



RESONANCE LAB

ANALYSIS TOOLKIT



Translate 05 — Analysis

THE MOVE

After data is collected, it is analyzed using peer-reviewed approaches. The specific analysis techniques used depend on the specifics of each engagement — what is actually being learned, and what kind of data is actually available. What that analysis measures is the gap between the community's own frequency and whatever is currently acting on it — an existing program, policy, or strategy where one exists, or, where none does, the outcome the community actually needs. Two notes at different frequencies do not blend. Instead, they beat against each other, audibly out of sync. The wider this gap is, the more clearly it shows up in the data — whether that means drop-off and pushback in participatory fieldwork, or divergence in statistical and geospatial measurements. These signals are how **dissonance** is measured.

GROUNDING METHOD

Analysis is not one technique — it is the intersection of two real, established axes: what the engagement is actually trying to learn (the Four Types of Analytics: Descriptive, Diagnostic, Predictive, Prescriptive), and what data type 04 — Data Collection confirms is actually in hand. The correct technique sits at that intersection, gated by what is mathematically valid for that data type.

Grounded in: **the Four Types of Analytics framework** (near-universal standard in analytics and decision-making methodology); **Stevens' Levels of Measurement (1946)** for quantitative validity; standard qualitative analysis traditions (thematic, content analysis) for text data.

This is the approach Resonance Lab defaults to. The right depth and technique for a given engagement — timeline, budget, and who the actual stakeholders are — is a scoping conversation, not a fixed requirement.

The Instruments — Analysis

Find your Purpose (rows) and confirmed Data Type from 04 (columns). The intersection names a real, established technique.

PURPOSE	QUALITATIVE / TEXT	NOMINAL	ORDINAL	INTERVAL / RATIO
Descriptive <i>What happened?</i>	Thematic summary	Frequency counts	Median, mode, rank summary	Mean, SD, distribution
Diagnostic <i>Why did it happen?</i>	Thematic / content analysis	Chi-square test	Mann-Whitney, Kruskal-Wallis	t-test, ANOVA, correlation
Predictive <i>What will happen?</i>	Pattern-based projection (qualitative)	Logistic regression	Ordinal regression	Linear regression, forecasting
Prescriptive <i>What should be done?</i>	Recommendation synthesis	Decision rules by category	Priority ranking model	Optimization modeling

Geospatial and Network data carry the same four Purposes, using spatial statistics or network analysis methods respectively — see **A5.5**. Full technique guidance for every cell: **A5.1–A5.4**.

This toolkit is one of nine. Full walkthrough: labresonance.com/method

A5.1 — Qualitative / Text Techniques

BEFORE YOU START

What this is: Real named techniques for each Purpose (Descriptive, Diagnostic, Predictive, Prescriptive), applied to qualitative or text data.

When to use it: Once A4.6 confirms the data is Qualitative / Text.

How to use it: Match the actual analytical goal to a Purpose row first, then read across to the technique.

Source: [Lumivero – The Analytics Pyramid \(Four Types of Analytics\)](#)

PURPOSE	TECHNIQUE	WHEN IT FITS
Descriptive	Thematic summary	Establishing what themes are present before deeper analysis
Diagnostic	Thematic / content analysis	Understanding why a pattern appears across accounts
Predictive	Pattern-based projection	Anticipating likely responses based on established themes
Prescriptive	Recommendation synthesis	Moving from theme to a specific, actionable recommendation

These are representative techniques within each Purpose, not an exhaustive list — related techniques (ANCOVA, MANOVA, mixed-effects models, and others) may fit a specific engagement better. Consult a statistician for anything beyond this Score's default depth.

A5.2 — Nominal & Ordinal Techniques

BEFORE YOU START

What this is: Techniques valid specifically for categorical (Nominal) or ranked (Ordinal) data, grounded in Stevens' Levels of Measurement.

When to use it: Once [A4.6](#) confirms the data is Nominal or Ordinal.

How to use it: A mean is not valid on nominal or ordinal data — it implies distances that do not exist. Use the technique in the matching column only.

Source: [Grad Coach – Nominal, Ordinal, Interval & Ratio Explained Simply](#)

PURPOSE	NOMINAL	ORDINAL	WHY THE SPLIT MATTERS
Descriptive	Frequency counts	Median, mode, rank summary	A mean is not valid on nominal or ordinal data
Diagnostic	Chi-square test	Mann-Whitney, Kruskal-Wallis	Non-parametric tests required — parametric tests assume interval spacing
Predictive	Logistic regression	Ordinal regression	Different regression families needed for categorical vs. ranked outcomes
Prescriptive	Decision rules by category	Priority ranking model	Recommendations follow directly from the category or rank structure

These are representative techniques within each Purpose, not an exhaustive list — related techniques (ANCOVA, MANOVA, mixed-effects models, and others) may fit a specific engagement better. Consult a statistician for anything beyond this Score's default depth.

A5.3 — Interval / Ratio Techniques

BEFORE YOU START

What this is: True numeric data — the only level of measurement supporting the full range of standard statistical techniques.

When to use it: Once A4.6 confirms the data is Interval / Ratio.

How to use it: These four rows cover the most common technique per Purpose — for anything unusual (repeated measures, covariates, multiple outcomes), a statistician should confirm the right variant before fielding.

Source: [Grad Coach – Nominal, Ordinal, Interval & Ratio Explained Simply](#)

PURPOSE	TECHNIQUE	WHEN IT FITS
Descriptive	Mean, standard deviation, distribution	Summarizing central tendency and spread
Diagnostic	t-test, ANOVA, correlation	Testing whether a relationship or difference is real
Predictive	Linear regression, forecasting	Estimating an unknown numeric outcome
Prescriptive	Optimization modeling	Identifying the numerically best course of action

These are representative techniques within each Purpose, not an exhaustive list — related techniques (ANCOVA, MANOVA, mixed-effects models, and others) may fit a specific engagement better. Consult a statistician for anything beyond this Score's default depth.

A5.4 — Choosing Within a Data Type

BEFORE YOU START

What this is: A routing checklist for choosing the right Purpose once data type is already confirmed.

When to use it: After A5.1, A5.2, or A5.3 has narrowed to a data type, before selecting the final technique.

How to use it: Answer these in order — each question routes to exactly one Purpose.

Source: [Lumivero – The Analytics Pyramid \(Four Types of Analytics\)](#)

QUESTION	ROUTES TO
Summarize what already happened, no claim about why?	Descriptive
Explain why a pattern exists, or test whether a difference is real?	Diagnostic
Estimate something that has not happened yet?	Predictive
Recommend a specific action, not just describe a finding?	Prescriptive

A5.5 — Geospatial & Network — Cross-Cutting Techniques

BEFORE YOU START

What this is: Geospatial and Network describe a data's structure — whether it carries a location or relational dimension — separate from its measurement scale covered in A5.1–A5.3. An engagement can be built entirely around either.

When to use it: Whenever the underlying data has coordinates or documented relationships between entities, confirmed on A4.6.

How to use it: Confirm the structure first, then use the base grid for Purpose, applying the corresponding spatial or relational method.

☐ Does this data include coordinates or a location field for each observation?

☐ Does this data include relationships or connections between entities?

PURPOSE	GEOSPATIAL	NETWORK
Descriptive	Spatial pattern mapping	Network visualization, degree distribution
Diagnostic	Spatial clustering, hot-spot analysis	Centrality analysis, community detection
Predictive	Spatial regression	Link prediction
Prescriptive	Location-based resource allocation	Network-based intervention targeting

Geospatial tools: QGIS (free, full-featured, steepest learning curve) · ArcGIS (industry standard, paid, strongest client-facing maps) · GeoPandas (Python, best for programmatic pipelines and repeatable analysis).
Network tools: Gephi (free, visual, best for exploration and presentation) · NetworkX (Python, best for programmatic analysis and integration with statistical work).

Glossary

The physics, and what it means in practice. Every linked term across this document points here.

PHYSICS	PRACTICE
Medium What a wave travels through	Medium A community, organization, or society — already has its own rhythms and ways of organizing
Wave A disturbance that transfers energy through a medium	Wave Any program, policy, or strategy entering a community, organization, or society
Frequency (f) Number of wave cycles per second (Hz)	Community Frequency The rate at which a community, organization, or society repeats its core rhythms Measured by: participation rates, cultural retention indicators where participatory; usage or administrative records where not.
Frequency (f) Number of wave cycles per second (Hz)	Intervention Frequency The rate at which an introduced program, policy, or strategy repeats its own rhythm Measured by: program schedule and cadence; funding or renewal cycles.
Wavelength (λ) Distance of one full wave cycle (m)	Community Wavelength The reach of one full cultural cycle across people, geography, and generations Measured by: cultural spread, intergenerational transmission where participatory; demographic or geospatial distribution where not.
Velocity (v = fλ) How fast a wave's energy moves through the medium	Community Velocity How fast meaning and knowledge move through a community's own networks Measured by: response time to cultural events where participatory; network density or digital logs where not.
Amplitude (A) The energy or intensity of the driving force	Amplitude The intensity of resources actually committed to an intervention Measured by: dollars committed, people reached, frequency and duration of contact. <i>High amplitude with the wrong frequency is loud dissonance, not resonance.</i>

Glossary (continued)

PHYSICS	PRACTICE
f_community = f_intervention When frequency of wave matches frequency of medium	Resonance When the frequency of an intervention matches the natural frequency of a community Measured by: uptake, sustained engagement, trust where participatory; adoption or usage metrics where not. <i>If the community resonates with and amplifies the intervention, social transformation can take shape.</i>
f_beat = f_c - f_i When frequency of wave does not match frequency of medium — audible beating	Dissonance The gap between the frequency of a community and whatever is currently acting on it Measured by: drop-off and pushback where participatory; divergence in statistical or geospatial measurements where not.
A' > A at resonance Growth in a driven system's own response amplitude, greatest at resonance	Amplification What a community does with an intervention, if it resonates — carrying it further than what was put in Measured by: continued use after the engagement ends; adoption or replication beyond original delivery. <i>This is the mechanism behind social transformation — not the resources committed, but what the community does with them.</i>

Bibliography

Sources cited in the Analysis Toolkit.

Translate 05	Lumivero — The Analytics Pyramid (Four Types of Analytics)
Translate 05	Grad Coach — Nominal, Ordinal, Interval & Ratio Explained Simply

the cycle continues –

RESONANCE LAB

The Resonance Method – Analysis Toolkit

Extracted from The Score – 2026

Grounded in the Four Types of Analytics framework (near-universal standard in analytics and decision-making methodology); Stevens' Levels of Measurement (1946) for quantitative validity; standard qualitative analysis traditions (thematic, content analysis) for text data.

Full sources: Bibliography, previous page. Term definitions: Glossary.

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