GRAY ZONE
ECONOMICS

FROM DATA TO ACTIONABLE INTELLIGENCE

Why Intelligence Fails without Discipline

FOUNDATIONAL PAPER

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Introduction

Most modern organizations and institutes have an abundance of data. They receive inputs from sensors, dashboards, reports, APIs, data lakes and manual feeds across nearly every domain imaginable from corporate strategy to national security. While data availability has increased, decision quality has not improved at the same pace. For many organizations, decision quality has decreased resulting in unmet goals, catastrophic losses and setbacks.

This failure is misdiagnosed as a technology problem, a staffing challenge or a data quality issue. In reality, the core problem is one of understanding and methodology. Organizations confuse data with intelligence, information with understanding and visibility with action. As a result, they collect more while deciding less.

This paper argues that intelligence is not a product of volume, but of discipline. It proposes a simple framework for understanding the progression from data to actionable intelligence and explains why many organizations fail to complete that progression. The underlying logic is universal across many domains from product strategy, capital allocation and national security.

The Intelligence Progression

Data

Data represents raw, unprocessed inputs. It can be defined as simple facts without interpretation, context or implication. Data can be quantitative or qualitative, digital or physical, static or streaming. Its defining characteristic is not accuracy or usefulness, but neutrality and availability. Data answers the question: what exists, but not what matters.
Data is necessary for intelligence, but it is insufficient on its own. In isolation, data has no opinion. Meaning must be imposed for data to become useful.

Information

The next progression is information. Information emerges when data is organized, categorized or summarized by a qualifier like themes, categories, times or attributes. Dashboards, reports, tables and charts typically operate at the information level.

Information improves visibility beyond simple facts and figures. It allows organizations to describe reality more clearly. However, information remains descriptive rather than interpretive. It explains what happened or what is happening, but it does not explain why it matters or what should be done. Most organizations stop here.

Intelligence

Intelligence begins when information is interpreted through a domain-specific lens. This interpretation incorporates context, relevance, uncertainty and/or implication. Intelligence requires judgment from a human with a point of view, expertise or opinion. It is not produced automatically by tools, models or aggregation.

At this stage, analysts move beyond description and begin to assess meaning. They evaluate what information implies for objectives, constraints and risk. They identify what is significant, what is misleading and what can be ignored.

Intelligence is inherently uncertain. It acknowledges this latent uncertainty rather than attempting to eliminate it. Without explicit judgment, information does not become intelligence, regardless of volume.

Actionable Intelligence

Actionable intelligence is intelligence that can be used to accomplish a task or achieve a goal. It is decision-specific, time-bound and explicitly tied to action. It must change behavior through confirmation or challenge.

Actionable intelligence clarifies what decision must be made, under what conditions and with what degree of confidence. It also states what would invalidate the assumptions and, instead, suggest changing no behavior.

Intelligence that does not change or confirm a decision is commentary. It may be accurate, interesting or comprehensive, but it does not fulfill the function intelligence is meant to serve.

Signals, Noise and Patterns

The transition from information to intelligence depends on the ability to distinguish signals from noise.

Noise

Noise consists of data or information that requires attention without increasing actionable intelligence. Analysts must filter noise during the intelligence progression. It is not defined by falsity but rather usefulness. Accurate information can still function as noise if it distracts from what matters in the specific domain. What might be noise to one analyst could be a signal to another.

Signals

Signals are useful pieces of data or information that drive intelligence. Identifying signals requires restraint and cross-validation rather than speed or confidence. Analysts must confidently decipher the signal from the noise.

Signals gain value through repetition, corroboration or context. A single data point is rarely a signal. A pattern of consistent indicators across independent sources may be a true signal.

Patterns

Patterns emerge when signals repeat in meaningful, predictable and useful ways. Patterns are not coincidences or correlations. They are structured regularities that suggest underlying dynamics and assumptions. Analysts can identify false patterns if they do not follow a clear disciplined approach to signal analysis.

Why Organizations Fail

Organizations fail to produce actionable intelligence because they lack a decision-aligned analytic methodology suited to their goals and maturity.

Leaders fall into a number of traps. They confuse visibility of data with understanding of patterns. They optimize their teams, processes and tools to gather data instead of producing intelligence. Metrics are created to judge how much activity goes into the analysis progression instead of how decisions are made and changed. Finally, leaders forgo meaningful decisions from known, actionable intelligence to pursue complete data collection.

There is a human side to the intelligence progression and decision making cycle. More data often increases confidence faster than it increases accuracy. As information volume grows, decision-makers become more hesitant, not more decisive. The pursuit of certainty often overcomes the responsibility to decide.

Cross-Domain Examples

Product and Technology

Product organizations collect extensive usage data: clicks, sessions, features used, revenue, retention and modules accessed. Dashboards are built, presented and ignored. OKRs, KPIs and metrics are refined from team to team

Unless these metrics result in a concrete product, investment or prioritization decision, they remain only informational artifacts. More features and more data do not automatically translate into better outcomes. Intelligence exists only when analysis informs what to build, what to stop or where to invest.

Non-Combatant Evacuation Operations

In evacuation scenarios, data includes the location of individuals, assets, terrain and threats. Information organizes these elements into maps and reports to be used in the intelligence progression.

Intelligence analysts determine who can move, when and with what probability of success. Actionable intelligence prioritizes movement sequences and resource allocation under constraint. Knowing where everyone is does not matter if it does not inform who can be moved safely and in what order. Data must be cleansed, combined and analyzed so decisions can be made. Without decisions, data is an incomplete distraction.

Economics and Supply Chains

Economic data describes flows of goods, ownership structures, shipping routes and dependencies. Information summarizes these into volumes and trends.

Intelligence identifies leverage, opportunities and potential disruptions. Actionable intelligence informs decisions. Data describes flows. Intelligence reveals where those flows can be disrupted or defended.

Discipline Over Volume

Effective intelligence production requires discipline rather than scale. Organizations must define the decision they are trying to make before collecting additional data or progressing from information to intelligence. They must stop collecting marginal data when it no longer improves the quality of intelligence. Analysts must state their assumptions, confidence levels and where they could be wrong before actionable intelligence is distributed. Leaders must accept uncertainty from data collection to actionable intelligence instead of masking it with additional data collection and volumes of data. The discipline to stop collecting is as important as the ability to collect.

Responsibility and Judgment

Intelligence is not the exclusive responsibility of analysts. Leaders must demand clarity, not completeness. Analysts must resist producing volume without a clear path to actionable intelligence. Judgment is a shared responsibility across the organization from every level.

Every institution will follow a different path from data to action, but all must build a methodology that prioritizes judgment and recommendations over volume. In an age of infinite information, the limiting factor is not data. It is the discipline to decide.

Author's note

This paper is intentionally restrained. It does not offer tools, dashboards or tactical methods. Its purpose is to clarify how intelligence emerges, and why it often fails, across domains where decisions must be made under uncertainty.

About the Author

Austin Higgins works at the intersection of product strategy, finance and national security, focusing on the design of decision systems that help institutions operate under uncertainty. His work centers on translating reality into priorities, constraints and rules so decisions are made early, calmly and consistently rather than reactively or under pressure.

He currently leads platform strategy for Finance & Risk Solutions at Dun & Bradstreet, shaping shared services, AI/ML-powered analytics and self-service platforms across a global portfolio. He also serves as Chief Financial Officer of the Special Operations Association of America, where he focuses on capital stewardship, governance and operational sustainability in support of the special operations community.

In parallel, Austin has supported humanitarian evacuation and family reunification efforts during active conflicts, coordinating with NGOs and congressional offices under severe information and time constraints. He is a founding member of the Global Counterterrorism & Threat Intelligence Research Institute at UT Dallas and works on applied research at the intersection of data science, economics, OSINT and national security, with a particular focus on economic warfare and gray-zone competition.