected for a specific role. Crucially, Silver Medallist re-engagement in ARM is not a downstream marketing campaign as practised by Candidate CRM platforms; it is grounded in the quality of the assessment interaction itself — each moment of truth during co-creative assessment builds the relational equity that sustains meaningful future engagement.

The purpose of this study is threefold. First, it diagnoses the structural dysfunctions of elimination-based recruitment using systems thinking constructs — specifically, Senge’s

learning disabilities, systems archetypes, and the distinction between detail complexity and dynamic complexity. Second, it reconceptualises ARM as a framework designed to address dynamic complexity in talent acquisition by shifting from linear, event-driven logic to circular, relationship-driven logic. Third, it proposes that the systems thinking perspective reveals dimensions of ARM — particularly feedback loops, emergent properties, and leverage points — that remain invisible under the CRM and governance framings alone.

5. Design / Methodology / Approach

This study adopts a conceptual approach, integrating four theoretical streams: relationship marketing and service quality theory (Carlzon, 1987; Parasuraman, Zeithaml & Berry, 1985), its evolution into Customer Relationship Management (Berry, 1983; Grönroos, 1994; Payne & Frow, 2005; Specchia, 2022), systems thinking as articulated in the organisational learning tradition (Senge, 1990/2006; Argyris & Schön, 1978; Checkland, 1981), and the emerging literature on technology-mediated recruitment and its limitations (Cappelli, 2023; Fuller et al., 2021; Schellmann, 2024).

The methodological strategy proceeds through three analytical moves.

Systems diagnosis of ATS-based recruitment

The paper maps ATS operational logic onto systems thinking constructs. ATS recruitment is analysed as a closed, linear system characterised by what Senge terms “detail complexity” — the management of many variables through static rules — rather than “dynamic complexity,” where cause and effect are subtle, nonlinear, and distributed over time. The paper identifies specific learning disabilities (Senge, 1990/2006) manifested in ATS logic: the fixation on events (individual hiring transactions rather than talent ecosystem health), the delusion of learning from experience (optimising time-to-hire metrics without understanding systemic

effects on talent pool quality), and the enemy is out there (attributing hiring failures to applicant quality rather than system design).

Mapping ARM onto systems archetypes

ATS elimination logic is interpreted through the “Fixes that Fail” archetype: efficiency-driven filtering produces short-term throughput gains but generates long-term talent pool degradation, employer brand erosion, and declining applicant quality — a reinforcing loop where the “fix” intensifies the original problem. The AI résumé optimisation arms race is analysed as an “Escalation” archetype, where each side’s adaptive response amplifies the other’s, destabilising the system. ARM interrupts each archetype through a distinct mechanism. The 'Fixes that Fail' loop — where filtering degrades the talent pool it purports to serve — is broken by Silver Medallist re-engagement, which converts the waste product of elimination (rejected applicants with demonstrated potential) into a renewable resource within a cultivation system, replacing talent pool depletion with talent pool enrichment. The 'Escalation' dynamic — where applicants optimise résumés against algorithmic filters and organisations tighten those filters in response — is broken by co-creative assessment, which removes the adversarial interface entirely. When applicants participate directly in reviewing and enriching their evaluations through dialogue, the incentive to game a parsing algorithm dissolves: information flows through conversation, not document optimisation, and signal quality is restored through collaboration rather than destroyed through escalation.

ARM through Senge’s fifth discipline

Mental Models: ARM requires a fundamental shift in the mental model governing recruitment — from applicant-as-risk (to be filtered) to applicant-as-potential (to be cultivated). This is not a process improvement but a paradigm shift, analogous to Argyris and Schön’s (1978) distinction between single-loop learning (correcting errors within existing

assumptions) and double-loop learning (questioning the assumptions themselves). The extensive literature diagnosing ATS bias and proposing algorithmic corrections (Schellmann, 2024; O'Neil, 2016) represents single-loop intervention — improving the filtering mechanism without questioning whether filtering is the right logic. ARM represents a double-loop intervention.

Systems Thinking: The fifth discipline reveals that ARM's mechanisms are not merely sequential stages but interdependent structures generating emergent behaviour. Co-creative assessment builds applicant trust, which deepens willingness to engage with the employer brand, which generates richer and more authentic applicant information, which in turn improves matching accuracy and reinforces the value of co-creation — a reinforcing loop invisible to linear pipeline models. Similarly, Silver Medallist re-engagement creates a delayed feedback effect: relationship equity invested today yields talent availability months or years later, a temporal dynamic that event-focused ATS metrics cannot capture. ARM's lifecycle is not circular by design but systemic by consequence — its value emerges from the interaction between stages, not from the stages themselves.

Shared Vision: Senge's shared vision is typically understood as an internal organisational discipline — members collectively constructing strategic direction. We argue that in the context of talent acquisition, this construct extends legitimately to the organisation-applicant relationship, for two reasons. First, Rousseau's (1989, 1995) psychological contract theory demonstrates that mutual expectations between individual and organisation form before formal membership begins. Applicants undergoing ARM's co-creative assessment are already constructing a psychological contract based on experienced transparency, fairness, and reciprocity; they are not external strangers but liminal stakeholders in transition toward potential membership. Second, organisations are embedded in, and porous to their social environment. Applicants are part of the ecosystem with which the organisation continuously

interacts — what Beer (1972) would recognise as a System 4 function, maintaining viability through environmental engagement. Every recruitment touchpoint is an interface between the organisation and its society. In elimination-based systems, this interface operates as a broadcast signal: the organisation projects a narrative with no feedback loop connecting applicant experience to brand reality. ARM transforms it into a co-creative process: through transparent assessment criteria, visible decision parameters, and ongoing dialogue, applicants experience the organisation's values in action, forming expectations that shape not only their own potential commitment but their role as advocates, critics, or ambassadors within the broader social environment. The shared vision that emerges is not confined to organisational members; it extends to the relational network through which the organisation maintains its social legitimacy.

Personal Mastery and Organisational Learning: ARM's co-creative assessment embodies Senge's personal mastery discipline, but with a critical implication for organisational capability. In ARM, AI-generated evaluations are reviewed, challenged, and enriched through human-applicant dialogue. This produces value only if the human interlocutor brings genuine depth — domain expertise, contextual judgement, the ability to recognise what an algorithm has missed or misinterpreted. Without this, human-in-the-loop degrades into what we term "theatre": the appearance of oversight without the substance of understanding. Kahneman's (2011) "law of least effort" identifies the structural risk: when AI produces sophisticated outputs instantly, the temptation to accept rather than evaluate intensifies. Organisations therefore need to develop stronger, wider, and deeper capability among their members in order to effectively orchestrate and govern AI interaction, rather than passively accepting what the machine produces. Personal mastery becomes a structural prerequisite for system governance, not merely an aspirational ideal. Moreover, this imperative operates under temporal pressure. As Harari (2026) argues, AI is not a tool but an agent — one whose

capabilities are converging on domains previously considered uniquely human. The capable human advantage may be transient; the balance is moving. Yet ARM is ultimately grounded not in a capability argument but in a values argument: we treat applicants as stakeholders because relationships matter — a choice that must be remade daily by humans who choose to keep making it. At the organisational level, co-creative assessment generates collective learning across three actors: the organisation's assessors, the AI system, and the applicant. Each contributes knowledge the others cannot access. This triad constitutes a learning system in Senge's sense, one whose capacity develops through interaction rather than instruction. The implication for recruitment is profound: system quality depends not on algorithmic sophistication but on the human capability — and the human will — to orchestrate it.

6. Findings (or expected findings)

The systems thinking reconceptualisation yields three principal findings.

First, ATS-based recruitment exhibits the structural characteristics of what Senge (1990/2006) describes as a "learning-disabled" system. Its optimisation logic generates reinforcing feedback loops that progressively degrade the quality of the talent ecosystem it depends upon. The AI résumé arms race is a particularly vivid manifestation: as ATS filtering tightens, applicants invest in gaming algorithms rather than developing authentic capabilities, which in turn reduces the signal quality available to organisations, prompting further reliance on filtering — a classic escalation dynamic. These are not implementation failures but structural properties of elimination-based system design.

Second, ARM's core mechanisms — structured requirement prioritisation, co-creative assessment, and compensatory evaluation — function as leverage points (Meadows, 1999) within the recruitment system, collectively facilitating the re-engagement of Silver Medallists. They do not merely add features to existing ATS logic; they restructure the

system's feedback architecture. Meadows (1999) identifies twelve leverage points in ascending order of effectiveness. ARM's mechanisms operate across multiple levels of this hierarchy simultaneously. Structured requirement prioritisation intervenes at the level of system goals (Meadows' level 3) — by distinguishing genuinely mandatory prerequisites from weighted preferences, it redefines what the recruitment system optimises for, replacing combinatorial elimination with proportional evaluation. Co-creative assessment operates at the level of information flows (level 6), shifting the direction and quality of data exchange between organisation and applicant and building the relational trust that generates richer, more authentic data. Most fundamentally, the shift from elimination to cultivation represents an intervention at the level of paradigms (level 2) — the mindset out of which the system's goals, rules, and structures arise. It is this multi-level operation that gives ARM its systemic character: it does not intervene at a single point but restructures the relationships between points. Compensatory evaluation preserves system variety (Ashby, 1956) by weighing the full person rather than gating on single deficiencies. Together, these three mechanisms make Silver Medallist re-engagement systemically possible: prioritisation defines what genuinely matters, enabling proportional evaluation rather than arbitrary elimination — and in doing so, shapes the quality of the applicant's experience, building the brand trust that sustains future engagement; co-creation deepens that trust through authentic dialogue; compensatory evaluation ensures the full profile is preserved rather than reduced to a rejection flag. The result is an emergent property — an integrated understanding of the candidate that no single mechanism could produce alone, enabling interviews grounded in genuine knowledge rather than surface-level specification matching — that no conventional ATS or Candidate CRM can generate.

Third, the systems perspective reveals that ARM’s governance dimension — previously developed through the lens of ESG and corporate sustainability (Specchia, Zamparelli &

Horvath, 2025, unpublished) — can be more precisely understood as system governance: the design of rules, feedback mechanisms, and institutional structures that steer the talent ecosystem toward sustainable outcomes. This reinterpretation connects ARM to the broader systems-theoretic literature on viable system design (Beer, 1972) and organisational cybernetics, suggesting that talent acquisition governance requires not merely compliance and transparency but the deliberate cultivation of system variety, resilience, and adaptive capacity.

7. Originality / Value

This study makes three original contributions.

First, it provides the first systematic application of systems thinking theory to the analysis of recruitment paradigms. While systems thinking has been applied extensively to organisational learning, strategy, and supply chain management, its application to talent acquisition — despite the domain's increasing systemic complexity — remains virtually absent from the literature. This paper addresses that gap.

Second, it advances the theoretical development of Applicant Relationship Management by adding a systems thinking dimension to its existing relational marketing and CRM foundations (Carlzon, 1987; Parasuraman, Zeithaml & Berry, 1985; Specchia, 2022; 2026a, 2026b). This enrichment is not merely additive: the systems lens reveals emergent properties of ARM — particularly its capacity to restructure feedback loops and create leverage points within the recruitment system — that are invisible under the relational and CRM framing alone. The reconceptualisation positions ARM as a framework for managing dynamic complexity in talent acquisition, not merely for improving relational processes.

Third, the paper contributes to the ongoing scholarly debate about the limitations of AI and algorithmic approaches to recruitment (Schellmann, 2024; Cappelli, 2023; Fuller et al., 2021)

by reframing the critique in systemic rather than technical terms. The problem with ATS is not that its algorithms are biased or its filters imprecise — these are symptoms. The problem is that elimination-based logic is structurally incompatible with the dynamic complexity of modern talent ecosystems. This diagnostic reframing has implications beyond recruitment, offering a template for systems-level analysis of other technology-mediated organisational processes where linear logic is applied to complex adaptive problems.

Practical implications

From a practical standpoint, the systems reconceptualisation redefines what talent acquisition management looks like operationally. Decision-making shifts from binary eliminate/retain logic to proportional evaluation based on weighted priorities. Performance metrics shift from transactional indicators — time-to-hire, cost-per-hire — to systemic ones: talent pool health, relationship equity, Silver Medallist re-engagement rates, and the quality of applicant-generated information feeding back into organisational learning. Most fundamentally, the capability requirements for recruitment professionals change: effective operation of an ARM-based system demands what we have termed the 'capable human' — practitioners with sufficient domain depth, contextual judgement, and orchestration skill to govern AI-mediated processes rather than passively accepting algorithmic outputs. These practical shifts align with possible concern for behavioural and organisational consequences of systems design.

8. Keywords

Applicant Relationship Management; Systems Thinking; Talent Acquisition; Applicant Tracking Systems; Organisational Learning; Recruitment Paradigm; Feedback Loops; Silver Medallists; CRM Theory

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