Intent-to-Income™ End-to-end Case

Cat Food Decision Support on Cattus

Technical & Evidence Report

Version: 0.2 - Consolidated Draft

Case Classification: Illustrative End-to-end Case with Structured Design Evaluation

HaNonn

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Document Control

Field	Value
Case ID	CAT-ILL-001
Domain	Commerce Decision Support - Cat Food
Domain Application	Cattus
Reference Decision Architecture	Intent-to-Income™
AI Decision Application	HaNonn Decision Composer™
Empirical User Evidence	None
Application Effectiveness	Not Established
Architecture Validation	Not Established
Architecture Authority	HaNonn_Canonical_Reference_v3.0_Final.md
Evidence Audit Source	Technical Appendix & Evidence Pack v0.1

Formal Evidence Boundary

กรณีศึกษานี้เป็น Illustrative End-to-end Case ของ Intent-to-Income™ พร้อม Structured Design Evaluation โดยใช้สภาพแวดล้อมเนื้อหาของ Cattus และหลักฐานสินค้าจริง ร่วมกับ User Profile และ Behavioral Signals ที่สร้างขึ้นเพื่อการจำลอง Case แสดงการ operationalize อย่างตรวจสอบย้อนกลับได้ แต่ยังไม่ได้พิสูจน์ Effectiveness ต่อผู้ใช้จริง การยกระดับ Decision Quality ความเหนือกว่าของสินค้า ผลเชิงสาเหตุ Business Outcomes หรือ Empirical Validation ของ Architecture.

Contents

1. Executive Summary

กรณีศึกษานี้ operationalize Intent-to-Income ภายใต้ decision scenario บน Cattus: “อาหารแบบใดหรือสูตรใดเหมาะกับแมวของฉัน?” แทนการเริ่มต้นจาก universal ranking ว่าอาหารแมวยี่ห้อไหนดี Case เริ่มจาก Decision Context และ Decision Signals แล้วสร้าง working hypotheses เกี่ยวกับสิ่งที่ผู้ใช้อาจยังต้องเข้าใจ เปรียบเทียบ หรือตรวจสอบก่อนเลือกสินค้า.

Canonical Core Flow ยังคงเป็น Decision Signals D ecision Need D ecision Support D ecision Quality M easurable Outcomes. Decision Context, Candidate Retrieval / Eligibility, HaNonn Decision Composer, Product Evaluation และ Interface steps เป็น implementation/application mechanisms ไม่ใช่ Core Flow stages เพิ่มเติม. [CAN]

Decision Context + Decision Signals
↓
Interpretation
↓
Proposed Decision Need
↓
Decision Support Requirements
↓
Candidate Retrieval / Eligibility
↓
Candidate Products
↓
HaNonn Decision Composer™
↓
Product Evaluation + Decision Support Blueprint
↓
Compare / Verify / Revise / Select / Defer
↓
User Decision

Structured Design Evaluation ถูกดำเนินการกับ artifact และ logic ของ Case และนำไปสู่ specification revisions เช่น การแยก Candidate Eligibility ออกจาก full Product Evaluation, การกำหนด “Why this product appears”, Claim/Evidence separation, Decision State inheritance และการรักษา Final Decision Authority ไว้กับผู้ใช้.

Current Classification

Architecture operationalization + Application specification + Structured Design Evaluation + Research preparation. ไม่ใช่ empirical validation หรือ evidence ว่า Decision Quality ดีขึ้น.

2. Case Classification & Evidence Boundary

2.1 Classification

สถานะอย่างเป็นทางการ: Illustrative End-to-end Case with Structured Design Evaluation. Case เป็น Illustrative เพราะ Milo Profile และ behavioral journey เป็น Synthetic Case Data และไม่มี real-user participants. Case มี Structured Design Evaluation เพราะ design artifact ถูกตรวจด้วย structured walkthrough และมี Findings/Revisions ที่เกิดจากการประเมิน. [BRF]

2.2 Evidence Vocabulary

Label	Use in this report
Canonical Evidence	Authoritative architecture definition
Direct Source Evidence	Content/source facts that are directly available
External Product Evidence	Product information from real external sources
Manufacturer Claim	Benefit/effect claim stated by manufacturer
Synthetic Case Data	Data constructed for the illustrative case
Interpretation	Meaning derived from evidence/signals
Proposed Decision Need	Working hypothesis of Decision Need
Application Output	Eligibility, Product Evaluation or Blueprint output
Design Finding	Finding from Structured Design Evaluation
Proposed Metric	Measurement candidate not yet validated
Evidence Gap	Evidence absent or insufficient
Empirical Finding	None in the current case

Application effectiveness ต้องอาศัย application-specific empirical evidence และไม่สามารถอนุมานจาก Canonical definition หรือ prototype เพียงอย่างเดียว. [CTX]

3. Architecture Basis

3.1 Intent-to-Income™

Intent-to-Income ทำหน้าที่เป็น Reference Decision Architecture. Canonical Core Flow คือ Decision Signals D ecision Need D ecision Support D ecision Quality M easurable Outcomes. [CAN]

3.2 Decision Context

Decision Context เป็น cross-cutting input ต่อ Signal interpretation, Decision Need, Criteria, Evidence requirements, Candidate Eligibility, Product Evaluation และ Measurement แต่ไม่ใช่ Core Flow stage เพิ่มเติม. [CTX]

3.3 Core Architecture Components

- Decision Journey Mapping
- Decision Signal Matrix
- Decision Interface
- Measurement Logic

ทั้งสี่เป็น mechanisms สำหรับ operationalize Architecture ไม่ใช่ลำดับขั้นใหม่ของ Core Flow. [CAN]

4. Case Context & Decision Journey

4.1 Primary Decision

Primary Decision

อาหารแบบใดหรือสูตรใดเหมาะกับแมวของฉัน?

Decision framing นี้เปลี่ยนโจทย์จาก universal product ranking ไปสู่ contextual product suitability.

4.2 Current Evaluation Context

Context Field	Case Value	Evidence Status
Name	Milo	Synthetic Case Data
Breed	Domestic Shorthair	Synthetic Case Data
Age	4 years	Synthetic Case Data
Sex / Neutered	Male / Yes	Synthetic Case Data
Environment	Indoor	Synthetic Case Data
Activity	Low-moderate	Synthetic Case Data
BCS	6/9	Synthetic Case Data
Chronic condition	None specified	Synthetic Case Data
Current feeding	Mainly dry; accepts wet	Synthetic Case Data
Drinking observation	Owner perceives relatively low drinking; not quantified	Synthetic Case Data
Brand preference	Not established	Synthetic Case Data
Market scope	Thailand	Case scope

ข้อมูลทั้งหมดเป็น Synthetic Case Data ไม่ใช่ลักษณะของ Cattus users โดยทั่วไป และไม่ใช่ veterinary diagnosis.

4.3 Cattus Content Journey

Sequence	Content Section	Decision Relevance
1	Balanced Nutrition	Nutritional adequacy / basic fit
2	Healthcare	Health-related consideration
3	Cat Profile	Individual context
4	อาหารเม็ดหรืออาหารเปียก	Format / moisture / practicality
5	แล้ว “ยี่ห้อไหนดี” ควรดูอะไรบ้าง	Brand/product consideration
6	Label Reading Guide	Product evidence / claims
7	เปลี่ยนอาหารแมวอย่างไรให้ปลอดภัย	Implementation / transition
8	คำถามพบบ่อย	Clarification / unresolved questions

5. Decision Signals to Proposed Decision Needs

5.1 Synthetic Behavioral Signals

Stage	Synthetic Observation	Status
Entry	Query: อาหารแมวทำหมัน อ้วนง่าย อาหารเปียกหรือเม็ด	Synthetic Case Data
Balanced Nutrition	~42 sec	Synthetic Case Data
Healthcare	~67 sec + revisit	Synthetic Case Data
Cat Profile	TOC click + ~88 sec	Synthetic Case Data
Dry vs Wet	~76 sec	Synthetic Case Data
Brand	~24 sec	Synthetic Case Data
Label Reading	TOC click + ~94 sec	Synthetic Case Data
Transition	~29 sec	Synthetic Case Data
FAQ	~41 sec	Synthetic Case Data
Overall scroll	~96%	Synthetic Case Data

Interpretation Rule

Signal ≠ Confirmed Need. Synthetic values are used to test reasoning structure, not to claim actual Cattus behavior.

5.2 Signal Clusters

Cluster	Signals	Interpretation	Boundary
A - Nutrition/Energy/Weight	Neutered + indoor + activity + synthetic BCS + weight-related query	Energy/weight consideration may be relevant	Does not establish need for weight-loss food
B - Food Format/Moisture	Owner observation + dry/wet query + section engagement	Format/moisture trade-off may remain unresolved	Does not establish that wet food is required
C - Evidence Seeking	Label interaction + Healthcare revisit	User may need verifiable reasons for product fit	Could also reflect unfamiliar terminology
D - Brand Salience	Lower brand interaction + no recorded preference	Brand salience is not established	Low dwell does not prove no brand interest

5.3 Proposed Decision Needs

ID	Proposed Decision Need	Status
DN-01	Nutrition / Energy / Weight Fit - ผู้ใช้อาจต้องการเกณฑ์เพื่อประเมินสูตรอาหารกับวัย การทำหมัน กิจกรรม และ body-condition consideration	Proposed / Not empirically confirmed
DN-02	Dry / Wet / Hydration Trade-off - ผู้ใช้อาจต้องการเปรียบเทียบ dry, wet หรือ mixed feeding ในมิติ nutrition, moisture และ practicality	Proposed / Not empirically confirmed
DN-03	Evidence-backed Product Fit - ผู้ใช้อาจต้องการตรวจว่าเหตุใดสินค้าถูกนำมาให้พิจารณา มี Criteria/Evidence ใดรองรับ และอะไรยังสรุปไม่ได้	Proposed / Not empirically confirmed

6. Decision Support Requirements & Criteria

Case ใช้ Proposed Need D ecision Support Requirement C riteria ก่อน Candidate Products. ไม่กระโดดจาก Need ไป Recommendation โดยตรง.

Need	Decision Support Requirements
DN-01	Life-stage fit; neutered/energy context; energy/feeding information
DN-02	Dry/wet format; moisture; mixed feeding; practicality; trade-offs
DN-03	Product Claim traceability; evidence sufficiency; Evidence Gap visibility; uncertainty

6.1 Product Evaluation Criteria

ID	Criterion	Derived From
PC-01	Adult life-stage relevance	DN-01
PC-02	Neutered / weight-energy relevance	DN-01
PC-03	Energy / feeding information availability	DN-01 + DN-03
PC-04	Food-format / moisture relevance	DN-02
PC-05	Mixed-feeding / practicality information	DN-02
PC-06	Product-claim source traceability	DN-03
PC-07	Independent effectiveness support in this Case	DN-03

Interface requirements เช่น Why this product appears, Evidence Gap visibility และ Human Control ถูกแยกจาก Product Criteria ตาม DR-11.

7. Candidate Retrieval / Eligibility & Product Evidence

Candidate Retrieval / Eligibility ตอบว่า “สินค้านี้มีเหตุผลเพียงพอที่จะถูกนำมาให้พิจารณาหรือไม่?” ไม่ใช่ full Product Evaluation.

Case ID	Product	Format	Candidate rationale	Evidence boundary
A	Royal Canin Sterilised 37	Dry	Adult + Neutered contextual match	Official manufacturer source; current reviewed source set has a gap for comparable kcal/100g
B	Purina PRO PLAN Weight Loss / Sterilised	Dry	Adult + Neutered + Weight/Energy context	Manufacturer source includes energy/feeding information; claims are not independent outcomes
C	Purina ONE Adult Indoor Chicken in Gravy	Wet	Adult + Indoor + Wet/Format/Moisture relevance	Manufacturer source includes moisture/ME/mixed feeding; not sterilised-specific

Candidate Boundary
Candidate Product ≠ Best Product. Products A/B/C answer different parts of the Decision Need and are not presented as a universal ranking.

Product sources: [RC-A], [PUR-B], [PUR-C].

8. HaNonn Decision Composer™ Product Evaluation

HaNonn Decision Composer เป็น AI Decision Application ไม่ใช่ Intent-to-Income Architecture ทั้งหมด. ใน Case นี้ Composer อยู่หลัง Candidate Presentation และก่อน Final User Decision. [CAN]

Composer inherit Current Evaluation Context, Proposed Decision Need, Relevant Criteria, Candidate Reason, Selected Product และ Available Evidence แล้วสร้าง Criterion-level Product Evaluation + Decision Support Blueprint.

8.1 Product Evaluation Status

- Meets Criteria
- Does Not Meet Criteria
- Insufficient Evidence
- Context-dependent / Conditional

ไม่มี overall winner score ใน Case v0.2. [CAN]

8.2 Condensed Evaluation

Criterion	Product A	Product B	Product C
Adult relevance	Meets	Meets	Meets
Neutered / weight relevance	Meets	Meets	Context-dependent
Energy / feeding info	Insufficient in current source set	Meets	Meets
Wet / moisture relevance	Context-dependent	Context-dependent	Meets
Mixed-feeding information	Insufficient in current source set	Meets	Meets
Claim source traceability	Meets	Meets	Meets
Independent effectiveness evidence in this Case	Insufficient	Insufficient	Insufficient

Interpretation Rule
Evidence availability ≠ Product quality. Insufficient Evidence is not treated as a negative quality score.

9. Decision Support Blueprint & Decision Interface

9.1 Blueprint

- Current Evaluation Context

- Why this product appears
- Relevant Criteria
- Manufacturer Claims
- Available Evidence
- Evidence Gaps
- Trade-offs
- What to verify
- Relevant alternatives
- Appropriate Next Steps

Canonical Blueprint ช่วยบอกว่าผู้ใช้ควรรู้อะไร เปรียบเทียบอะไร ตรวจสอบอะไร เข้าใจ Trade-offs อะไร และทำอะไรต่อ. [CAN]

9.2 Interface Flow

Cattus Article
↓
Current Evaluation Context
↓
What Matters for This Decision
↓
Candidate Products
↓
HaNonn Decision Composer™
↓
Compare
↓
Next Step

9.3 Candidate Explanation Requirement

ทุก candidate ต้องแสดงอย่างน้อย Context matched + Need addressed + Evidence status. “Why this product appears” เป็น Decision Interface expression of traceability ไม่ใช่ marketing copy.

9.4 Evidence Presentation

Composer ต้องแยก Manufacturer Claim / Evidence / System Interpretation / Limitation. Product Claim ไม่ถูกแปลงเป็น established outcome เพียงเพราะอยู่ใน official manufacturer source.

9.5 Next Step Logic

- Compare
- Verify

- Revise Context
- Select
- Defer

Readiness หมายถึงความพร้อมสำหรับ appropriate next step ไม่ใช่ forced conversion. [CAN]

10. Evaluation Protocol & Measurement Logic

10.1 Evaluation Layers

Layer	Purpose	Current Status
Design Evaluation	ตรวจ conformance, traceability, evidence handling, role separation	Executed
Pilot User Evaluation	ตรวจ real-user interaction, Understanding, Confidence, Readiness, usability	Designed / Not executed

10.2 Measurement Layers

Layer	Examples	Boundary
Process Signals	Composer Open, Evidence Open, Compare, Context Edit	Interaction ≠ Decision Quality
Candidate Understanding Indicators	Context recognition, claim/evidence separation, Evidence Gap awareness	Proposed / Not validated
Candidate Confidence Indicators	Reason confidence, evidence sufficiency confidence, confidence calibration	Higher confidence ≠ better decision
Candidate Readiness Indicators	Appropriate next step + rationale	Readiness ≠ purchase intent
Measurable Outcomes	Qualified Next Step, product selection, appropriate defer	Outcome ≠ Decision Quality
Safety/Governance	Claim misinterpretation, over-reliance, override, escalation	Separate from DQ score

Measurement Boundary
Longer dwell ≠ Better Understanding; More clicks ≠ Better Decision Quality; Conversion ≠ Decision Quality; Prototype Evaluation ≠ Architecture Validation. [CTX]

11. Structured Design Evaluation

Evaluation ID: DE-CAT-001. Method: Structured Design Walkthrough. Real participants: None. Pass/Partial statuses below are Design Conformance statuses, not Product Evaluation statuses and not empirical validation.

Area	Status	Key implication
Traceability	Pass	Multi-signal traceability retained
Signal / Interpretation / Need separation	Pass	Semantic boundary maintained
Context sensitivity	Pass conceptually; implementation not tested	Context-change tests required
Insufficient Evidence handling	Pass	Uncertainty can be a valid output
Trade-off visibility	Pass	Criterion-specific comparison
Human Decision Authority	Pass	User retains final authority
Cattus / Composer role separation	Pass after revision	Eligibility ≠ full Product Evaluation
Canonical Core Flow integrity	Pass	No new Core Flow stages introduced
Candidate explanation	Partial → revised	Context + Need + Evidence status required
User comprehension	Not Tested	Pilot required
Decision Quality improvement	Not Tested	Empirical study required
Business outcomes	Not Tested	Downstream evidence required

12. Findings & Design Revisions

12.1 Major Design Findings

1. Traceable operationalization is achievable at the design level.
2. Candidate Eligibility must be separated from Composer Product Evaluation.
3. Evidence availability must be separated from Product Quality.
4. Uncertainty can be a legitimate Decision Support output.
5. Candidate Product does not equal Best Product.
6. Appropriate Next Step does not equal Purchase.

12.2 Revision Register

Revision	Accepted specification
DR-01	Candidate Eligibility ≠ Composer Product Evaluation
DR-02	Candidate explanation = Context + Need + Evidence status
DR-03	User retains Final Decision Authority
DR-04	Criterion-specific comparison; no forced overall score
DR-05	Composer inherits Decision State
DR-06	Claim / Evidence / Interpretation / Limitation separation
DR-07	Insufficient Evidence ≠ Product Failure

Revision	Accepted specification
DR-08	Journey supports re-entry
DR-09	Next Step ≠ Buy
DR-10	Higher-risk Context requires re-evaluation/escalation
DR-11	Product Criteria ≠ Interface Requirements
DR-12	Architecture Authority ≠ Evidence Provenance
DR-13	Use Current Evaluation Context, not Confirmed Context
DR-14	Normalize Evidence Vocabulary
DR-15	Normalize official Product Names / stable Case IDs
DR-16	Separate status vocabularies by evaluation type

13. Limitations & Generalizability

13.1 Key Limitations

Limitation	Current boundary
Synthetic Profile	Milo is not representative of Cattus users
Synthetic behavior	No actual Cattus behavioral analytics
Need inference	No real-user ground truth or accuracy metrics
Single scenario	Adult/neutered general wellness only
Product coverage	Not an exhaustive Thai market search
Manufacturer Claims	Not independent evidence of individual outcomes
Cross-format comparison	Normalization method not implemented
User testing	No real-user usability/effectiveness data
Measurement	Understanding/Confidence/Readiness indicators not validated
Business/Causal impact	No outcome or causal evidence

13.2 Generalization Levels

Level	Scope	Examples
Level 1 - Case-specific	CAT-ILL-001 only	Milo, cat-food criteria, products A/B/C, synthetic signals
Level 2 - Domain-pattern hypothesis	Plausibly transferable with domain adaptation	Context → Proposed Need → Eligibility → Evidence-aware Evaluation → Trade-offs → User-controlled Next Step
Level 3 - Architecture-level principle	Canonical principle illustrated by the Case	Signal ≠ Confirmed Need; Decision Support ≠ Decision Authority; Conversion ≠ Decision Quality

14. Research & Architecture Contribution

Contribution ของ Case อยู่ในระดับ Architecture Operationalization, Application Specification และ Research Preparation. Case ไม่ได้เปลี่ยน Canonical Core Flow และไม่ใช่ Architecture Validation.

14.1 Architecture Operationalization

Case ทำให้ Signal I nterpretation P roposed Need S upport มี operational pattern ที่ตรวจสอบย้อนกลับได้ โดยเพิ่ม alternative interpretation และ Evidence Gap เข้าใน working logic โดยไม่เปลี่ยน canonical entity definitions.

14.2 Application Specification

- Candidate Eligibility P roduct Evaluation
- Cattus frames/identifies candidates; Composer inspects/evaluates selected candidates
- Decision State should persist across applications where appropriate
- Uncertainty becomes a user-facing state
- Evidence taxonomy becomes an interface requirement

14.3 Research Preparation

RQ	Future research question
RQ-01	Behavioral Signals + Decision Context identify user-stated Decision Need accurately enough?
RQ-02	Does “Why this product appears” improve understanding of candidate-selection logic?
RQ-03	Does Claim/Evidence/Interpretation separation reduce over-interpretation?
RQ-04	Do users understand and use Insufficient Evidence appropriately?
RQ-05	How does criteria + evidence + trade-off support affect Understanding vs standard product information?
RQ-06	Is Confidence calibrated with actual understanding and evidence awareness?

RQ	Future research question
RQ-07	Can users choose an appropriate Next Step, including Defer?
RQ-08	Does Context correction appropriately change candidate/evaluation state?

15. Conclusion & Next Research Stage

Current Phase ทำให้ Intent-to-Income ถูก operationalize ตั้งแต่ Decision Context D ecision Signals P roposed Decision Needs D ecision Support Candidate Eligibility HaNonn Decision Composer Evidence -aware Product Evaluation Trade -offs User -controlled Next Steps พร้อม Structured Design Evaluation และ Revision Register ที่เกิดจากการประเมิน artifact จริง.

Current Phase Result

A traceable, evidence-bounded and evaluation-ready design case. Evaluation-ready ≠ empirically evaluated; architecture operationalization ≠ architecture validation.

15.1 Next Research Stage - Pilot User Evaluation

- Implement a usable prototype
- Finalize participant protocol and consent/privacy procedures
- Finalize task and measurement instruments
- Implement data collection
- Finalize analysis plan
- Collect real-user evidence for Understanding, Confidence Calibration, Readiness, usability and Safety/Governance

Sources and Evidence References

Architecture / Project Sources

Code	Source
CAN	HaNonn_Canonical_Reference_v3.0_Final.md - authoritative architecture source
CTX	HaNonn_Reusable_Context_Pack_v2.md - reusable operational context; cannot override Canonical
BRF	HaNonn_End-to-End_Case_Evaluation_New_Chat_Brief.md - project workflow, evidence and evaluation brief

Case / Product Sources

Code	Source / URL
CATTUS	https://hanonn.com/cat-food-guide-balanced-nutrition-healthcare/
RC-A	https://www.royalcanin.com/th/cats/products/retail-products/

Code	Source / URL
	sterilised-37-2537
PUR-B	https://www.purina.co.th/food/cat/pro-plan-weight-loss-sterilised
PUR-C	https://www.purina.co.th/food/cat/purinaone-adult-indoor-with-gravychicken

Source governance: Architecture Authority and Evidence Provenance are distinct. Canonical controls architecture definitions; external sources support only the product/content claims they directly substantiate.