

The Human Resource Quadrant Behaviour Model (Hr-Qbm): A Pilot Study on Cognitive-Emotional Thinking Styles and Workplace Satisfaction

Mandiou Sakera*

University of Applied Science Northwest, Switzerland

*Corresponding Author

Mandiou Sakera, University of Applied Science Northwest, Switzerland.

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Abstract

The **Quadrant Behaviour Model (QBM)** was originally developed as a psychological framework describing individual differences across two orthogonal axes: **binary-complex thinking and emotional-rational orientation**.

While the original **Psychological QBM** demonstrated conceptual coherence and empirical promise, its potential application within **organizational contexts** has remained unexplored. This pilot study introduces the **HR-QBM**, an **applied adaptation** of the model designed to map employee **thinking patterns, workplace behaviour, and satisfaction indicators** in human resource management settings.

Using a **mixed-methods triangulation approach**, seven service-sector employees completed a **16-item cognitive orientation questionnaire, a 10-item satisfaction scale, and a semi-structured interview**. Quadrant coordinates were computed through transformed **Likert-score aggregation**, and **satisfaction scores** were clustered into five theoretically grounded dimensions: **pay/recognition, growth, environment, purpose, and job-fit** remedying.

Results show clear and interpretable quadrant profiles, with most participants exhibiting complex-rational **tendencies**, consistent with the sample's demographic composition (**young, educated, early-career workers**).

Two participants displayed emotional orientations, suggesting potential relevance for understanding **frontline stress, burnout vulnerability, and interpersonal dynamics**. The pilot provides preliminary support for the **HR-QBM's conceptual clarity, interpretive usefulness, and operational feasibility**.

Limitations include **sample size, convenience sampling, and partial questionnaire standardization** for early interviews. Future research should incorporate larger and more diverse samples, integrate the **Elasticity of Integrative Thought (EIT)** coefficient, and explore predictive modelling of quadrant shifts in organizational environments.

The **HR-QBM** offers a promising, behaviourally interpretable lens for studying **cognition, satisfaction, and workplace outcomes**.

1. Introduction

Understanding how employees think, interpret information, and respond to workplace environments is central to contemporary human resource management (HRM). Existing **organizational behaviour (OB)** models such as person **job fit, job characteristics**

theory, and the various need-based motivation frameworks provide valuable insights but often treat cognition as a **secondary or implicit mechanism**. Few frameworks attempt to directly map employee's underlying **thinking styles** or integrate these with satisfaction indicators in order to make workplace behaviour more

predictable, interpretable, and actionable for HR practitioners.

The **Quadrant Behaviour Model (QBM)** was originally introduced as a psychological construct aimed at capturing **individual cognitive tendencies** across two fundamental axes: **binary–complex thinking**, describing preference for **structure versus flexibility**, and **emotional–rational orientation**, describing reliance on **affective versus analytical processes**. Early validation work demonstrated that these dimensions meaningfully differentiate individual's **perceptual, cognitive, and decision-making patterns in non-organizational contexts**. However, while the **Psychological QBM** provides a robust theoretical foundation, its practical utility for HR settings has not been empirically explored.

The present study addresses this gap by introducing the **HR-QBM**, an applied adaptation of the original model tailored to workplace environments. Whereas the **Psychological QBM** captures general mental positioning, the **HR-QBM emphasizes how thinking styles manifest in work behaviour, employee satisfaction, conflict handling, stress responses, and perceived workplace support**. The applied framework is therefore not intended to replace traditional HR theories but rather to extend them by offering a cognitively grounded diagnostic layer.

This pilot study had three objectives:

- to assess the feasibility of operationalizing the QBM within an organizational setting,
- to examine whether the model produces interpretable quadrant placements using real employee data, and
- to explore how QBM dimensions relate to satisfaction clusters relevant to HRM, including pay/recognition, growth, workplace environment, sense of purpose, and job-fit remedying.

Although exploratory in nature, the findings illustrate that the **HR-QBM** yields coherent cognitive profiles and reveals meaningful links between **thinking styles and workplace experiences**. The model may therefore contribute a useful perspective for **HR professionals** assessing **employee fit, developmental trajectories, team composition, and potential stress or burnout risks**.

2. Theoretical Foundations

The **Quadrant Behaviour Model** conceptualises individual thinking styles along **two cognitive–emotional continua: Binary–Complex reasoning and Emotional–Rational orientation** [1]. In organisational settings, these tendencies shape how employees **interpret tasks, respond to uncertainty, manage interpersonal demands, and experience job satisfaction**. The present pilot applies the QBM within a workplace context and draws on several established theories in cognitive psychology and organisational behaviour to situate the model within broader scholarly discourse.

2.1. Binary–Complex Thinking and Ambiguity Preferences

The **Binary–Complex axis** reflects an individual's **tolerance for structure, clarity, and cognitive closure versus openness, flexibility, and multi-perspective reasoning**. This dimension aligns closely with classical work on tolerance for ambiguity and subsequent operationalisations of ambiguity attitudes in workplace settings [2]. Employees high in ambiguity tolerance typically adapt more effectively to fluid environments, while those low in tolerance prefer predictable routines and clear instructions. **QBM's Binary–Complex axis therefore extends these constructs by embedding them into a broader cognitive architecture that also accounts for emotional and analytical processing tendencies.**

2.2. Emotional–Rational Orientation and Dual-Process Models

The **Emotional–Rational axis** is grounded in **dual-process theories of cognition**, which differentiate **intuitive, affect-laden System 1 processing from deliberative, analytical System 2 reasoning**. In organisational contexts, employees differ in the degree to which they rely on **emotional cues, intuitive judgments, or evidence-based evaluation** when solving problems or interacting with colleagues [3]. **QBM does not treat these modes as mutually exclusive; instead, it maps them as continuous tendencies that coexist within individuals and may become more salient under specific job demands or stressors.**

2.3. Cognitive Appraisal and Emotional Response at Work

Because workplace interactions involve both emotional labour and decision-making, **QBM** incorporates insights from **cognitive appraisal theory**. Appraisal theory posits that individuals **interpret events**, in particular, **stressors through a subjective evaluation of demands and personal resources**. This framework provides conceptual grounding for how **Emotional–Rational** tendencies influence **coping strategies, interpersonal conflict management, and stress responses at work**. Although **stress physiology** is not measured in this pilot, **appraisal theory supports the idea that cognitive style affects how employees negotiate emotionally charged situations.**

2.4. Job Satisfaction and Motivational Foundations

The five satisfaction clusters used in the **HR-QBM: Pay & Recognition, Support, Growth, Environment, and Purpose**, draw from established **motivational and job satisfaction frameworks**. **Herzberg's Motivation Hygiene Theory** differentiates between **hygiene factors (e.g., pay, conditions) and motivators (e.g., purpose, growth)**, providing the conceptual origin for distinguishing . Similarly, the **Job Characteristics Model** highlights **autonomy, task significance, feedback, and skill variety** as key drivers of engagement and personal growth; these themes map onto QBM's **Growth, Purpose, and Environment** clusters [5].

2.5. Person/Environment Fit and Cognitive Job Alignment

The **QBM** further aligns with **Person Environment Fit theory**, which argues that employee **attitudes and wellbeing depend on the degree of fit between personal characteristics and job or organisational demands** [6]. Cognitive tendencies such as

preference for structure, emotional reactivity, or analytical depth can shape how employees perceive job roles, experience support, and respond to uncertainty. By evaluating quadrant placement alongside satisfaction clusters, the HR-QBM pilot examines how cognitive–emotional styles may interact with workplace characteristics to influence overall work experience.

2.6. Perceived Organisational Support

Finally, the inclusion of items measuring feeling valued and emotional support reflects **Organizational Support Theory**, which proposes that employee’s beliefs about organisational care and appreciation strongly predict job satisfaction, commitment, and reduced turnover intentions. These variables form part of the **Support and Environment clusters** and provide theoretical justification for interpreting satisfaction markers within the **QBM framework**.

3. Method

3.1. Research Design

This study employed a mixed-methods pilot design to test the feasibility and conceptual validity of the **Human Resources Quadrant Behaviour Model (HR-QBM)**. The model extends the **Psychology-QBM framework** by applying its **cognitive–emotional axes (Binary–Complex; Rational–Emotional)** to organizational settings.

The **HR-QBM** additionally integrates **satisfaction clusters** derived from established **organizational behaviour scholarship**, providing an early test of practical workplace relevance.

The purpose of this pilot study was not statistical validation, but conceptual prototyping: **to examine whether the HR-QBM structure yields coherent employee profiles and interpretable patterns when applied to real organizational roles.**

3.2. Participants

Eight employees (ages 18–33) from a service-sector company voluntarily participated. Most were early-career workers or students employed part-time, which resulted in a convenience sample with a relatively high representation of **young, educated individuals**, an important limitation explicitly addressed in the discussion.

Participants varied in **tenure (1–36 months)** and **role complexity (service workers, shift leaders, administrative support).**

4. Materials

4.1. HR-QBM Thinking Style Items

Participants responded to **16 Likert items (1–7)** representing the four **cognitive–emotional components of the QBM**:

- Binary Thinking (4 items): preference for rules, clarity, predictable routines
- Complex Thinking (4 items): comfort with ambiguity, flexibility, multi-solution reasoning

- Rational Orientation (4 items): analytical reflection, rule-based decision-making
- Emotional Orientation (4 items): affective reactivity, intuition, mood influence

Eight items were reverse-coded, following the procedure established in the **Psychology-QBM calculation appendix**.

4.2. Satisfaction Marker Items (10 items)

The **HR-QBM** pilot operationalized five satisfaction constructs. Each cluster contained two items, corresponding to the interview’s Likert questions:

- Pay & Recognition → S1 Feeling valued; S2 Emotional support
- Interpersonal Recognition → S3 Ability to express disagreement; S8 Job fit
- Growth & Autonomy → S6 Personal growth; S7 Professional growth
- Environment & Stability → S9 Training adequacy; S10 Initiative
- Purpose Orientation → S4 Long-term orientation; S5 Mental presence

These items were directly extracted from participant responses.

4.3. Open-Ended Interview Protocol

Semi-structured interviews explored:

- job role and task structure
- stress responses and ambiguity tolerance
- decision-making style
- conflict handling
- perceived support and team climate
- long-term career intentions

These qualitative segments were essential for triangulation and contextual interpretation.

5. Procedure

Participants completed the interview in person. All interviews were recorded with consent and later transcribed. After the qualitative portion, each participant completed the 26 Likert items (16 cognitive–emotional + 10 satisfaction markers).

No identifiable demographic data besides age and role was collected.

6. Data Analysis

Analysis followed the QBM triangulation framework, consisting of three layers:

6.1. Quantitative: Quadrant Coordinate Calculation

All Likert items were converted into QBM-scaled values using the established transformation rules:

- Normal-coded items: 1–7 → –6 to +6
- Reverse-coded items: mirrored through the axis
- Each axis score = mean of the four transformed items

Quadrant placement is determined by:

- X-axis → Binary (negative) to Complex (positive)
- Y-axis → Emotional (negative) to Rational (positive)

6.2. Quantitative: Satisfaction Cluster Scores

For each participant:

- Cluster score = mean of its two items
- Overall satisfaction = mean of the five clusters

These values serve as an early indicator of how organizational context interacts with a cognitive profile.

6.3. Qualitative: Case-Based Interpretation

- Each participant's numerical profile was interpreted alongside textual data.
- This step preserved contextual nuance, which is essential

for HR decision-making and foundational for a pilot without large-scale statistics.

- This followed the validity approach common in mixed-methods organizational prototypes [7].

7. Ethical Considerations

- Participation was voluntary.
- No identifying information was recorded.
- Responses were anonymized and used solely for research prototyping.
- The study occurred outside any formal employment evaluation framework, preventing coercion.
- Participants were informed that the study was exploratory and would not influence their work standing.
- The pilot complies with APA ethical guidelines for minimal-risk qualitative research.

8. Results

8.1. Quadrant Placement Overview

Across eight participants, the HR-QBM produced a coherent distribution:

- 6/8 participants fell in the **Complex–Rational (CR)** or **Binary–Rational (BR)** quadrants.
- 2 participants (5 and 8) fell into **Emotional-side quadrants, though still leaning binary.**

No participant exhibited extreme coordinates, consistent with the young, early-career sample.

	Summary of Quadrant Coordinates		
Participant	X (Binary → Complex)	Y (Emotional → Rational)	Quadrant
Participant 1	+0.5	0	BR → mildly
CR-leaning			
Participant 2	+1.5	+0.75	CR (excluded from primary analysis due to inferred items)
Participant 3	+0.75	+0.75	CR
Participant 4	+0.75	0	BR–C
Participant 5	0	–0.75	Emotional–Binary
Participant 6	+2.75	+1.5	Strong CR
Participant 7	+0.25	+0.25	Mild CR
Participant 8	+0.5	–1	Emotional–Binary

(*Participant 2 was excluded from inferential interpretation due to reconstructed Likert data.)

Individual Profiles

Participant 1 (BR)

Displays structured, rule-reliant cognition with stress sensitivity under ambiguity.

High emotional support and personal growth buffer moderate burnout risk.

A stable, cooperative BR employee.

Participant 3 (CR)

High-complexity thinker placed in a low-complexity job.

Misalignment produced role alienation and turnover, the exact pattern HR-QBM predicts for high-CR individuals in low-stimulation environments.

Participant 4 (BR)

Rule-reliant, low-ambiguity-tolerant, procedural problem-solver.

Strong structure needs + low support + no future alignment →

predictable turnover.

Participant 5 (BE)

First emotional-side profile.

Calm, disciplined, stable, but the role is temporary; retention risk comes from career transition, not dissatisfaction.

Participant 6 (Strong CR)

Most complex profile in the dataset.

High career alignment outside the job → turnover tied to ambition, not poor environment.

Participant 7 (Mild CR)

Structured but limited complexity processing.

High stress + inconsistent recognition → moderate–high turnover risk.

Participant 8 (BE)

Binary thinker with emotional tendencies around fairness and contribution.

High team support stabilizes an otherwise fluctuating emotional profile.

9. Satisfaction Marker Patterns

Across clusters:

- Personal growth scored uniformly high among students and apprentices.
- Long-term orientation scored low for all except the shift leader, supporting the prediction that role–future alignment is a turnover driver.
- Pay & recognition varied widely and aligned strongly with quadrant-based stress responses (emotional participants were more sensitive to unfairness).

10. Conceptual Findings

Even as a pilot:

- Quadrant placement meaningfully differentiated stress responses, ambiguity tolerance, and conflict-handling.
- Complex–Rational participants consistently displayed role–complexity mismatch patterns (overqualification, alienation).
- Binary–Rational participants showed stability, reliability, and preference for procedural clarity.
- Emotional profiles were more sensitive to team coherence and fairness.

These patterns match the conceptual predictions of the **HR-QBM** and justify a larger validation study.

11. Discussion

The purpose of this pilot study was to examine whether the **Human Resources Quadrant**

Behaviour Model (HR-QBM), an applied extension of the **Psychology-QBM** produces coherent, interpretable behavioural profiles within an organizational context. Although the objective was not validation, the findings demonstrate that the model meaningfully differentiated employee's **cognitive–emotional tendencies, workplace responses, and satisfaction patterns**. This suggests that the **HR-QBM** possesses preliminary conceptual utility for understanding **employee behaviour and role alignment**.

12. Interpretation of Quadrant Patterns

Across participants, six of eight individuals fell within the **Complex–Rational (CR) or Binary–Rational (BR) quadrants**. This distribution reflects the composition of the sample, **predominantly young, early-career, and educated employees** and is consistent with research showing that younger workers tend to exhibit greater cognitive openness and reflective decision-making when compared to older, more routine-experienced populations.

The CR quadrant, represented most strongly by **Participant 6** and moderately by **Participants 3 and 7**, corresponded with patterns predicted by the **QBM framework**. These individuals displayed:

- higher tolerance for complexity,
- greater interest in autonomy and growth,
- lower compatibility with repetitive or highly procedural tasks, and
- career ambitions extending beyond their current roles.

This aligns with established **Person-Environment Fit theory**, which suggests that misalignment between **cognitive style and role complexity increases turnover intention and perceived strain**. **Participants 3 and 6** explicitly exhibited early departure trajectories consistent with this interpretation.

In contrast, **Binary–Rational participants** showed more **stability and comfort in structured environments**, mirroring the predictions that lower ambiguity tolerance pairs well with procedural roles. Their quadrant placement was strongly reflected in their interview responses: **both valued clarity, predictable routines, and consistent expectations from supervisors**.

Two individuals (**Participants 5 and 8**) fell into emotional-side quadrants, displaying stronger affective **influence, heightened fairness sensitivity, and relational dependency**. Notably, their retention risk was tied not to dissatisfaction, but to external circumstances (**career plans, studies**), demonstrating that emotional orientation does not automatically predict negative outcomes. Instead, the **HR-QBM** highlights how such individuals engage with their work environment and what contributes to their stability.

Taken together, these patterns demonstrate that the **HR-QBM quadrant** logic produced behaviorally coherent and psychologically interpretable employee profiles, even within a small sample.

13. Role of Satisfaction Markers in Interpreting Quadrants

The five prototype satisfaction clusters: **pay/recognition, interpersonal recognition, growth/autonomy, environment/stability, and purpose orientation**; meaningfully contextualized quadrant placement.

Among **CR** participants, **growth/autonomy consistently scored high, while purpose orientation (long-term vision) scored low, signaling predictable turnover despite positive workplace experiences.**

Among **BR** individuals, **satisfaction hinged more on environmental clarity and emotional support, reinforcing the link between cognitive rigidity and need for stability.**

The integration of satisfaction markers with quadrant coordinates allowed the triangulation method to function effectively even within the limitations of a pilot design. The approach successfully situated individual cognitive tendencies within their organizational context, enhancing interpretative depth.

14. Feasibility of the HR-QBM as an Organizational Tool

Although preliminary, this pilot indicates strong feasibility for the HR-QBM as an applied HR framework. Specifically, the model:

- Identified predictable patterns of role misalignment and turnover intention.
- Differentiated emotional vs. rational stress responses, which are highly relevant for conflict management and team dynamics.
- Captured individual differences invisible to standard satisfaction surveys, such as ambiguity tolerance, cognitive processing style, and emotional regulation.

The model's **cognitive–emotional grounding bridges behavioural psychology and organizational behaviour, offering HR practitioners a structured way to understand employees not merely based on outcomes (performance, satisfaction), but on underlying processing patterns.**

15. Limitations

This study carries several limitations:

15.1. Convenience Sampling:

All participants belonged to a single company with similar demographic backgrounds (young, early-career, mostly students). This restricts generalizability and likely contributed to the cluster of CR and BR profiles.

15.2. Small Sample Size:

With only eight participants, statistical validation is impossible.

The pilot can only demonstrate conceptual feasibility, not reliability or factor structure.

15.3. Two Participants Had Reconstructed Items:

Participant 2's Likert items were inferred from qualitative data, reducing accuracy. This individual was excluded from inferential interpretation.

15.4. Role Homogeneity:

Most participants held similar job positions in the same environment, limiting examination of quadrant differences across diverse role types (e.g., leadership, technical work, administrative complexity).

15.5. Satisfaction Markers Still Prototypical:

The satisfaction clusters are theoretically grounded but require expansion, improved item design, and psychometric testing before finalization.

16. Future Directions

The present findings highlight several directions for the full HR-QBM paper and future empirical research:

- Large-scale validation with ≥ 50 participants to establish reliability, factor structure, and construct validity.
- Application across diverse roles to examine quadrant tendencies in managerial, technical, and creative professions.
- Longitudinal analysis, especially since the HR-QBM theoretically predicts quadrant movement under stress or changing conditions.
- Potential integration of neuroscientific concepts, such as parasympathetic stress responses, which may influence quadrant shifts.
- Refinement of satisfaction clusters into a validated instrument with strong psychometric properties.

This pilot lays the conceptual groundwork for these advancements.

17. Conclusion

This pilot study provides the first empirical application of the Human Resources Quadrant Behaviour Model, demonstrating that the HR-QBM can generate meaningful employee profiles, illuminate workplace behaviours, and identify patterns relevant to retention, stress management, and role fit. Despite the small sample, the quadrant placements aligned consistently with interview data and satisfaction markers, supporting the model's theoretical coherence and practical promise.

The findings suggest that the HR-QBM has the potential to evolve into a robust diagnostic tool for organizational research and HR practice. Its capacity to combine cognitive–emotional processing styles with satisfaction dynamics provides a multidimensional view of employees rarely captured in existing frameworks.

As a prototype, this study achieves its goal: establishing feasibility, coherence, and conceptual value. With further development and larger-scale testing, the HR-QBM may contribute substantially to understanding human variability in workplace behaviour and to designing more supportive, adaptable organizational environments.

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