Methodology E – Technical and Data Governance Profile

Organizational population data capture, processing and analytical framework

Oikoi Soluciones Tecnológicas
Executive Technical Profile | 2026

1. Purpose and analytical scope

Methodology E and ECOO (*Estudio de Comprensión Organizacional Oikoi*) is an organizational scanning methodology designed to identify collective patterns of perception across organizational populations. Its purpose is diagnostic and interpretive: it structures evidence to identify shared strengths, areas requiring attention, differences among perspectives, and issues that merit further qualitative inquiry.

The unit of analysis is the **organization as a collective population**, rather than the individual respondent. ECOO is not designed to create individual profiles, employee evaluations, or departmental rankings. Its outputs are interpreted as aggregated evidence regarding how members of an organization experience and assign meaning to organizational and work-related conditions. ECOO_Borrador_Tecnico_v0.1

This distinction is central to ECOO's data governance approach: individual responses support collective analysis, while interpretation and reporting operate at aggregated organizational levels.

2. Data architecture

The current ECOO architecture comprises:

- **18 analytical domains**
- **110 components**
- **110 base questions**
- **330 operational formulations**, generated by applying three perspectives to each base question: *Self*, *My supervisor*, and *My colleagues*. ECOO_Borrador_Tecnico_v0.1

The three perspectives are not treated as independent personal sources or as repeated measures from the same individual. Rather, they capture different perceptual positions within the organizational population. Comparative analysis is conducted at aggregate level, using different or partially different subsets of responses. ECOO_Borrador_Tecnico_v0.1

ECOO therefore combines a structured questionnaire architecture with a population-level allocation mechanism that distributes information requirements across participants instead of requiring every individual to complete the entire instrument.

3. Adaptive coverage and data collection

ECOO uses an adaptive **coverage mechanism**, rather than a classical psychometric adaptive-testing model. Its function is to progressively populate the analytical matrix of domains, components, and perspectives while limiting respondent burden.

Question allocation prioritizes:

1. domains with lower coverage;
2. components with lower coverage within those domains; and
3. perspectives requiring additional observations.

Operationally, ECOO seeks approximately 1.5 responses per organizational member for each domain, with reference thresholds of at least 75 responses per domain and 25 per perspective when organizational populations are small. Results at domain level are regarded as descriptively more robust than component-level disaggregation.
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Session length is adjusted according to organizational size, normally using blocks of 10, 20, or 30 questions. This design reduces respondent fatigue while enabling repeated voluntary participation during the fieldwork period.

4. Response scale and handling of uncertainty

Responses are processed through a common scale ranging from **−1 to 3**:

- **−1**: condition contrary to the desirable state;
- **0**: *I do not know*;
- **1**: incipient or insufficient condition;
- **2**: acceptable condition;
- **3**: ideal condition.

The value **0 is not interpreted as a neutral response**. It indicates insufficient knowledge or information to answer the question. Its frequency and concentration are therefore examined separately from substantive evaluations. A session consisting entirely of “I do not know” responses is excluded from coverage calculations. ECOO_Borrador_Tecnico_v0.1

This treatment allows ECOO to distinguish between unfavorable perceptions and lack of information, which represent analytically different organizational conditions.

5. Operational privacy and data minimization

ECOO allows repeated participation while limiting the risk of repeatedly presenting the same component to a common source of connection.

During fieldwork, an **operational alphanumeric identifier** is generated from the connection origin. The IP address itself is **not retained as analytical data and is not stored in the final analytical database**. The operational identifier is used only for coverage and repetition

control and is removed before construction of the definitive analytical dataset. ECOO_Borrador_Tecnico_v0.1

The identifier is explicitly not interpreted as a unique personal identifier: shared networks may generate the same connection origin for multiple participants, while one individual using different networks may generate different identifiers.

Accordingly, ECOO does not treat this operational mechanism as a longitudinal individual panel and does not use the number of identifiers as an exact count of persons.

These practices support three relevant governance principles:

data minimization, by avoiding unnecessary retention of identifiable connection information;

purpose limitation, by restricting the operational identifier to coverage management; and

separation between operational and analytical data, by removing the identifier prior to definitive analysis.

6. Data quality controls

ECOO incorporates behavioral controls intended to reduce the weight of responses showing patterns compatible with insufficient reading or repetitive screen-position selection.

The general weighting rule is:

weighted value = nominal value × temporal coefficient × pattern coefficient

These controls do not estimate sincerity or truthfulness. They function as conservative adjustments to the analytical weight of atypical response behavior. ECOO_Borrador_Tecnico_v0.1

The temporal coefficient compares response time with the historical distribution for the same formulation once sufficient observations have been accumulated. The pattern coefficient examines repeated selection of the same screen position, taking advantage of the randomized ordering of response alternatives. ECOO_Borrador_Tecnico_v0.1

This distinction is methodologically important: behavioral controls are used as **data-quality safeguards**, not as psychological inferences about individual respondents.

7. Analytical processing

ECOO transforms individual responses into aggregated organizational intelligence through successive analytical levels:

response → formulation → component → perspective → domain → organizational interpretation

Weighted responses to the same formulation are averaged to obtain the component value within a perspective. Components receive equal relative weight within their domain. Perspective-level domain values are obtained from component averages, while the overall domain result combines the three perspectives. ECOO_Borrador_Tecnico_v0.1

Results are interpreted using four diagnostic ranges:

- **Urgent:** −1 to <0
- **Pressing:** 0 to <1
- **Acceptable:** 1 to <2
- **Ideal:** 2 to 3. ECOO_Borrador_Tecnico_v0.1

The analytical process gives particular attention to **convergences and divergences among perspectives**. A low score with high convergence may indicate a broadly shared organizational concern; a low score accompanied by large perceptual differences may indicate unequal experiences; and a favorable aggregate value may require caution when significant divergence is present.

Thus, ECOO does not reduce organizational interpretation to a single average.

8. Integration of quantitative and qualitative evidence

ECOO is designed as a diagnostic scanning system rather than a causal explanatory model. Its structured findings are commonly contrasted with qualitative sources in order to explore manifestations, possible explanations, contextual conditions, and competing interpretations. ECOO_Borrador_Tecnico_v0.1

This produces a methodological sequence in which quantitative evidence identifies **where to look**, while qualitative inquiry helps understand **what the identified pattern may mean in its organizational context**.

ECOO therefore supports mixed-method analytical processes without treating statistical association as demonstrated causality.

9. From data to actionable intelligence

The final purpose of ECOO is not the production of scores as an endpoint. Its analytical architecture is designed to organize information so that decision-makers can identify:

- shared organizational strengths;
- priority areas requiring attention;
- differences in experience among organizational perspectives;
- issues requiring qualitative exploration;
- patterns that may warrant intervention; and
- areas where additional information is required before acting.

In this sense, ECOO operates as a **decision-support framework that transforms distributed organizational population data into structured diagnostic intelligence**.

The methodology deliberately preserves interpretive caution: findings are expressed as diagnostic signals, patterns requiring exploration, or potentially associated conditions rather than as automatically established causal relationships. ECOO_Borrador_Tecnico_v0.1

10. Governance safeguards and methodological boundaries

ECOO distinguishes explicitly between established operational practices and governance mechanisms still undergoing institutional formalization.

Among the practices currently established are:

- aggregated organizational analysis rather than individual profiling;
- operational control of repeated participation;
- non-retention of IP addresses in the final analytical database;
- removal of operational identifiers before definitive analysis;
- coverage rules;
- behavioral data-quality controls;
- structured aggregation procedures; and
- explicit methodological limitations.

Among the areas identified for further institutional formalization are more systematic version control, change records, methodological traceability, fieldwork-closing protocols, and more formalized consent and documentary governance procedures. ECOO_Borrador_Tecnico_v0.1

ECOO also expressly acknowledges that it does not currently possess comprehensive psychometric validation of its full architecture and that component-level findings have lower descriptive robustness than domain-level findings, particularly in smaller organizations. ECOO_Borrador_Tecnico_v0.1

These limitations are treated as governance requirements rather than concealed methodological assumptions.

11. Relevance to data-driven institutional intelligence

ECOO demonstrates Oikoi's experience in designing and directing analytical systems that integrate:

structured population data collection → adaptive coverage → data-quality controls → operational privacy safeguards → aggregation → multi-perspective analysis → qualitative triangulation → interpretation → decision support.

The model illustrates an approach in which the value of data is not limited to its collection or visualization. Data are governed, processed, contextualized and interpreted in order to produce information capable of supporting organizational decisions while preserving methodological caution and protecting the distinction between individual responses and collective conclusions.

Source and status note. This Executive Technical Profile is derived from *ECOO: Fundamentos, arquitectura y procedimiento metodológico, Borrador técnico 0.1*, dated 29 September 2026. The underlying document was originally prepared as an internal academic-support document and explicitly distinguishes procedures currently in operation from governance improvements still under formalization. ECOO_Borrador_Tecnico_v0.1