

## NETWORK INTELLIGENCE

# Transforming Fragmented Data into an Ecosystem for Action

How organizations unlock the strategic value locked in their networks

**ABSTRACT**

Most organizations sit on an enormous underutilized asset: their networks. Despite holding relationships with thousands of people and organizations, the data about those connections remains fragmented, unstructured, and rapidly decaying. This paper defines Network Intelligence as the layer that transforms scattered relationship data into an actionable, continuously refreshed ecosystem map - and sets out principles for building one.

## Introduction

Most organizations sit on an enormous asset they can barely utilize: their networks. They know thousands of people and organizations. They sponsor programs, fund initiatives, run pilots, and collaborate across teams and regions.

Yet when it is time to answer a simple question — *"Who do we already know who has done this before, in this context, with these constraints?"* — the answers tend to sound like: *"I usually ask the same colleague, but they do not really know that domain,"* or *"We made a spreadsheet once, but it is out of date."*

This paper defines the problem, sets out what a true network intelligence layer looks like, and outlines principles for building one. The conclusion illustrates how Neol applies these principles at scale.

## The Problem: Fragmented Networks and Dark Data

Most organizations hold only the thinnest slice of information about the people and organizations they rely on — typically a name, a title, a company, and perhaps a CRM record. The real context lives elsewhere: in emails, PDFs, call notes, proposals, and in people's heads.

### The scale of unstructured enterprise data

**80-90%**

of new enterprise data is unstructured and growing 3x faster than structured data

**~90%**

of all enterprise-generated data is unstructured (IBM Research)

**~65%**

of enterprise data goes completely unused despite cost of collection

Much of this is described as **"dark data"** — material an organization has already collected but does not actively use for decision-making, relationship management, research, or hiring.

### Data decay

The small slice of data that does make it into systems decays quickly and is rarely used. Gartner-cited research shows that annual B2B contact decay reaches **70%** in some sectors, while broader analyses

place average decay around **30% per year**. At that rate, nearly half a contact database becomes unusable within two years.

***Organizations have more connections and richer context about their networks than ever before. Yet the view they actually work with is thinner, more fragmented, and more short-lived than the reality.***

### The hidden cost: time lost searching

**1.8 hrs**

per day spent by knowledge workers searching for information (McKinsey)

**20-25%**

productivity gain possible through better knowledge visibility and sharing

That daily 1.8 hours is not spent building partnerships or designing better programmes. It is spent hunting for the latest version of a list, the right slide, or the contact someone mentioned in a meeting last year.

## Networks as Social Capital

Social scientists and institutions including the World Bank and OECD describe **social capital** as the value embedded in relationships, trust, and collaboration. Research consistently shows:

- Networks carry trusted information about who is credible, who has delivered in difficult conditions, and who works well together.
- This social capital enables creativity, problem-solving, and operational efficiency — but only when it is actively mobilized.

Yet most enterprise systems treat networks as static contact lists. They know that two entities are "connected" but lack the context that actually matters:

- In what capacity did they work together?
- On which project, in which domain, with what results?

- Under which constraints — budget, geography, regulation, urgency?
- Who would trust this recommendation enough to act on it?

#### **The institutional memory problem**

When people leave an organization or move roles, a large part of the contextual network knowledge leaves with them. The social capital persists in the world, but the shared organizational memory of it disappears — forcing teams to rebuild relationships and rediscover expertise that already existed within reach.

## **From Dark Data to Network Intelligence**

Researchers describe "**dark analytics**" as the use of advanced analytics to mine unstructured and dark data for nuanced business, customer, and operational insight that traditional structured datasets cannot provide. Recent work on AI-driven data platforms shows that nearly 90% of enterprise data is unstructured, and the opportunity lies in converting this mass into operational knowledge through AI-powered knowledge graphs and agents capable of contextualizing and acting on insights.

***Network intelligence is the information layer that turns scattered data about your relationships into an actionable map of your ecosystem.***

A network intelligence layer captures:

- People, organizations, and teams
- The projects, roles, and initiatives that connect them
- The contexts in which they have worked together
- The skills, patterns, and trust signals that emerge over time

#### **Four defining properties**

- **Context-aware.** Understands not only who is connected to whom, but how and why — including domain, project history, and trust signals.
- **Continuously refreshed.** Pulls from live systems and human input so data decays more slowly and stays correctable.

- **Natural-language searchable.** Allows teams to ask real questions — *"Who has led a climate programme with local governments in the last five years?"* — rather than navigating rigid keyword filters.
- **Shared but governed.** Respects data sovereignty, privacy, consent, and access tiers while giving leaders and teams a coherent view of their ecosystem.

## What Changes When Your Network Becomes Intelligible

### Staffing and matching move from reactive to proactive

Instead of starting searches from scratch, teams begin from a living map where skills, experience, and relationship context are already available. Questions like *"Who has delivered relevant work in a context similar to this one?"* become answerable in seconds.

### Ecosystem-wide collaboration replaces siloes

When projects, partners, and teams are visible in the same network view, it becomes clear where efforts overlap and where existing connections can prevent duplicated work.

### Social capital becomes a shared institutional asset

Informal networks do not disappear when individuals move on; what disappears is the organization's ability to see and use them. Network intelligence creates institutional memory so trust and experience compound rather than reset.

### Leadership gains strategic visibility

Rather than relying on static lists or CRM rows, leaders see a real-time view of their ecosystem — areas of expertise, bridging individuals, under-connected communities, and emerging fields of practice.

## Principles for Building Network Intelligence

### 1. Start from real work, not abstract profiles

Profiles gain meaning when connected to real projects, roles, and collaborations. Begin by mapping who did what, with whom, in which context.

**2. Connect structured and unstructured data**

Do not force everything into rows and columns. Use AI to extract relevant signals from unstructured sources — PDFs, call notes, proposals, emails — and connect them to existing records.

**3. Design for ongoing refresh, not one-off clean-ups**

Data decay is constant. Build lightweight mechanisms for people to confirm, correct, and enrich information as they work, so the network stays accurate.

**4. Make it actionable through natural language**

AI advances mean teams no longer need to learn complex query syntax. Plain-language questions can surface the right people, lowering the barrier to using the network in everyday decisions.

# Neol's Approach

Neol was built to help organizations move from static, fragmented records to a network intelligence layer that reflects how their world actually works.

The Neol Hub platform connects existing data sources, surfaces hidden context, and enables teams to search, explore, and act on internal and external networks — across teams, partners, programmes, and ecosystems. Queries are expressed in plain language; the AI layer interprets intent and searches across candidate databases, internal talent records, assessed profiles, graduate cohorts, and nationalization programme participants in a single operation.

Where no internal fit exists, the platform extends search to a global pool of over 500 million enriched professional profiles — searched the same way, with the same natural-language interface.

**500M+**

enriched professional profiles in the external search pool

**1 layer**

for all people data: internal talent, candidates, alumni, partners

**NL search**

plain-language queries across the full ecosystem in English and Arabic

## Conclusion

The gap between the networks organizations hold and the networks they can actually use is not primarily a data collection problem. It is a data intelligibility problem. The information exists; what is missing is the layer that makes it searchable, contextual, and continuously accurate.

Network intelligence is that layer. By combining AI-powered enrichment, natural-language search, and relationship context drawn from real work — not just directory entries — organizations can finally make their most valuable asset available for decision-making in real time.

***The organizations that will win on talent and partnerships are not necessarily those with the largest networks — they are those who can actually see and act on the networks they already have.***

### References

1. ResearchWorld. Possibilities and Limitations of Unstructured Data.
2. IBM. Structured vs. Unstructured Data. [ibm.com/think/topics/structured-vs-unstructured-data](https://www.ibm.com/think/topics/structured-vs-unstructured-data)
3. Secoda. Two-Thirds of Company Data Goes Unused. [secoda.co](https://secoda.co)
4. IBM. Dark Data. [ibm.com/think/topics/dark-data](https://www.ibm.com/think/topics/dark-data)
5. TechRadar Pro. Transforming Dark Data into AI-Driven Business Value.

### About Neol

Neol is an AI-powered network intelligence platform that makes people data searchable and actionable. The platform consolidates candidate databases, internal talent, assessed profiles, graduate cohorts, and nationalization programme participants into a single AI intelligence layer with plain-language search across the full people ecosystem.

Headquartered in London with offices in Dubai. Operating across the GCC region.

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