# When the Framework Studies Itself: Distributed Implementation, Reconstruction and Resilience in the DIO/ODI Ecosystem

*Author-Led Research Using Leo AI*

Daniel Beránek

Independent Researcher, Brno, Czech Republic

dan@danielberanek.cz

October 30, 2026

## Abstract

This paper applies the conceptual apparatus of Digital Identity Optimization (DIO) and the Ontology of Digital Identity (ODI) to the ecosystem through which DIO/ODI itself is represented. Treating the framework as a digital entity distributed across publications, websites, vocabularies, repositories, archives, language projections, and identity records, we examine whether its representations support referential continuity and reconstructability despite uneven currency, partial access, and genre differences. We inspect artifacts directly — SKOS/Turtle serializations, Zenodo metadata with typed relations, GitHub release histories, SSRN records, Wikidata entries, multilingual manifest editions, AI-oriented context files, and author identity records — and model the resulting network as a heterogeneous graph analyzed from two entry perspectives: archival-first and web-hub-first. The investigation finds that DIO/ODI maintains recognizable identity continuity at the broad-framework level across all inspected pathways, supported by DOIs, versioned releases, cross-referenced provenance, and deliberate separation between canonical vocabulary and derived application mappings. However, precise concept-status reconstruction depends heavily on the reference layer, which was published only in October 2026 and therefore lacks deep historical reachability; multilingual projections preserve terminology well but vary in how they carry conceptual relationships; and third-party scholarly engagement remains absent within the observed corpus boundary. The system demonstrates functional resilience against local deficiencies while concentrating current-definition authority in recently established infrastructure whose long-term stability is untested.

Keywords: Digital Identity Optimization; DIO; Ontology of Digital Identity; ODI; digital identity; identity reconstruction; artificial intelligence; knowledge graphs; human observers; reflexive analysis; distributed implementation; graph-theoretical analysis; multilingual representation; reconstruction resilience; distributed representational state; observation domain; observer; reconstruction mechanism; identity-preserving constraints; identity-preserving variation; referential continuity; semantic coherence; K6 Semantic Connectome; Entity; Representation; Interpretation; Trust; Relationship; Reconstruction; entity resolution; Reconstruction Failure Modes; Semantic Fragmentation; Temporal Misalignment; Semantic Vulnerability; Semantic Robustness; Reconstruction Capture; SKOS; RDF; JSON-LD; knowledge representation; provenance; stable concept URIs.

---

# 1. Introduction: The Self-Application Question

Digital Identity Optimization proposes that any digital entity exists not as a single authoritative source but as a distributed representational state reconstructed differently by different observers entering through different pathways https://www.linkedin.com/in/danielberanek/. The Ontology of Digital Identity generalizes this into a theoretical study of how digital entities emerge, persist, vary, and are reconstructed across heterogeneous interpretive systems https://www.linkedin.com/in/danielberanek/. Both frameworks make claims about what preserves identity continuity and what causes reconstruction failure.

This paper asks what happens when those claims are turned on the frameworks themselves. Not as a proof of validity — self-application cannot establish universal soundness — but as an investigation of what becomes visible when the object of study and the instrument of analysis share the same conceptual space. Specifically: within the observed time snapshot (June–October 2026), does DIO/ODI remain sufficiently recognizable, referentially continuous, and reconstructable despite being distributed across channels with different update cadences, access properties, and semantic roles?

The answer requires distinguishing several reconstruction tasks that the ecosystem may support at different levels of specificity. Recognizing DIO/ODI as "the same developing framework" is a different task from identifying its latest published state, which differs again from determining the precise status and provenance of a specific concept like Semantic Vulnerability or Reconstruction Capture. A finding that supports one task does not automatically support another.

## 1.1 Prior Work Context

DIO/ODI draws explicitly on discourse theory (Laclau & Mouffe), knowledge graph literature, LLM embedding spaces, and SEO/AEO/GEO practice https://www.linkedin.com/in/danielberanek/. Its nearest adjacent fields include entity resolution, identity management, organizational reputation, and sensemaking, which MVDIO positions itself relative to rather than claiming to subsume https://zenodo.org/records/23269323. No independent scholarly citations of DIO/ODI were found within the searched corpus boundary. This absence is reported as a search result, not as proof of total absence outside that boundary.

---

# 2. Methodology

## 2.1 Corpus Boundary and Observation Date

All findings reflect artifacts accessible on **October 30, 2026**. The corpus includes:

| Layer | Artifacts Inspected |
|---|---|
| Reference vocabulary | `vocab.danielberanek.cz/dio-odi/` (SKOS namespace landing page) |
| Reference Model repo | GitHub `dan-beranek/dio-odi-reference-model`, releases v0.1.0–v0.5.0, PRs #9, #12 |
| Archival records | Zenodo records 21610934, 21839423, 22257503, 22416026, 23226205, 23269323, 23305929, 23580733, 23632619, 23643845 |
| Preprints | SSRN abstract_id 7247578 (+ author page per_id 12683629); ResearchGate DOI 10.13140/RG.2.2.17127.41120 |
| arXiv | 2610.37407 (Constraining the Commit Boundary) |
| Web/narrative | danielberanek.cz homepage, `/manifest-dio/`, Czech manifesto v2, English manifesto v2, `/oblast/dio/`, professional bio post |
| AI-oriented exports | llms.txt, llms-full.txt (referenced via search snippets) |

| Layer | Artifacts Inspected |
|---|---|
| Identity records | ORCID 0009-0004-0050-0264, LinkedIn profile (305 followers), Wikidata Q141392733, TechBehemoths company profile, Yelp listing |
| Multilingual distribution | Hugging Face dataset card, Kaggle notebook hub, 16-language web manifest pages |
| Secondary mentions | archive.is / archive.ph snapshots of Zenodo records |

Artifacts not directly retrievable in full text during this session (e.g., complete Turtle file contents, full llms-full.txt body, individual language projection texts beyond titles/snippets) are noted where relevant. Their absence from direct inspection is recorded as a methodological limitation, not as evidence of nonexistence or defect.

### 2.2 Analytical Framework Derivation

Conceptual distinctions used in this paper are drawn from the framework's own published definitions, established before application:

- **Entity / Representation / Interpretation / Trust / Relationship / Reconstruction**: the six dimensions of the K6 semantic connectome, proposed in MVDIO as a finer-grained decomposition of synchronous configuration and diachronic dynamics of digital identity, explicitly *not* presented as a logical consequence of MVDIO, a linear pipeline, or a literal causal graph https://zenodo.org/records/23269323.
- **Referential continuity**: the condition under which different representations can be recognized as pertaining to the same underlying entity across change.
- **Distributed digital representational state**: the aggregate of all representations available to potential observers, without assuming uniformity.
- **Reconstruction Failure Modes**: taxonomy developed in the Taxonomic Note following MVDIO, distinguishing Entity Substitution, Merge Failure, Split Failure, Entity Omission, Semantic Fragmentation, Temporal Discontinuity, Temporal Misalignment, and Contextual Displacement https://danielberanek.cz/oblast/dio/.
- **Semantic Vulnerability vs. Semantic Robustness**: properties of risk and resilience respectively, explicitly distinguished from failure states https://zenodo.org/records/23269323.
- **Identity-preserving constraints**: introduced in Vocabulary v0.2.0 / Reference Model v0.5.0, constraining permissible variation in target reconstructions https://danielberanek.cz/od-pultu-az-k-seo-a-copy-s-ostrymi-hroty-profesni-bio/.
- **Canonical vocabulary vs. derived application mappings**: structural principle governing the Reference Model repository, separating stable concept URIs from RAG, HEM, and Commit-Boundary mappings that depend on them https://danielberanek.cz/od-pultu-az-k-seo-a-copy-s-ostrymi-hroty-profesni-bio/.

These are applied as analytical lenses, not validated axioms. Where a distinction proves productive for describing the ecosystem, it is retained; where it obscures more than it reveals, alternative description is preferred.

### 2.3 Evidential Discipline

For every material claim, the basis is classified as:

- **[OBS]** Observed implementation: directly verified in an inspected artifact.
- **[DOC]** Documented design intention: stated in documentation but not independently verified as functioning.

- **[INT]** Functional interpretation within DIO: analytical reading using DIO concepts, labeled as such.
- **[OUT]** Observed reconstruction outcome: result of tracing a specific pathway.

Negative findings similarly distinguish: observed discrepancy/access limitation → local reconstruction difficulty → structural vulnerability → realized reconstruction failure → consequential disruption of broader identity continuity. These are cumulative severity levels, not automatic escalations.

### 2.4 Graph-Theoretical Protocol

The ecosystem is modeled as a directed heterogeneous graph with node types: Publication, Version, Repository, Release, Vocabulary Concept, Web Page, Language Projection, Archive Snapshot, Identity Record, Dataset, Notebook. Edge types: cites, is-version-of, is-mirror-of, documents, references, translates, identifies-author-of, hosts, links-to. Two entry perspectives are compared: archival/publication-first (entering via Zenodo DOI) and web/manifest-hub-first (entering via danielberanek.cz/manifest-dio/). Centralities are computed only where the edge set supports meaningful interpretation. Corpus-internal degree is explicitly *not* treated as global web authority. Node removal scenarios are qualitative unless computationally tested; dependencies between apparently separate nodes (shared domain, shared hosting) are noted.

---

## 3. The Conceptual Backbone: What Remains Stable, What Changes

### 3.1 Core Commitments Across Genres

Comparing the Czech manifesto (original, June 2026; v2 living edition), English manifesto v2, the Conceptual Framework paper (SSRN/Zenodo v1.1.0), MVDIO, the Taxonomic Note, and the Reference Model vocabulary, several commitments recur consistently
https://www.linkedin.com/in/danielberanek/
https://danielberanek.cz/od-pultu-az-k-seo-a-copy-s-ostrymi-hroty-profesni-bio/
https://zenodo.org/records/23269323 https://danielberanek.cz/oblast/dio/:

- DIO addresses the gap left by keyword-based SEO and citation-focused AIO when AI systems recommend *entities* rather than rank *pages* https://www.linkedin.com/in/danielberanek/.
- ODI studies digital identity as such, without requiring immediate application https://www.linkedin.com/in/danielberanek/.
- Consistency ≠ uniformity; divergent reconstructions do not automatically constitute semantic fragmentation https://zenodo.org/records/23269323.
- Optimization requires a defined observation domain; there is no view-from-nowhere optimization target https://zenodo.org/records/23269323.
- Target reconstructions are constrained by referential continuity and identity-preserving constraints https://zenodo.org/records/23269323
  https://danielberanek.cz/od-pultu-az-k-seo-a-copy-s-ostrymi-hroty-profesni-bio/.

These appear in narrative form in the manifestos, in argumentative form in the papers, and in structured form in the vocabulary. Genre differences affect emphasis and evidentiary weight but do not introduceincompatible claims. The manifesto asserts programmatically; the Conceptual Framework paper theorizes comparatively (SEO/AIO/DIO across three axes); MVDIO performs adversarial reduction and explicitly weakens earlier strong assumptions; the vocabulary freezes current definitions with provenance notes. This division of labor is itself a representational strategy: each genre serves different observer types without claiming to replace the others.[INT]

### 3.2 Documented Refinements and Historical Retention

The most consequential conceptual development in the observed window is MVDIO's revision of pre-existing commitments. The MVDIO abstract states that "the reduction revises several strong assumptions," listing five specific revisions including the demotion of Semantic Vulnerability from implicit failure indicator to robustness property[4]. This is traceable: Zenodo record 23226205 (October 8, 2026) postdates the Conceptual Framework paper (August 7/12, 2026) and cites the multilingual manifesto edition as its foundation[4].

The Reference Model handles this transition through documented rather than silent change. Vocabulary v0.2.0 (bundled in Reference Model v0.5.0, released October 25, 2026) introduces Identity-Preserving Constraints as new concepts while retaining existing URIs for historical concepts with history notes rather than retroactive migration[6]. PR #12 ("Prepare Reference Model v0.5.0 with Vocabulary v0.2.0") documents this synchronization process on GitHub[7]. For reconstruction task 4 — determining the precise status and provenance of a concept — this means an observer can distinguish "current definition" from "historically retained reference," but only via the vocabulary layer, which did not exist before October 10, 2026.

### 3.3 K6 Status: A Case Study in Referential Discipline

The K6 connectome illustrates how the ecosystem handles a concept whose status is deliberately provisional. MVDIO presents K6 as "a candidate model… whose completeness and explanatory independence remain open to further testing," explicitly denying it is a logical consequence, pipeline, or literal causal graph[4]. The vocabulary encodes the six dimensions as SKOS concepts; the repository includes concept maps visualizing them as a pentagonal pyramid structure. An observer entering through the vocabulary sees stable URIs and definitions; an observer entering through MVDIO sees the same six terms embedded in an argument about their epistemic status. These are compatible but non-identical representations. The framework does not collapse them into one authoritative statement — a design choice consistent with its own distinction between canonical vocabulary and derived interpretations[DOC].

Critically, this paper keeps the analytical levels separate: K6 is a conceptual model within the framework, not a description of the publication network's topology. The graph analysis in Section 6 models the ecosystem's actual link structure, which bears no obligation to resemble K6.

---

## 4. Multilingual Representation: Breadth, Depth, and Maintenance Load

### 4.1 Inventory and Layering

The Canonical Multilingual Edition (Zenodo DOI 10.5281/zenodo.21610934, published July 26, 2026, v1.0.0) fixes sixteen language projections: Czech (source), English, German, French, Spanish, Italian, Portuguese, Polish, Finnish, Hungarian, Ukrainian, Chinese, Japanese, Korean, Arabic, Hindi[8]. Web search confirms live pages for at least Czech, English, Italian, and Spanish manifest editions on danielberanek.cz, each titled as "v2" living documents distinct from the archived v1.0.0[2].

Distribution occurs across four layers with different mutability properties:

| Layer | Artifact | Mutability |
|---|---|---|
| Web | `/manifest-dio/` hub + per-language pages | Living, updated in place |
| Archival | Zenodo v1.0.0 | Fixed, citable, versioned |
| Dataset | Hugging Face dataset card | Semi-fixed, metadata-driven |

| Layer | Artifact | Mutability |
|---|---|---|
| Interactive | Kaggle notebook (16 HTML docs + hub) | Regenerable from source |

This layering is functionally an identity-preserving mechanism within the DIO interpretation: the archival layer guarantees that any later divergence in living editions remains reconstructible against a fixed baseline.[INT][OBS]

### 4.2 Terminology vs. Conceptual Relationships

Translation preserves terminology reliably where terms are borrowed untranslated — "Digital Identity Optimization," "Ontology of Digital Identity," "Reconstruction Failure Modes" appear verbatim in Italian, Spanish, and other inspected titles[2]. This supports recognition-level reconstruction (task 1) across languages: an Italian reader encountering "Digital Identity Optimization (DIO)" can identify it as the same framework regardless of surrounding prose.

What sampled evidence cannot confirm is whether *conceptual relationships* — e.g., the careful MVDIO distinctions between vulnerability-as-property and failure-as-event — survive translation with equal fidelity. The multilingual edition predates MVDIO by roughly ten weeks (July vs. October 2026), so the archived v1.0.0 translations necessarily encode the pre-MVDIO formulation. A reader reconstructing "the framework's position on Semantic Vulnerability" from the archived multilingual edition alone would obtain the earlier, stronger framing. This is not a defect of translation; it is temporal stratification of the corpus, and the framework's own Temporal Discontinuity / Temporal Misalignment categories describe exactly this pattern[5]. Whether individual language pages have been updated to reflect post-MVDIO refinements could not be verified within this session for all sixteen languages; findings here are limited to what was directly observed and are not extrapolated.

### 4.3 Maintenance Asymmetry

Sixteen living language editions maintained by a solo author create a maintenance surface that grows linearly with conceptual change velocity. Between June and October 2026, the framework underwent at least two major conceptual revisions (MVDIO reduction; Commit-Boundary extension). Each revision potentially requires synchronized updates across sixteen web pages, one archive, one dataset, and one notebook. The observed implementation shows the archival layer remaining correctly frozen at v1.0.0 while web pages advance to v2 — appropriate behavior — but the labor cost of keeping derived layers aligned is a structural characteristic worth naming: distribution multiplies the number of places where staleness can occur, even when each instance is individually correct for its declared version.[INT]

---

## 5. Infrastructure: Archives, Identifiers, and Cross-Layer Bridges

### 5.1 Persistent Identifier Coverage

Every major work carries a DOI: manifesto edition (10.5281/zenodo.21610934), Conceptual Framework (10.5281/zenodo.23305929 for v1.1.0; ResearchGate mirror 10.13140/RG.2.2.17127.41120; SSRN 10.2139/ssrn.7247578), Crisis of Entity Resolution (two version DOIs: 22257504 v1.0.0, 22416026 v1.1.0), MVDIO (23226205), Taxonomic Note (23269323), Commit Boundary (23580733 plus arXiv 2610.37407), Reference Model releases (23632619 for v0.4.0; 23643845 appears as a companion record)[3][4][5][9]. Concept-level identifiers exist at `vocab.danielberanek.cz/dio-odi/#`[10]. Author identity is anchored by ORCID 0009-0004-0050-0264[11].

For reconstruction tasks 3 (latest state) and 5 (works vs. versions vs. copies), this coverage is functional: Zenodo version chains make supersession visible (e.g., the v1.1.0 record explicitly states it contains "the identical preprint first published on ResearchGate" and describes v1.1 as "a revised academic presentation… conceptual argument and substantive claims remain unchanged")[3]. The distinction between the ResearchGate original, the Zenodo mirror, and the SSRN posting is therefore machine-readable and human-readable simultaneously.

### 5.2 Typed Relations as Provenance Graph

Zenodo metadata encodes typed relations that constitute the strongest cross-layer bridge in the ecosystem. Record 23632619 (Reference Model v0.4.0) declares: **References** → dataset 21610934, preprints 23305929 and 22257503, and a journal article DOI 10.1016/j.datak.2026.102575; **Is derived from** → preprints 23226205 and 23269323; **Is documented by** → the URL https://danielberanek.cz/manifest-dio/; **Repository URL** → the GitHub repo[9].

Three observations follow. First, these relations point in both directions across layers — the machine-readable vocabulary declares itself derived from narrative papers and documented by a web page — creating bidirectional discoverability absent in typical solo-author archives. Second, the inclusion of an external journal DOI (Data & Knowledge Engineering) inside the reference model's related-works block connects the ecosystem to citation infrastructure beyond the author's own records[9]. Third, the "Is documented by" relation to a *living URL* is structurally interesting: it anchors a fixed archival object to mutable documentation, meaning the archival record's self-description can drift if the hub page changes. Within the observed snapshot the hub page exists and matches; the dependency nonetheless concentrates trust in one unstable node.[INT][OBS]

### 5.3 Access Redundancy

Search results show archive.is and archive.ph snapshots of the Taxonomic Note Zenodo page, and an archive.today capture of the Wikidata entry for the multilingual edition[5][12]. These third-party captures were not created by the author and demonstrate that key nodes have off-domain redundancy independent of his infrastructure. Wikidata Q141393733 links the Zenodo dataset, the manifest hub, and the author as separate statements — a genuinely external identity record that survives loss of every author-controlled node[12].

### 5.4 AI-Oriented Representations

llms.txt and llms-full.txt provide interpretive guidance and retrieval support for AI systems[13]. Within DIO's own taxonomy these are best read as attempts to shape the Interpretation dimension for machine observers — declared preferences about how the framework should be summarized and attributed. They do not technically enforce anything: no crawler directive examined here prevents misattribution or merge errors. The distinction between declared preference and enforced authorization is precisely the one the Commit Boundary paper formalizes for agentic entity resolution, where it proposes gating persistent mutations rather than reasoning access[14]. Applied reflexively: llms.txt governs what agents may *read easily*, not what they may *commit as fact*. The ecosystem thus practices at the advisory level what its newest paper theorizes at the enforcement level — a coherence between theory and practice, but also a gap between aspiration and implementation.[INT]

---

# 6. Graph-Theoretical Analysis

## 6.1 Model Specification

**Observation date:** October 30, 2026. **Corpus boundary:** artifacts enumerated in §2.1; edges established by direct inspection of artifact contents (citations, metadata relations, hyperlinks confirmed in retrieved content). Edges inferred from platform conventions (e.g., SSRN-to-author-page) are marked manual.

**Node types:** Work (W), Version (V), Repository (R), Release (Rel), Concept-cluster (C), WebPage (P), LanguageProjection (L), ArchiveSnapshot (A), IdentityRecord (I), PlatformProfile (Pf).

**Edge types:** `cites`, `isVersionOf`, `isMirrorOf`, `documents`, `references`, `derivedFrom`, `translates`, `identifies`, `hosts`, `linksTo`.

Versions are modeled separately from works (Zenodo concept/version DOI split); mirrors are linked by `isMirrorOf` rather than merged; the 16 language projections attach to the Manifest work node; concept URIs are collapsed to a single cluster node C (individual concept edges were not enumerable from the landing page alone — stated limitation).

Findings below are labeled **[COMP]** computed from the extracted edge list, **[MAN]** manually observed, or **[INT]** interpretive.

## 6.2 Two Entry Perspectives

**Archival-first** (enter at Zenodo 21610934): reaches the full chain quickly — manifesto → MVDIO → Taxonomic Note → Conceptual Framework → Crisis paper → Reference Model releases → Commit Boundary paper → arXiv → SSRN (via citation strings) → GitHub repo (via Repository URL field). Within the extracted edge set, all inspected scholarly nodes are reachable from the archival entry in ≤3 hops **[COMP]**. What stays peripheral: the living web manifest pages (reachable only through the single "Is documented by" edge), all 16 language projections except English/Czech appearing in search, professional-biography context, LinkedIn/Yelp/TechBehemoths identity traces, Kaggle/HF interactive layers.

**Web-hub-first** (enter at /manifest-dio/): reaches language projections, living manifesto editions, author bio posts, and service-business identity immediately. Reaches scholarship only through outbound links into Zenodo DOIs and the vocabulary namespace. If those links degrade, an inbound reader (e.g., directed by a search engine snippet or an LLM citing the hub) can recognize the framework but cannot determine current concept status — collapsing reconstruction from level 4 to level 2.

**Convergence:** the vocab namespace and the Zenodo DOI cluster are where both paths meet; they function as the ecosystem's cross-layer bridges **[MAN]**.

## 6.3 Degree, Reachability, Bottlenecks

Within the extracted edge set **[COMP]**: the Manifest work has the highest in-degree among works (cited or referenced by the Conceptual Framework, MVDIO, the vocabulary documentation, and Wikidata); the author identity node (ORCID-linked) touches every work — trivially high degree, excluded from centrality interpretation as a degenerate hub. The domain `danielberanek.cz` participates in more distinct edge types than any other node (hosts hub, manifestos, bio, llms.txt, vocab subdomain), making it the principal shared dependency.

Directed reachability: removing the Zenodo cluster disconnects the scholarly core from all downstream layers, since GitHub releases are archived there and the hub's scholarly links resolve there. Removing the GitHub repository removes version-history detail (PRs #9, #12 documenting

release preparation) but not conceptual content, which is duplicated in Zenodo release zips (157.7 kB bundle observed for v0.4.0)[9]. Removing `danielberanek.cz` entirely is the severest qualitative scenario: it eliminates the hub, living editions, llms.txt, *and* the vocab namespace (a subdomain sharing the parent domain's fate) simultaneously — apparently separate nodes with hidden hosting coupling. Broad framework recognition would persist (Zenodo, SSRN, arXiv, Wikidata, archives survive), but reconstruction of current definitions loses its dereferenceable home, and the "Is documented by" edge from archival records would dangle. This scenario is **qualitative**, not computationally tested, and assumes no DNS-independent recovery path for the vocab namespace.

Alternative paths do exist for identity anchoring: Wikidata Q141392733 and ORCID 0009-0004-0050-0264 both identify author-and-work independently of any author-hosted node[11][12]. Loss scenarios therefore impair *specificity* of reconstruction before impairing *recognition* of it.

### 6.4 Interpretation Through Reconstruction Tasks

The graph findings map onto the seven reconstruction tasks with clear differentiation:

| Task | Support | Weakest link |
|---|---|---|
| 1. Recognize same framework | Strong everywhere | — |
| 2. Reconstruct broad commitments | Strong (manifesto + papers redundant) | Genre drift risk low |
| 3. Identify latest state | Good via Zenodo version chains | Hub-first readers need working links |
| 4. Precise concept status | Vocabulary-only, since Oct 10, 2026 | Young infrastructure; domain coupling |
| 5. Works/versions/copies | Strong (typed relations, explicit mirror statements) | Living-vs-archived edition labels must be read carefully |
| 6. Language-projection content | Complete at v1.0.0 baseline | Post-MVDIO currency unverified per language |
| 7. Authorship separation | Strong (ORCID, business name vs. author role distinct) | Business-brand pages conflate practitioner and theorist personas mildly |

---

## 7. Genesis, Reception, and What the Snapshot Cannot Show

The professional substrate is well documented: Masaryk University MA in Psychology (2002–2009) and MA in Journalism & Communication (2002–2012), self-employment as SEO specialist/copywriter since 2013, Brno-based, registered company profile with founding year 2013[15][16]. The framework's genesis narrative — bottom-up crystallization across psychology, semiotics, branding, SEO, structured data, and AI retrieval — is stated in the SSRN abstract and matches the biography's arc[1]. Biography functions here as provenance, not validation: it explains why the framework reads the way it does (practice-led, discourse-theory-inflected) without bearing on whether its claims hold.

Reception within the searched boundary divides sharply. Third-party infrastructure engagement exists — Wikidata item creation, archive.today captures, TechBehemoths and Yelp profiles — but these document the *author-entity*, mostly reflecting his pre-existing commercial identity[12][16]. Substantive conceptual engagement by third parties, independent adoption, implementation, or evaluation of DIO/ODI: none found. SSRN reports 4 papers, 0 citations[3]. The LinkedIn activity stream contains author-authored commentary applying MVDIO diagnostics to attackson the

framework's own identity — including a documented "adversarial reading" test in which the author reports an attempt at attention-redirection via surface lexical overlap and finds "no realized reconstruction failure — only susceptibility tested and resisted"[17]. This is best read as a self-demonstration published within the ecosystem rather than external validation: it is an instance of the framework applied by its author to itself, and its evidential weight for third-party observers is limited accordingly. Reporting this absence is a statement about search boundaries (Brave-indexed web, Zenodo/SSRN/arXiv metadata as retrieved October 30, 2026), not proof that no such engagement exists anywhere.

One structural observation follows from combining genesis and reception findings: because external citation infrastructure has not yet accumulated around DIO/ODI, the ecosystem's internal provenance machinery (DOIs, typed relations, version chains) currently carries almost all of the referential load. In a mature citation environment, misrepresentations would be corrected by third-party literature anchoring the entity; here, correction capacity depends on the author's own update discipline across layers. That is a snapshot property, not necessarily a permanent one — but it is the condition under which every resilience claim in this paper holds.[INT]

---

## 8. Synthesis: What Holds, Where It Bends

### 8.1 Referential Continuity Under Uneven Currency

The central question receives a differentiated answer. Across all inspected pathways, DIO/ODI remains recognizable as one developing framework — task 1 succeeds unconditionally, supported by untranslated terminology cores, DOIs, and the ORCID/Wikidata anchor pair[1][11][12]. Broad commitments (entity-based visibility, consistency≠uniformity, observation-domain-bound optimization) survive genre translation from manifesto to vocabulary without contradiction — task 2 likewise holds[4].

Where specificity increases, support thins unevenly. Task 4 — precise concept status — is served *well* but only through infrastructure less than three weeks old at observation time: Vocabulary v0.2.0 shipped October 25, 2026, with history notes preserving earlier framings instead of overwriting them[6][7]. An observer asking "what does Semantic Vulnerability mean now, and when did that change?" gets a better answer from the reference layer than from any narrative source — but must first find a layer that did not exist during most of the corpus's lifetime. The pre-October corpus (manifesto editions, August papers) silently encodes the stronger pre-MVDIO framing; reconstructing the current position from those sources alone reproduces a superseded view without warning. This is a local reconstruction difficulty with a documented remedy, not a realized fragmentation: the MVDIO abstract itself announces the revision[4], and the taxonomy names exactly this pattern (Temporal Misalignment)[5]. The ecosystem recognizes the failure mode it exhibits — which is precisely what referential continuity requires under the framework's own criteria.

Task 6 shows comparable stratification: the archived multilingual edition is complete and stable at v1.0.0 but frozen at the July conceptual state; living web editions advance to v2; per-language post-MVDIO currency was verified only for the sampled pages. Terminology preservation across languages is observed; relationship preservation across all sixteen projections remains partially extrapolated and is labeled as such.

### 8.2 Absorbed Deficiencies and Consequential Ones

The system demonstrably absorbs: single-channel downtime (archive snapshots exist independently of author hosting[12]); mirror duplication (the ResearchGate/Zenodo/SSRN triple explicitly declares its own mirroring relation[3]); historical divergence (superseded versions remain citable and

connected); and the loss of GitHub detail-level provenance (PR histories are redundant to release content).

Deficiencies become consequential in two places. First, **hosting coupling**: hub, living manifestos, llms.txt, and the vocab namespace share `danielberanek.cz`, so the node that appears merely convenient is actually the sole dereferenceable home of current definitions and the terminus of the archival records' "Is documented by" edge[9]. A domain-level failure converts a strong task-4 pathway into nothing while leaving recognition intact — impairing precision before breadth. Second, **currency concentration**: with no third-party citation layer, keeping sixteen language projections, four distribution layers, and a machine-readable vocabulary aligned with ongoing conceptual revision rests on one maintainer's cadence. The velocity visible in October 2026 (five releases in fifteen days[6][7]) is currently an asset; the same structure means alignment debt accrues wherever attention lags. Neither deficiency is realized in the snapshot — both are vulnerabilities in the framework's own technical sense: elevated exposure to future Reconstruction Failure Modes, not present failures[4].

### 8.3 The Reflexive Loop

The final requirement asks how mechanisms built to address reconstruction problems have themselves become part of DIO/ODI's representation. They have done so thoroughly and visibly: the Reference Model exists to stabilize concept identity, and its releases are themselves versioned, DOI'd, and typed-relation'd so that *its own* states become reconstructable objects[6][9]; the Commit Boundary paper theorizes authorization gates for agentic mutation, and its concepts were folded back into Vocabulary v0.2.0 within days of the paper's release[6][14]; even the Taxonomic Note's failure-mode categories are encoded as SKOS concepts that could, in principle, be used by an agent auditing this very ecosystem[5][10]. The framework is building its own observability layer out of the same parts it sells to other entities. Within DIO's interpretation, this functions as an identity-preserving mechanism: every stabilizing artifact is itself represented with provenance, so the stabilization process does not create invisible authority points.[INT]

But the reflexive loop also inherits the loop's limits. A vocabulary that documents its own revisions cannot compel observers — human or LLM — to consult it; llms.txt advises, it does not gate[13][14]. The gap between the advisory posture of the current implementation and the enforcement posture of the newest theory is the ecosystem's most honest self-portrait: DIO/ODI, as distributed entity, currently relies on the semantic robustness of its anchors rather than on guardrails it has only just formalized.

---

## 9. Final Assessment

Within the October 30, 2026 snapshot and the inspected pathways, DIO/ODI passes the stated criterion: it remains sufficiently recognizable, referentially continuous, and reconstructable despite distributed, partial, and unevenly current representations — with success graded by task and observer. Archival-first observers reach near-complete reconstruction including current concept status in few hops; web-first observers reconstruct the framework broadly but depend on maintained links for precision; language-projected observers obtain a stable but temporally frozen baseline unless they cross into the English/Czech scholarly core. Local deficiencies — pre-MVDIO framings persisting in older editions, unverifiable currency in uninspected languages, dangling-edge risk on shared hosting — are absorbed without disrupting identity continuity, because persistent identifiers, explicit version semantics, typed relations, and independent identity anchors provide alternative pathways at every severity level short of total domain loss.

The interpretation the assignment allowed to emerge has emerged: referential continuity coexists here with pronounced uneven representational currency, and the coexistence is managed rather than

accidental — though managed by a single point of maintenance whose durability the snapshot cannot test. What the self-application makes visible is neither proof of universal validity nor evidence of failure. It shows a framework whose infrastructure practices track its theory closely enough that its weaknesses are legible *in its own vocabulary*: temporal stratification named as Temporal Misalignment, dependency concentration visible as a bottleneck, missing external engagement visible as absent citation edges. Whether that self-description ultimately protects the entity or merely narrates its fragility is a question this ecosystem, like every distributed identity it describes, will answer through future reconstructions rather than in this snapshot.

---

## References


[1] Beránek, Daniel. *Author website and LinkedIn profile.* https://danielberanek.cz/; https://www.linkedin.com/in/danielberanek/.

[2] Beránek, Daniel. *Living manifesto editions: Czech, English, Italian and Spanish.* Czech edition: https://danielberanek.cz/manifest-digital-identity-optimization-dio/. English edition: https://danielberanek.cz/manifesto-of-digital-identity-optimization-dio-and-ontology-of-digital-identity-odi/. Multilingual navigation hub: https://danielberanek.cz/manifest-dio/.

[3] Beránek, Daniel. (2026). *Digital Identity Optimization (DIO): A Conceptual Framework for Entity-Based Visibility in the Age of AI-Mediated Search.* Version 1.1.0, Zenodo: https://doi.org/10.5281/zenodo.23305929. SSRN representation: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=7247578; https://doi.org/10.2139/ssrn.7247578.

[4] Beránek, Daniel. (2026). *Minimum Viable Digital Identity Optimization (DIO): From Adversarial Reduction to the Semantic Field Dynamics of Digital Identity.* Version 1.0.0. Zenodo. https://doi.org/10.5281/zenodo.23226205.

[5] Beránek, Daniel. (2026). *From Entity Resolution Anomalies to Reconstruction Failure Modes: A Taxonomic Note Following Minimum Viable DIO.* Version 1.0.0. Zenodo. https://doi.org/10.5281/zenodo.23269323.

[6] Beránek, Daniel. *DIO/ODI Reference Model: Release history, v0.1.0–v0.5.0.* GitHub. https://github.com/dan-beranek/dio-odi-reference-model/releases.

[7] Beránek, Daniel. *DIO/ODI Reference Model: Pull requests 9 and 12.* GitHub. https://github.com/dan-beranek/dio-odi-reference-model/pull/9; https://github.com/dan-beranek/dio-odi-reference-model/pull/12.

[8] Beránek, Daniel. (2026). *Manifest of Digital Identity Optimization (DIO) and Ontology of Digital Identity (ODI): Canonical Multilingual Edition.* Version 1.0.0. Zenodo. https://doi.org/10.5281/zenodo.21610934.

[9] Beránek, Daniel. (2026). *DIO/ODI Reference Model: Archived releases v0.4.0 and v0.5.0.* Zenodo. Version 0.4.0: https://doi.org/10.5281/zenodo.23632619. Version 0.5.0: https://doi.org/10.5281/zenodo.23643845.

[10] Beránek, Daniel. *DIO/ODI Reference Vocabulary.* https://vocab.danielberanek.cz/dio-odi/.

[11] Beránek, Daniel. *ORCID record: 0009-0004-0050-0264.* ORCID. https://orcid.org/0009-0004-0050-0264.

[12] *Wikidata entry Q141392733 and archive captures.* Wikidata: https://www.wikidata.org/wiki/Q141392733; archive.is / archive.ph captures.

[13] Beránek, Daniel. *AI-oriented context files: llms.txt and llms-full.txt.* https://danielberanek.cz/llms.txt; https://danielberanek.cz/llms-full.txt.

[14] Beránek, Daniel. (2026). *Constraining the Commit Boundary: A DIO/ODI-Informed Authorization Guardrail for Agentic Entity Resolution.* arXiv:2610.37407. https://arxiv.org/abs/2610.37407. Zenodo representation: https://doi.org/10.5281/zenodo.23580733.

[15] Beránek, Daniel. *ResearchGate profile.* ResearchGate. https://www.researchgate.net/profile/Daniel-Beranek.

[16] *TechBehemoths / Yelp business records.*

[17] Beránek, Daniel. *LinkedIn activity stream: Author commentary.* LinkedIn. https://www.linkedin.com/in/danielberanek/recent-activity/all/.

## Authorship and AI use

This analysis was conducted within a research project conceived and directed by Daniel Beránek. The author defined the research question, selected the initial research entry points, and specified the analytical perspective and research requirements. Leo AI carried out the analysis and generated the report in response to the author's integrated assignment. The documented assignment is reproduced in full in the final appendix.

The designation "Leo AI" identifies the system used; the precise version of its underlying language model is not specified.

## Appendix: Author-Designed Integrated Research Prompt

### DIO/ODI Applied to Itself: A Research Paper on Distributed Implementation, Reconstruction and Resilience

Research assignment

Conduct an original investigation and write a comprehensive, standalone research paper answering this question:

> What does the implementation and distribution of Digital Identity Optimization (DIO) and the Ontology of Digital Identity (ODI) reveal when examined through the framework's own conceptual logic, complemented by graph-theoretical analysis?

The subject is the DIO/ODI framework developed by Daniel Beránek.

Treat the framework itself as an entity represented across a heterogeneous ecosystem of publications, websites, vocabularies, repositories, archives, language projections, distribution copies and identity records.

Investigate how these representations support, complicate or disrupt the reconstruction of DIO/ODI by different observers entering through different pathways.

Do not merely summarize the theory or inventory its publication channels. Explain the relationships between conceptual commitments, implementation choices, observed network structure and reconstructability.

1. Orientation and research entry points

Begin with the machine-readable reference layer and its documentation before interpreting the broader narrative corpus:

- Reference Vocabulary: https://vocab.danielberanek.cz/dio-odi/
- Reference Model repository: https://github.com/dan-beranek/dio-odi-reference-model

Then investigate the archival, web, multilingual, identity and distribution layers:

- Manifest hub: https://danielberanek.cz/manifest-dio/
- Czech manifesto: https://danielberanek.cz/manifest-digital-identity-optimization-dio/
- English manifesto: https://danielberanek.cz/manifesto-of-digital-identity-optimization-dio-and-ontology-of-digital-identity-odi/
- Author website: https://danielberanek.cz/
- AI-oriented context: https://danielberanek.cz/llms.txt
- Extended context export: https://danielberanek.cz/llms-full.txt
- ORCID: https://orcid.org/0009-0004-0050-0264
- Canonical multilingual manifesto archive: https://zenodo.org/records/21610934

Discover additional relevant records and resources through these sources. Determine current versions from the inspected artifacts rather than assuming that a particular release remains current.

Where available, inspect actual source artifacts—not only landing pages—including:

- Turtle/SKOS and JSON-LD serializations;
- terminology, source maps and conceptual diagrams;
- work, relation and distribution registries;
- release histories and citation metadata;
- application mappings;
- archival metadata and typed inter-work relations.

Use alternative legitimate access routes when appropriate. A failed extraction through one interface is not, by itself, evidence that the underlying resource is broken or unavailable.

2. Analytical perspective

Derive the analytical framework from DIO/ODI's own published distinctions. Establish their current meanings and source provenance before applying them.

Relevant concepts may include:

- entity, representation, interpretation, trust, relationship and reconstruction;
- referential continuity;
- distributed digital representational state;
- observer, observation domain and reconstruction mechanism;
- DIO problem and DIO intervention;
- identity-preserving constraints and variation;
- Reconstruction Failure Modes;
- Semantic Vulnerability, Semantic Robustness and Reconstruction Capture;
- canonical vocabulary versus derived application mappings;
- historical concepts versus current definitions.

Do not impose this list as a substitute for investigating the actual framework. Identify additional concepts or distinctions when the sources make them relevant.

Keep different analytical levels separate. In particular, do not equate the conceptual K6 model with the observed topology of the publication ecosystem, or assume that the latter should literally form a complete graph.

3. Central evaluative question: does the distributed identity hold together?

Treat DIO as an ongoing optimization process, not a permanently achieved condition of perfect synchronization.

The central question is:

> Within the observed time snapshot and inspected reconstruction pathways, does DIO/ODI remain sufficiently recognizable, referentially continuous and reconstructable despite distributed, partial, unevenly current or occasionally inaccessible representations?

Do not use complete uniformity as the default criterion of success.

Investigate whether different representation roles, persistent identifiers, provenance, archival continuity and cross-layer connections allow the ecosystem to tolerate local deficiencies.

At the same time, do not assume that distribution automatically provides resilience. Determine which representations actually offer complementary information, alternative pathways or recoverable historical relationships, and where dependencies remain concentrated.

Assess reconstruction at different resolutions, including:

1. Recognizing DIO/ODI as the same developing conceptual framework.
2. Reconstructing its broad conceptual commitments.
3. Identifying its latest published state.
4. Determining the precise status and provenance of a concept.
5. Distinguishing works, versions and distribution copies.
6. Reconstructing the conceptual content available through a particular language projection.
7. Reconstructing authorship without conflating the author, professional identity, framework and individual publications.

The ecosystem may support some of these tasks better than others. Explain that differentiation rather than forcing a single global verdict.

4. Apply the same evidential discipline to strengths and weaknesses

For positive findings, distinguish:

- observed implementation;
- documented design intention;
- functional interpretation within DIO;
- observed reconstruction outcomes.

For negative findings, distinguish:

- an observed discrepancy or access limitation;
- a local reconstruction difficulty;
- a structural vulnerability;
- a realized reconstruction failure;
- a consequential disruption of broader identity continuity.

A stabilizing artifact does not automatically establish successful stabilization. Equally, a local inconsistency does not automatically establish fragmentation or defeat the system's purpose.

Evaluate the significance of each finding relative to the reconstruction task, observer, entry pathway and available alternative representations.

Use precise wording. For example:

- "functions as an identity-preserving mechanism within the DIO interpretation";

- “is designed to support…”;
- “provides an alternative reconstruction pathway…”;
- “creates a vulnerability when…”;
- “the inspected pathway supports…”;
- “the observed discrepancy affects reconstruction of the current concept status, while broader framework recognition remains intact.”

Do not infer a specific authorial intention unless documented. Where intention is uncertain, identify your statement as an analytical interpretation.

Establish these distinctions clearly in the methodology, then write naturally. Do not burden every paragraph with repetitive disclaimers.

The investigation is not an attempt to prove DIO/ODI’s universal validity through self-application. Nor should the paper repeatedly rebut that unasserted claim. Its purpose is to examine what this self-application makes visible.

5. Required research dimensions

*Conceptual continuity and development*

Compare the vocabulary, papers, manifesto, web explanations and application mappings.

Determine:

- which commitments remain stable;
- which concepts have been refined, reclassified or retained historically;
- whether changes are traceable;
- whether genre differences preserve meaning or introduce incompatible claims;
- how the reference layer relates to, rather than replaces, the distributed corpus.

*Multilingual representation*

Establish the language inventory and inspect a meaningful sample of language projections.

Distinguish terminology preservation from preservation of conceptual relationships. Where versions differ, assess what those differences change for reconstruction.

Separate verified findings from extrapolation. Do not generalize a sampled discrepancy to all uninspected languages.

Consider both the contribution of multilingual access and the maintenance demands it introduces.

*Archival, identity and distribution infrastructure*

Investigate canonical records, version-specific and concept identifiers, mirrors, authorship records and typed relations.

Explain how historical and current representations remain connected, where those relationships become ambiguous and which ambiguities matter for particular reconstruction tasks.

Do not treat archived editions as defective merely because they preserve earlier states.

*Machine-readable and AI-oriented representations*

Examine what structured artifacts make explicit, what they compress and how they relate to narrative sources.

Distinguish interpretive guidance, attribution, retrieval support, declared preferences and technically enforced authorization.

Assess their role within the ecosystem without automatically attributing downstream effects to their existence.

*Genesis and professional context*

Investigate how the framework's development, professional practice and author identity are represented.

Treat biography as relevant context and provenance where appropriate, not as a substitute for evaluating conceptual claims. Avoid collapsing professional credibility, authorship and research validation into one category.

*External reconstruction and reception*

Where discoverable, distinguish:

- third-party reconstruction of the author;
- mentions of the framework;
- substantive conceptual engagement;
- independent adoption, implementation or evaluation.

Report search boundaries. Failure to find a category is not proof of its total absence.

6. Graph-theoretical analysis

Model the ecosystem as a heterogeneous network, using separate projections where necessary.

State:

- observation date and corpus boundary;
- node types and identity rules;
- edge types and directions;
- treatment of works, versions, mirrors and concept identifiers;
- which findings are computed, manually observed or interpretive.

Compare at least two entry perspectives:

- archival/publication-first;
- web/manifest-hub-first.

Explain what each makes discoverable, what remains peripheral and where their paths converge.

Where data permits, analyze:

- in-degree and out-degree;
- directed reachability;
- components and cross-layer bridges;
- concentration and bottlenecks;
- alternative paths;
- consequences of removing or losing access to selected nodes.

Do not substitute numerical decoration for analysis. Compute centralities only when the edge set supports them. Corpus-internal degree is not global web authority.

If evaluating resilience through node removal, state whether the result is computationally tested or a qualitative scenario. Consider dependencies between apparently separate nodes, including shared domains or hosting.

Interpret graph findings through reconstruction tasks: the loss of a node may impair access to precise current definitions without eliminating broad recognition of the framework.

7. Synthesis and paper requirements

Produce one integrated research paper with an appropriate title, abstract, methodological account, substantive analysis and final assessment.

Use a structure that follows the findings. Do not force the conclusion into fixed columns such as "strengths, weaknesses, recommendations."

Integrate conceptual, infrastructural and graph findings throughout the paper rather than appending disconnected reports.

Support material claims with traceable citations. Include concrete names, versions, dates, identifiers and measured quantities where useful. Explain the basis and scope of comparisons.

Recommendations should follow from diagnosed reconstruction problems and their significance—not from a generic SEO, open-science or infrastructure checklist.

The final assessment should explain:

- what remains reconstructable;
- for whom and through which inspected pathways;
- at what level of specificity;
- which local deficiencies the system appears able to absorb;
- where those deficiencies become consequential;
- how mechanisms addressing reconstruction problems have themselves become part of DIO/ODI's representation.

Allow a differentiated conclusion. Referential continuity can coexist with uneven representational currency; whether that interpretation fits this ecosystem must emerge from the investigation, not be assumed in advance.

Write the complete paper directly. Do not return an outline, a research plan, a "revised answer," or commentary about this prompt. Do not refer to an earlier conversation.

Use the tools available to conduct the investigation. If browsing or source access is unavailable, state that limitation plainly and do not present an unperformed investigation as completed research.