SIGNAL & JOURNEY

RESEARCH & INNOVATION SERIES

BEYOND CUSTOMER SATISFACTION

Introducing Customer-Experience Compatibility Intelligence

A new Signal & Journey framework for explaining why the same experience works for one customer and fails another.

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Customer Intelligence | Journey Innovation | Experience Design | Responsible AI

00

AUTHOR'S PERSPECTIVE

Why Signal & Journey is advancing a compatibility lens for customer experience

A NOTE FROM DAVID WILLIAMS

Customer experience has become very good at measuring reactions. The next opportunity is to understand the relationship between the customer and the environment producing those reactions.

Across my work in customer experience, product strategy, data, artificial intelligence, financial services, healthcare, telecommunications, and digital transformation, I have repeatedly seen the same pattern: two customers can encounter the same interface, policy, employee, location, or service process and leave with completely different perceptions. The difference is not always explained by service quality alone. Sometimes the experience is simply more compatible with one customer's needs, capabilities, expectations, and circumstances than another's.

This paper introduces Customer-Experience Compatibility Intelligence, an emerging discipline that Signal & Journey is proposing for the CX industry. CIBECOS, my patent-pending behavioral-environmental compatibility framework, provides the underlying method for exploring that idea. The goal is not to declare the work complete. It is to offer a rigorous category thesis, invite responsible testing, and help organizations design experiences that fit more people with less friction and greater trust.

Contents

01

THE INDUSTRY PROPOSITION

Customer experience needs a compatibility lens, not another satisfaction metric

Customer experience has become highly proficient at recording what customers say and do. Organizations measure satisfaction, effort, sentiment, conversion, abandonment, complaints, wait time, retention, and loyalty. They map journeys, identify broken touchpoints, and deploy increasingly sophisticated personalization. Yet a deeper question remains underdeveloped: why can the same experience feel simple, respectful, and reassuring to one customer while feeling confusing, intrusive, exhausting, or hostile to another?

Signal & Journey proposes that CX needs an additional analytical layer: Customer-Experience Compatibility Intelligence. This approach models the customer as a dynamic set of needs, preferences, capabilities, sensitivities, expectations, and situational requirements. It models the experience as a corresponding set of physical, digital, social, and operational conditions. By comparing the two, organizations can identify where fit exists, where a compatibility gap is creating friction, and what changes would make the environment work better.

The next frontier of customer experience is not only measuring what happened. It is understanding whether the experience fit the customer - and redesigning it when it did not.

THE INDUSTRY GAP	THE SIGNAL & JOURNEY PROPOSITION
CX can measure customer reaction without fully explaining why the same environment works for one person and creates friction for another.	Model customer requirements and experience conditions on comparable dimensions, then identify the compatibility gap and the conditions creating it.
THE CUSTOMER VALUE	**THE INNOVATION PATH**
Design clearer, more flexible, accessible, and trustworthy pathways that help more customers succeed without forcing everyone through one idealized journey.	Establish the category through thought leadership, test it through consulting-led pilots, and scale only after evidence, governance, and market value are demonstrated.

The industry proposition

An experience is more than a channel or touchpoint. It is the total condition created by interface design, physical surroundings, timing, information, policies, fees, employee behavior, social context, accessibility, handoffs, and recovery options. Customer journey research shows that experiences unfold across organizational and external actors, while servicescape research demonstrates that environments influence behavior.[1][2] Signal & Journey brings these ideas together in a practical proposition: customer outcomes are partly shaped by the compatibility between what a person requires and what an experience provides.

Six principles of compatibility intelligence

- The same experience does not fit every customer, even when the experience is functioning as designed.
- Friction can be relational: it may emerge from a mismatch between the customer and the environment rather than from a single broken touchpoint.

- Customers should be represented as dynamic requirement profiles, not reduced to static demographic segments or personality labels.
- Experience environments can be measured through observable design, operational, physical, digital, and social conditions.
- Personalization should improve customer agency and environment fit, not manipulate behavior or force customers to adapt to preventable organizational friction.
- Compatibility scores remain hypotheses until validated against outcomes, reviewed for fairness, and governed by clear human accountability.

From category thesis to credible evidence

The strongest first step is not to launch a fully automated enterprise platform. It is to use CIBECOS as a controlled, consulting-led innovation method through Signal & Journey. A pilot should focus on one high-friction journey, a limited set of non-sensitive compatibility dimensions, a measurable customer and business outcome, and an intervention the organization is willing to implement. That sequence allows the idea, measurement model, governance approach, and commercial value to mature together.

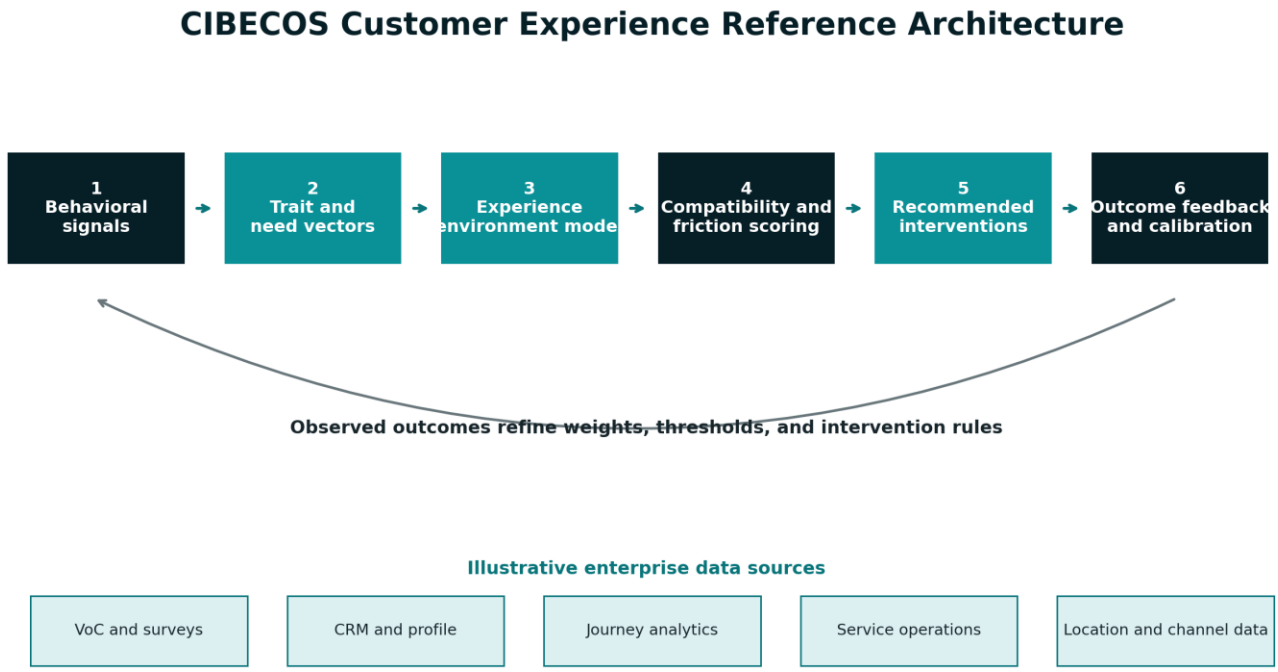

Figure 1. Signal & Journey's proposed CIBECOS customer-experience reference architecture. The public model describes the innovation at a functional level without defining the legal scope of any patent claim.

02

THE COMPATIBILITY GAP IN CX

The unexplained space between customer requirements and designed conditions

The CX industry has built a powerful ecosystem for listening, observation, prediction, and intervention. Voice of the Customer programs capture surveys, reviews, interviews, complaints, and sentiment. Journey analytics observe paths, drop-offs, repeat contacts, conversion, and channel switching. Customer data platforms unify profiles and events. Recommendation engines rank products, content, and offers. Contact-center systems support routing and agents. Journey orchestration tools trigger messages and next-best actions.

These capabilities answer many important questions, but they do not consistently model the relationship between the customer and the experience environment. An organization may know that customers abandoned a form without knowing whether the dominant mechanism was cognitive overload, uncertainty, loss of control, inaccessible authentication, privacy concern, unexpected fees, insufficient human support, or a poor match between the customer's situation and the channel design. This unexplained space is what Signal & Journey calls the compatibility gap.

Where current CX approaches leave questions unanswered

1. Aggregate averages conceal compatibility differences. A journey can perform well overall while repeatedly creating high friction for customers with particular needs, circumstances, or task conditions.
2. Behavioral prediction is not the same as customer fit. A model can accurately predict a click or purchase without determining whether the experience was transparent, respectful, sustainable, or aligned with the customer's preferred way of completing the task.
3. Journey maps describe what happens but do not always quantify the relationship between customer requirements and experience conditions. They can identify a pain point without creating a reusable model for comparing journeys, locations, channels, or customer states.
4. Personalization often changes content and offers while leaving the underlying environment untouched. A relevant message does not fix an unclear policy, inaccessible flow, crowded location, long handoff chain, inconsistent partner experience, or missing human escalation.

> **THE COMPATIBILITY GAP**
>
> The difference between what a customer requires to complete a goal confidently and what the experience environment actually provides. The gap may appear as effort, uncertainty, overload, loss of control, exclusion, distrust, or failure.

The ethical boundary

Compatibility intelligence must never become a justification for covert psychological profiling. The same analytical capability that can make an experience more responsive can damage trust if it infers sensitive traits, hides its logic, narrows choice, or treats predicted vulnerability as a conversion opportunity. Signal & Journey therefore treats customer autonomy, transparency, accessibility, and controllability as design requirements rather than optional safeguards.

The framework should be used to reduce mismatch and improve the environment - not to exploit confusion, urgency, stress, or information asymmetry. The Federal Trade Commission has warned that dark patterns can obscure terms, make cancellation difficult, bury fees, and manipulate data sharing.[9] Compatibility intelligence should operate in the opposite direction: clearer choices, more appropriate support, more accountable decisions, and easier redress.

03

INTELLECTUAL FOUNDATIONS

A new synthesis of person-environment fit, servicescapes, journey theory, and human-centered design

Customer-Experience Compatibility Intelligence is a new synthesis, not a rejection of established CX practice. The CIBECOS application proposed in this paper draws from four established bodies of research while introducing a distinct operating model for comparing customer requirements with experience conditions.

1. Person-environment fit

Person-environment fit research examines the compatibility between individual characteristics and environmental characteristics. A major meta-analysis found meaningful relationships between fit and attitudes, performance-related outcomes, withdrawal, strain, and tenure.[3] Signal & Journey adapts the broader logic of fit to customer experience: define comparable dimensions, weight their importance, calculate the compatibility gap, and test whether the gap explains observable outcomes.

2. Servicescapes and environmental psychology

Servicescape research recognizes that physical surroundings influence customer and employee responses.[2] The modern experience environment extends beyond architecture. It includes interface density, queue design, notification frequency, tone, policy transparency, authentication burden, sensory intensity, channel constraints, employee authority, and recovery processes. CIBECOS treats these as measurable conditions rather than invisible background factors.

3. Customer journey theory

Customer journeys unfold over time across touchpoints, channels, departments, partners, technologies, and social contexts. Lemon and Verhoef emphasize that this complexity requires integration across business functions and external actors.[1] Compatibility can therefore change throughout a journey: strong fit during discovery, mismatch during purchase, severe friction during recovery, and renewed alignment after human escalation.

4. Human-centered design and accessibility

Human-centered design standards emphasize understanding users, tasks, and contexts throughout the system lifecycle.[4] WCAG 2.2 provides testable guidance for accessible digital content.[5] CIBECOS does not replace human-centered design or accessibility conformance. Its contribution is to help organizations identify where particular customer needs and journey states encounter specific environmental barriers, then prioritize governed interventions.

FIT IS RELATIONAL

A feature is not inherently good or bad. High automation may empower a digitally confident customer completing a routine task and alienate a customer facing a complex exception.

CONTEXT CHANGES REQUIREMENTS

The same person may prefer self-service during a low-stakes transaction and require explanation, reassurance, or accountability during a dispute or high-stakes decision.

THE ENVIRONMENT IS CONFIGURABLE

Organizations can change information, sequence, timing, channel, policy, staffing, layout, employee authority, exception handling, and recovery support.

EVIDENCE EARNS CREDIBILITY

Compatibility indicators are hypotheses until they are tested against outcomes, understood by practitioners, reviewed for fairness, and shown to improve decisions.

04

THE CIBECOS INNOVATION THESIS

Signal & Journey's proposed framework for customer-experience compatibility intelligence

At the center of this paper is the CIBECOS innovation thesis. CIBECOS is not intended to be a customer quiz, persona generator, sentiment model, or claim that an organization can "read" a customer. At a high level, it is a computer-implemented compatibility framework that transforms approved behavioral and contextual signals into normalized customer requirements, represents experience environments using corresponding parameters, calculates weighted gaps, and generates explainable decision support.

The proposed functional model

LAYER	PURPOSE
Behavioral input interface	Receives structured situational responses, declared preferences, context, and approved behavioral signals.
Signal encoding and normalization	Converts heterogeneous inputs into comparable values with confidence, recency, and source-quality controls.
Trait or requirement transformation	Maps signals into underlying customer needs such as clarity, control, support, pace, privacy, predictability, or sensory tolerance.
Environment parameter model	Represents the experience on the same dimensions, using design specifications, operational data, audits, observations, and customer evidence.
Compatibility scoring engine	Calculates dimension-level mismatch and aggregate compatibility while preserving the contribution of each factor.
Recommendation and decision layer	Suggests adaptations, routing, experience redesign, escalation, or additional information based on the mismatch pattern and governance rules.
Outcome feedback layer	Compares predicted compatibility with real outcomes and supports calibration, monitoring, and model governance.

CATEGORY AND LANGUAGE GUARDRAIL

Present CIBECOS as a behavioral-environmental compatibility framework and Customer-Experience Compatibility Intelligence as an emerging discipline. Avoid claims that the system reads minds, diagnoses people, guarantees outcomes, or replaces established CX, accessibility, legal, or research methods.

Illustrative computational logic

The expressions below are simplified explanatory forms. They communicate the logic of comparable requirement and provision dimensions without asserting that a production implementation must use one exact equation, weighting method, or scoring scale.

Trait or need score	`Need_j = sum(Response_i x Weight_ij x Confidence_i) / Normalization`
Environment provision	`Provision_j = normalized measurement of the experience on dimension j`
Dimension mismatch	`Mismatch_j = (Need_j - Provision_j)^2 x Importance_j x Sensitivity_j`
Compatibility score	`Compatibility = 100 - Normalize(sum(Mismatch_j))`

Why direction matters

An aggregate score should not hide the direction of a gap. When a customer needs more clarity than the environment provides, the intervention is different from a case in which excessive and repetitive information creates overload. CIBECOS should preserve whether the environment is under-providing or over-providing a condition so the recommendation addresses the actual mechanism rather than only the distance.

05

FROM BEHAVIORAL-ENVIRONMENTAL FIT TO CX

Translating a patent-pending compatibility model into a customer-experience discipline

The customer-experience adaptation begins by defining comparable dimensions on both sides of the interaction. The customer side represents the conditions required to complete a task confidently. The environment side represents what the organization actually provides. Signal & Journey's design challenge is to make the model broad enough to explain meaningful variation but focused enough to test, govern, and improve.

Customer requirement profile

CUSTOMER REQUIREMENT DIMENSION	MEANING
Clarity need	How much explicit, concrete, sequenced information is required to proceed confidently.
Control and autonomy	Preference for self-direction, choice, reversibility, and control over pace and channel.
Human support need	Need for reassurance, empathy, explanation, accountability, or assistance from a person.
Pace and waiting sensitivity	Tolerance for delays, uncertainty, queues, asynchronous resolution, and repeated follow-up.
Cognitive load tolerance	Capacity or preference for complex decisions, dense information, multiple steps, and memory demands.
Privacy sensitivity	Desired control over personal information, observation, data sharing, and identity verification.
Risk and certainty need	Need for confirmation, predictability, proof, guarantees, and clear consequences.
Social interaction preference	Comfort with high-touch interaction, formality, group settings, negotiation, or public service encounters.
Sensory sensitivity	Sensitivity to noise, lighting, crowding, motion, visual density, and other sensory conditions.

CUSTOMER REQUIREMENT DIMENSION	MEANING
Accessibility and accommodation	Declared functional needs and interface accommodations; never inferred as a medical diagnosis.
Price and fee predictability	Sensitivity to uncertainty, surprise charges, optional services, and total-cost ambiguity.
Recovery need	Need for easy escalation, exception handling, apology, restitution, or restoration of control after failure.

Experience environment profile

Each requirement should have a corresponding environmental provision. A need for clarity is compared with the sequence, timing, and quality of information. A preference for control is compared with choice, reversibility, and channel flexibility. A need for human support is compared with employee availability, expertise, continuity, and authority. A need for fee predictability is compared with disclosure timing, total-cost visibility, and exception rules.

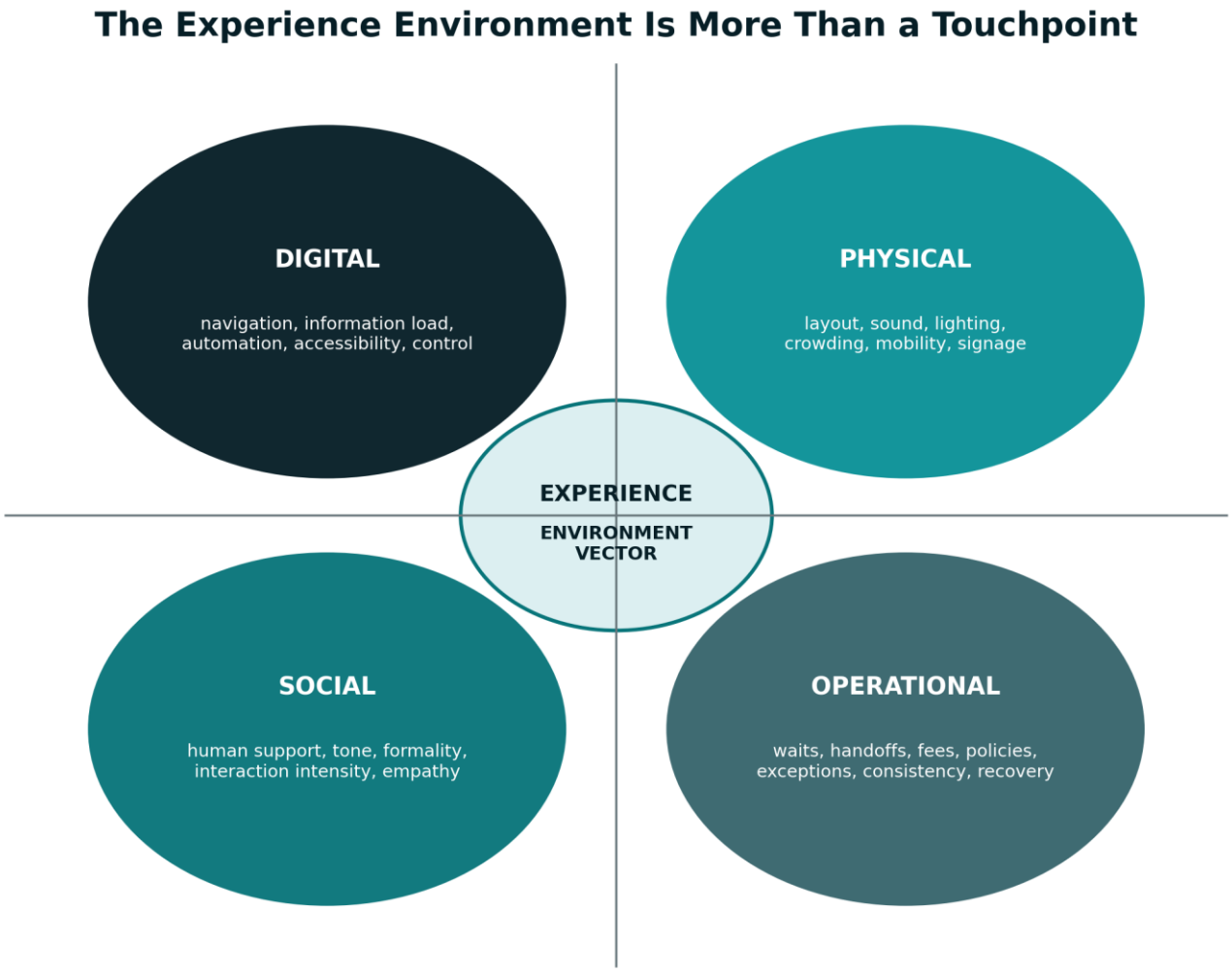

Figure 2. Signal & Journey defines the experience environment as the combined physical, digital, social, and operational conditions surrounding a customer goal. A touchpoint is only the visible edge of that system.

SIGNAL & JOURNEY PRINCIPLE: THE CUSTOMER IS DYNAMIC

The requirement profile should reflect stable preferences, declared needs, temporary states, task context, and journey stage. A customer under time pressure, recovering from a failure, or making a high-stakes decision may require a different environment than the same customer completing a routine task.

06

DESIGNING THE EXPERIENCE ENVIRONMENT

Model the conditions the organization can observe, own, and change

A useful experience-environment model must focus on conditions that are observable, auditable, and changeable. The purpose is not to label an experience as simply "good," "bad," or "premium." The purpose is to identify the specific conditions that can be compared with customer requirements, assigned to an operational owner, and redesigned.

ENVIRONMENT DOMAIN	OBSERVABLE VARIABLES
Information architecture	Number of steps, sequencing, hierarchy, density, terminology, disclosure timing, confirmation, and error explanation.
Choice architecture	Default options, reversibility, opt-outs, channel choice, human escalation, and degree of customer control.
Temporal design	Wait duration, uncertainty, response cadence, deadlines, handoff time, and visibility into status.
Human interaction	Availability, empathy, expertise, authority, tone, formality, continuity, and accountability.
Sensory and spatial conditions	Noise, lighting, crowding, seating, temperature, privacy, movement, signage, and physical accessibility.
Digital accessibility	Keyboard access, focus visibility, target size, authentication burden, redundant entry, language, and assistive-technology compatibility.
Policy transparency	Eligibility, limits, exclusions, fees, returns, refunds, cancellation, and exception rules.
Operational consistency	Variation across locations, employees, partners, devices, channels, and stages of the journey.
Recovery architecture	Escalation paths, exception handling, resolution authority, compensation, apology, and follow-through.
Data and privacy exposure	Collection scope, consent, explainability, retention, sharing, identity verification, and customer control.
Emotional context	Degree of stress, vulnerability, conflict, urgency, embarrassment, or perceived consequence.
Social context	Public versus private interaction, group presence, cultural formality, negotiation, and relationship continuity.

Building an evidence-based environment profile

- Design evidence: interface requirements, content standards, service policies, employee scripts, process maps, and service blueprints.
- Operational evidence: wait time, transfers, repeat contacts, resolution authority, exception rates, staffing, and location variance.

- Digital evidence: clicks, errors, abandonment, backtracking, help use, dwell time, authentication failure, and channel switching.
- Field evidence: observation, walkthroughs, mystery shopping, accessibility testing, employee interviews, and partner-site audits.
- Customer evidence: complaints, interviews, transcripts, open-text feedback, recovery cases, reviews, and expectation statements.
- Validation evidence: usability tests, controlled experiments, pilot locations, simulated tasks, and longitudinal outcome tracking.

RESEARCH DISCIPLINE

Do not use satisfaction as both an input to the environment score and the outcome used to validate the score. Wherever possible, measure environment conditions independently, state uncertainty, and test whether the proposed compatibility gap explains outcomes beyond existing variables.

07

MEASURING COMPATIBILITY AND FRICTION

Turn qualitative experience evidence into explainable, testable decision support

The measurement system should produce both a usable summary and a dimension-level explanation. An aggregate score can support comparison and monitoring, but the decomposition is what enables action, fairness review, operational ownership, and trust. Signal & Journey therefore treats the compatibility profile - not a single number - as the primary decision artifact.

Proposed compatibility intelligence outputs

OUTPUT	SCALE	DECISION PURPOSE
Experience Compatibility Score (ECS)	0-100	Overall alignment between the customer requirement vector and the experience environment vector.
Friction Exposure Index (FEI)	0-100	Estimated exposure to conditions likely to increase effort, confusion, stress, delay, or abandonment.
Expectation Alignment Score (EAS)	0-100	Alignment between the promise formed before the interaction and the conditions encountered during delivery.
Promise-to-Delivery Gap (PDG)	0-100	Magnitude of inconsistency across marketing, policy, partner communication, employee execution, and actual experience.
Intervention Suitability Score (ISS)	0-100	Estimated appropriateness of a proposed adaptation given the mismatch pattern, governance rules, and operational constraints.
Environment Variance Score (EVS)	0-100	Degree to which experience conditions vary across locations, channels, teams, partners, or time periods.
Confidence and Data Sufficiency	Low/Medium/High	Quality, recency, representativeness, and agreement of the evidence supporting the score.

Measurement and research principles

1. Explanation before precision theater. Every output should show the highest-contributing dimensions, direction of the gap, evidence sources, confidence, and permitted use.
2. Validated weights rather than executive intuition alone. Expert judgment can begin a pilot, but weights must be tested against observed outcomes and reviewed for subgroup effects.
3. Context-specific thresholds. A compatibility threshold suitable for product discovery may be inappropriate for healthcare, finance, employment, insurance, or public-benefit decisions.
4. No automatic exclusion based on fit. A low score should trigger redesign, additional support, alternative pathways, or qualified review - never denial of service or discriminatory treatment.
5. Separate customer benefit from business propensity. A high likelihood to convert does not prove that an experience is compatible, fair, transparent, or beneficial to the customer.
6. Preserve uncertainty. Missing, stale, or conflicting evidence should reduce confidence rather than be silently replaced by inferred traits.

08 FROM INSIGHT TO ACTION

Use compatibility intelligence to redesign journeys, environments, and support

Compatibility intelligence becomes meaningful only when it changes a decision. The output system should therefore connect analysis to customer-level support, interaction design, journey redesign, operational ownership, portfolio investment, and executive governance - not merely produce another score for a dashboard.

LEVEL	EXAMPLE DECISIONS
Customer-level	Offer a lower-load flow, clearer explanation, preferred channel, human escalation, saved progress, additional confirmation, or accessible alternative.
Interaction-level	Adjust content order, pace, prompts, disclosure timing, agent guidance, status visibility, or recovery language for the current task.
Journey-level	Redesign stages with recurring mismatch, remove unnecessary handoffs, clarify policies, create exception paths, and align promises across touchpoints.
Location or channel-level	Compare branches, stores, teams, digital channels, and partner environments to identify variance and repeatable operating practices.
Segment-level	Identify need-based groups without reducing customers to demographic stereotypes; design environment options that serve multiple compatibility patterns.
Portfolio-level	Prioritize investments by mismatch exposure, customer impact, business consequence, feasibility, confidence, and strategic value.
Executive-level	Provide a compatibility risk map connecting customer evidence to operational ownership, value, governance, and measurable outcomes.

Illustrative case: the promise-to-counter compatibility gap

Consider a return advertised as requiring no label and no box. The customer arrives at a partner location and encounters signage for tape or printing fees, uncertain employee language, or an exception that was not clear beforehand. Conventional CX analysis might record a complaint and map the touchpoint. CIBECOS reframes the event as a promise, predictability, and environment-compatibility problem. The customer's need for fee clarity and certainty is compared with disclosure timing, script consistency, partner rules, signage, and exception handling. The resulting intervention may

include clearer pre-arrival instructions, return-type-specific guidance, standardized partner signage, frontline decision support, and a visible escalation path.

SIGNAL & JOURNEY DESIGN RULE

Change the environment whenever the environment is creating preventable friction. Compatibility-aware personalization should expand choice and support - not make the customer adapt to a poorly designed process.

09

EXTENDING THE CX TOOLKIT

An integrating layer for VoC, journey mapping, service design, analytics, and orchestration

CIBECOS is designed to strengthen the CX toolkit, not displace it. Voice of the Customer reveals needs and failures. Journey mapping identifies stages and ownership. Service design changes processes and interactions. Analytics supplies behavioral evidence. CRM and CDP systems provide context. Experimentation tests interventions. CIBECOS adds a shared representation of customer requirements and experience conditions so these capabilities can be connected through compatibility logic.

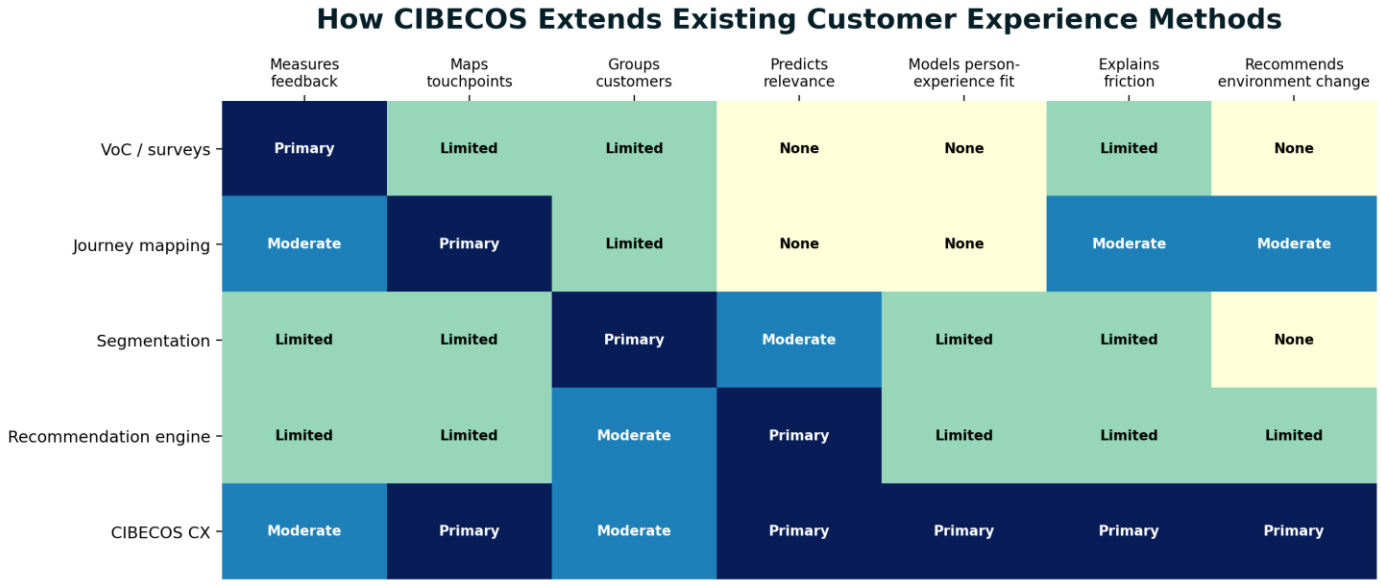

Figure 4. Customer-Experience Compatibility Intelligence acts as an integrating and explanatory layer across established CX methods.

METHOD	PRIMARY QUESTION	CIBECOS CONTRIBUTION
VoC / survey platform	What customers say and how they rate an experience	Convert feedback into candidate need and environment dimensions; explain variation in ratings.
Journey mapping	What customers do across stages and touchpoints	Attach compatibility conditions and mismatch risks to each stage.
Customer segmentation	How customers differ in demographics, value, behavior, or needs	Create dynamic need-based profiles and avoid treating segment membership as destiny.
Recommendation engine	Which item, offer, or content is likely to be relevant	Recommend an experience configuration, channel, support level, or environment intervention.
Journey orchestration	Which message or action should happen next	Use compatibility and friction signals as decision features and constraints.

METHOD	PRIMARY QUESTION	CIBECOS CONTRIBUTION
Contact-center routing	Which queue or agent should receive the interaction	Match complexity and customer need to agent capability, continuity, authority, and channel.
Service design	How the service should work end to end	Prioritize redesign based on repeated mismatch patterns and validated outcome effects.
Accessibility program	Whether products and content meet standards and user needs	Use compatibility evidence to prioritize barriers while retaining standards-based conformance testing.
Digital analytics	Where customers click, stall, abandon, or switch channels	Generate hypotheses about the environmental cause of the observed behavior.
NPS / CSAT / CES	How customers evaluate loyalty, satisfaction, or effort	Explain score variation and identify environment changes likely to improve the underlying experience.

10

WHERE COMPATIBILITY CHANGES DECISIONS

Journey and operational use cases for a new CX lens

Compatibility-aware journey design

Before launch, compare major customer requirement patterns with proposed journey conditions. Identify stages that create excessive cognitive load, insufficient control, unclear fees, inaccessible authentication, conflicting partner execution, or missing human support during high-stakes moments.

Friction prediction and prevention

Use the compatibility-gap profile to identify where customers may abandon, seek help, repeat actions, switch channels, complain, or require recovery. Predictions should be treated as triage signals and tested before operational scale.

Channel and support flexibility

Offer self-service, assisted digital, telephone, video, branch, or in-person pathways based on task complexity, declared preference, accessibility, and risk while preserving customer choice and avoiding forced channel migration.

Next-best experience

Recommend not only the next message or offer, but the next experience configuration: information depth, pace, confirmation, agent involvement, escalation, recovery option, or location.

Compatibility-aware service recovery

Match recovery to both the failure and the customer's need. Some customers prioritize speed; others need explanation, accountability, human acknowledgment, certainty, restitution, or restored control.

Location, branch, and partner intelligence

Compare stores, branches, hotels, clinics, contact centers, and partner sites using environment conditions and outcomes. Surface local variation that enterprise averages conceal and identify operating practices worth scaling.

Frontline decision support

Provide employees with limited, non-sensitive, action-oriented guidance such as "explain the exception before discussing optional fees," "show the customer where progress is saved," or "offer human escalation because the task is high stakes and assistance was requested."

Journey portfolio prioritization

Rank redesign opportunities by compatibility-gap exposure, customer volume, outcome severity, confidence, feasibility, cost, strategic value, and responsible-use risk.

Promise-to-delivery alignment

Compare marketing claims, pre-arrival instructions, eligibility rules, policy language, partner execution, employee scripts, and the conditions the customer actually encounters.

Inclusive experience options

Design multiple compliant pathways that help different customers succeed without labeling, stigmatizing, segregating, or reducing service quality.

11 INDUSTRY APPLICATIONS

How compatibility intelligence changes across sectors and risk levels

SECTOR	REPRESENTATIVE CIBECOS CX APPLICATIONS
Hospitality and travel	Property fit, quiet versus social environments, self-service versus high-touch support, check-in friction, accessibility, disruption recovery, itinerary pace, and expectation alignment.
Retail and restaurants	Store sensory conditions, queue design, associate interaction, checkout options, return policy clarity, fee transparency, pickup and delivery handoffs, and loyalty experience.
Banking and financial services	Digital confidence, explanation depth, privacy, risk tolerance, advisor support, branch versus digital channel, dispute recovery, and high-stakes decision safeguards.
Healthcare	Communication preference, administrative complexity, appointment access, sensory conditions, mobility, digital comfort, care navigation, and human reassurance. The system must remain decision support and not medical diagnosis.
Telecommunications and utilities	Onboarding, plan clarity, installation, outage communication, billing surprises, device setup, channel switching, and service recovery.
Insurance	Coverage comprehension, claims uncertainty, documentation burden, adjuster continuity, status transparency, and recovery after stressful events.
Government and public services	Eligibility communication, form burden, accessibility, language, channel availability, documentation, due-process clarity, and equitable access.
Education	Student and family communication, enrollment, support navigation, digital learning conditions, accessibility, campus or classroom environment, and advising.
Automotive and mobility	Purchase complexity, service scheduling, dealership interaction, digital tools, charging or fueling environments, navigation, and ownership support.
B2B and SaaS	Administrator versus user needs, onboarding, implementation support, workflow complexity, training, governance, account management, and renewal risk.
Franchise and partner networks	Variation in local execution, national promise alignment, reimbursement, scripts, signage, exceptions, training, and partner accountability.
Workplace and employee experience	Digital workplace fit, work environment, collaboration norms, support pathways, cognitive load, and adoption of new tools - with employment-law and fairness safeguards.

SECTOR AND RISK BOUNDARY

Dimensions, permissible data, decision rights, evidence standards, and interventions must change by industry and risk. A low-risk hospitality recommendation and a high-impact healthcare, finance, employment, insurance, or public-benefit decision should never share the same governance model.

12

ENTERPRISE DATA AND TECHNICAL ARCHITECTURE

A modular path from research method to governed enterprise capability

An enterprise implementation should be modular and evidence-led. Organizations can begin with declared preferences, journey research, and audited environment conditions, then introduce behavioral and operational signals only when value, consent, data quality, and governance are demonstrated. The innovation should become more sophisticated only as accountability becomes stronger.

DATA DOMAIN	EXAMPLES
Declared customer inputs	Opt-in preferences, accessibility requests, communication choices, support preferences, task intent, urgency, and context.
Behavioral evidence	Navigation paths, error patterns, abandonment, help use, channel switching, repeat contact, and interaction history.
Voice of Customer	Surveys, interviews, reviews, complaints, open text, call transcripts, chat transcripts, and cancellation reasons.
Operational data	Wait time, transfer count, resolution time, staffing, policy exceptions, refunds, repeat visits, inventory, and location performance.
Experience specifications	Journey maps, content models, policies, scripts, interface properties, accessibility audits, store assessments, and service blueprints.
Customer and account context	CRM profile, relationship stage, product ownership, prior cases, consent, preferences, and contractual status.
Environmental and location data	Store, branch, property, neighborhood, transportation, crowding, operating hours, accessibility, climate, or other context where relevant.
Outcome data	Completion, conversion, effort, satisfaction, trust, complaints, retention, recovery, employee effort, and financial impact.

Reference integration pattern

1. Ingest approved signals through governed batch files, APIs, event streams, survey tools, CRM, analytics, and field-research workflows.
2. Classify every input by source, consent, sensitivity, recency, confidence, ownership, and permitted use.
3. Map customer evidence to requirement dimensions and experience evidence to provision dimensions using documented transformation rules.
4. Calculate dimension-level gaps, aggregate indicators, confidence, and human-readable reason codes.
5. Apply policy constraints before recommendations are released. Prohibit sensitive inference, exclusion, manipulative targeting, and unsupported high-stakes automation.

6. Deliver outputs to analyst workspaces, dashboards, journey tools, CRM, agent assist, experimentation systems, content platforms, or Signal & Journey consulting reports.
7. Capture outcomes, complaints, overrides, subgroup effects, employee feedback, and operational results for calibration and audit.

Minimum viable innovation platform

- Configuration layer for client-specific dimensions, weights, thresholds, evidence rules, and prohibited uses.
- Governed schema for customer requirements, experience provisions, evidence, confidence, interventions, and outcomes.
- Transparent rules-based scoring before introducing more complex statistical or machine-learning methods.
- Explainability layer showing top gaps, directionality, evidence lineage, confidence, and permitted actions.
- Analyst workspace for research synthesis, manual review, comparison, hypothesis development, and intervention design.
- Pilot dashboard for outcome lift, fairness review, data sufficiency, model drift, complaints, and trust indicators.
- Exportable reports and APIs that support Signal & Journey engagements and future enterprise integration.

13

RESPONSIBLE INNOVATION, PRIVACY, ACCESSIBILITY, AND TRUST

Compatibility intelligence should increase agency rather than exploit vulnerability

CIBECOS can be implemented using deterministic rules, statistical models, machine learning, generative AI, or a governed combination. The technique does not remove organizational responsibility. NIST describes the AI Risk Management Framework as a voluntary resource for incorporating trustworthiness into the design, development, use, and evaluation of AI systems.[6] The NIST Privacy Framework helps organizations identify and manage privacy risk while developing products and services.[7] Signal & Journey's position is that compatibility intelligence should become more accountable as its influence grows.

Responsible innovation requirements

PRINCIPLE	OPERATIONAL REQUIREMENT
Purpose limitation	Define the customer and business outcome before collecting or transforming data. Do not reuse compatibility profiles for unrelated decisions without new review and consent.
Data minimization	Use the least sensitive data capable of supporting the use case. Start with declared preferences and observable environment conditions.
No sensitive trait inference	Do not infer diagnoses, disability, race, religion, sexual orientation, political views, or other protected or highly sensitive attributes from behavioral signals.
Customer choice and control	Allow customers to choose channels, correct preferences, decline personalization, request human support, and understand important automated actions.
Explainability	Provide reason codes, evidence lineage, confidence, and a clear description of how the output is used.
Fairness and subgroup testing	Evaluate error, benefit, burden, and intervention quality across relevant groups and contexts. A global average can conceal systematic harm.
Human oversight	Require qualified review for high-impact decisions, novel mismatch patterns, low confidence, complaints, and overrides.

PRINCIPLE	OPERATIONAL REQUIREMENT
Accessibility by design	Use WCAG 2.2 and sector requirements as baselines. Compatibility scoring may prioritize support but cannot replace conformance.
Anti-manipulation constraint	Prohibit using vulnerability, stress, confusion, or urgency to increase conversion, reduce cancellation, or obtain unnecessary data.
Security and retention	Protect profiles, separate identifiers where possible, define retention, log access, and monitor misuse.
Model and policy monitoring	Track drift, changing customer behavior, new environments, unintended consequences, and employee workarounds.
Redress	Provide clear complaint, correction, escalation, and remediation paths when the system produces an inappropriate result.

Accessibility is a baseline, not a personalization feature

Accessible design must be built into the base experience. WCAG 2.2 provides testable criteria for digital content.[5] CIBECOS may help identify when a customer benefits from an alternate format, a lower-load flow, consistent assistance, or accessible authentication, but customers should not have to reveal a disability to obtain a compliant experience.

A compatibility trust dashboard

- Share of outputs based on declared information versus inferred or observed signals.
- Share of customers offered a meaningful choice, explanation, correction, or human alternative.
- Human override rate, reason, outcome, and follow-up action.
- Complaint, correction, escalation, and redress rates related to personalization or routing.
- Performance, benefit, burden, and service quality by relevant subgroup, context, and channel.
- Data access, retention, deletion, consent, security, and permitted-use compliance.
- Rate of low-confidence recommendations suppressed or escalated by policy.
- Incidents involving prohibited inference, manipulation, exclusion, or inaccessible alternatives.

14

FROM THESIS TO EVIDENCE

A 90-day pilot for testing value, validity, feasibility, and responsible use

The first pilot should be narrow enough to govern and meaningful enough to test the central proposition. The purpose is not to prove that one universal score predicts every CX outcome. It is to determine whether a defined compatibility gap explains meaningful variation, whether an environment-level intervention reduces that gap, and whether the improvement can be delivered responsibly.

Selecting the first innovation pilot

- A high-volume journey with visible friction and an accountable executive owner.
- A clear customer goal and a manageable number of experience-environment conditions.
- Available baseline data and outcomes that can be measured credibly.
- An intervention that can be tested without denying service, reducing access, or creating material risk.
- Cross-functional willingness to change the environment, policy, process, or support model - not merely message the customer differently.
- No requirement to infer protected, medical, or highly sensitive characteristics.
- Enough variation across customers, locations, channels, or conditions to evaluate compatibility effects.

Recommended 90-day sequence

PHASE	ACTIVITIES AND DECISION EVIDENCE
Weeks 1-2: Frame	Select journey; define customer and business outcomes; establish prohibited uses; name executive, product, operations, data, legal, privacy, and accessibility owners.
Weeks 2-4: Model	Define 6-10 customer requirement dimensions and corresponding environment variables. Create evidence standards and initial expert weights.
Weeks 4-7: Baseline	Score historical or current cases; compare predicted mismatch with observed effort, abandonment, complaints, repeat contact, or retention; refine definitions.
Weeks 7-10: Test	Design one or more environment interventions. Use controlled testing, pilot locations, or phased rollout. Preserve customer choice and human escalation.
Weeks 11-13: Decide	Evaluate outcome lift, confidence, subgroup effects, operational feasibility, employee response, trust indicators, cost, and scale requirements.

Questions that determine whether the thesis survives contact with evidence

1. Does the compatibility-gap model explain outcome variation beyond existing segment, channel, journey, and operational variables?
2. Which dimensions create repeatable insight, and which add noise, bias, redundancy, or unnecessary data collection?
3. Can customers, employees, analysts, and leaders understand the reason codes and act on them consistently?
4. Do CIBECOS-informed environment changes improve completion, effort, satisfaction, trust, recovery, retention, or another defined outcome?
5. Are benefits, burdens, errors, delays, and service quality distributed fairly across relevant groups and contexts?
6. Does the intervention improve the environment, or merely route customers who are harder to serve somewhere else?
7. Which data is truly necessary, and what information can be removed without reducing value?
8. Can the organization operate the model with clear ownership, monitoring, customer choice, and redress?
9. Does the value justify the integration, governance, training, change-management, and ongoing monitoring costs?

Illustrative evidence scorecard

MEASUREMENT FAMILY	EXAMPLES
Customer outcome	Task completion, perceived effort, satisfaction, trust, complaint rate, recovery satisfaction
Behavioral outcome	Abandonment, help use, channel switching, repeat attempts, time to completion
Operational outcome	Transfers, repeat contacts, handling time, exception rate, employee effort, resolution time
Business outcome	Conversion, retention, refund cost, service cost, revenue at risk, lifetime value
Model outcome	Calibration, precision by risk band, confidence, reason-code stability, false positives and negatives
Responsible-use outcome	Choice, explanation, overrides, subgroup effects, accessibility, privacy incidents, redress

15

COMMERCIALIZATION AND BUSINESS MODEL

A staged path from thought leadership and advisory services to platform and licensing

CIBECOS should be commercialized in stages so that evidence, intellectual property, product maturity, market trust, and demand grow together. The early advantage is not a massive dataset or an opaque algorithm. It is a differentiated point of view and a disciplined method connecting customer behavior, environmental design, journey research, operational evidence, and accountable decision-making.

COMMERCIAL STAGE	OFFERING AND REVENUE LOGIC
Stage 1: Proprietary consulting method	Signal & Journey uses CIBECOS to conduct compatibility audits, journey diagnostics, location comparisons, promise-delivery studies, and intervention pilots. Revenue comes from fixed-fee advisory engagements.
Stage 2: Assessment and analyst platform	A configurable application ingests client data, supports environment audits, calculates scores, visualizes mismatch, and produces reports. Revenue comes from project licenses and subscriptions.
Stage 3: Enterprise decision engine	APIs and integrations deliver compatibility signals into CRM, journey orchestration, agent assist, service management, digital experience, and experimentation platforms.
Stage 4: Industry solutions	Validated dimension libraries, benchmarks, workflows, and governance for hospitality, retail, financial services, healthcare administration, government services, and partner networks.
Stage 5: Licensing and ecosystem	License the framework, scoring engine, certification, or API to consultancies, platforms, data providers, and enterprises, while preserving governance and brand standards.

Potential Signal & Journey innovation offers

Customer-Experience Compatibility Audit

A focused diagnostic of one priority journey, customer context, channel, or location network. Deliverables include an environment taxonomy, compatibility-gap map, evidence assessment, root causes, ownership model, and prioritized interventions.

Promise-to-Experience Alignment Study

Evaluate whether marketing, digital instructions, policies, partners, frontline execution, fees, and exception handling create a coherent expectation and delivery environment.

Compatibility-Aware Journey Redesign

Combine customer research, service design, journey evidence, operational analysis, and CIBECOS scoring to redesign high-friction stages and test alternatives.

Location and Channel Compatibility Intelligence

Compare stores, branches, hotels, clinics, service centers, contact centers, partner sites, or digital channels against customer requirement patterns and operating outcomes.

CIBECOS Pilot and Validation Program

A controlled 90-day engagement designed to test the category thesis, measurement approach, intervention value, governance model, and business case.

Enterprise Compatibility Intelligence Roadmap

Define the operating model, architecture, data strategy, responsible-AI controls, product roadmap, adoption plan, and scale economics for a larger implementation.

What makes the Signal & Journey proposition different

- It seeks to explain outcomes rather than only collect additional feedback.
- It prioritizes changing the experience environment rather than only changing the message shown to the customer.
- It connects physical, digital, social, operational, and partner conditions rather than treating CX as a web-only problem.
- It emphasizes explainable compatibility gaps rather than opaque propensity labels.
- It uses consulting-led experimentation to build evidence before platform scale.
- It is informed by a patent-pending behavioral-environmental compatibility foundation.
- It integrates customer intelligence, journey innovation, service design, analytics, AI governance, and operational change.

16

BUILDING THE CATEGORY: SIGNAL & JOURNEY

Positioning David Williams and Signal & Journey as innovators in compatibility-centered CX

Signal & Journey's strategic opportunity is larger than deploying a new scoring tool. The firm can help shape a new conversation in CX: organizations should understand not only what customers experienced, but whether their designed environments were compatible with the people they intended to serve. CIBECOS can provide the proprietary method behind that point of view while research, consulting, and pilots establish credibility.

CATEGORY POSITIONING STATEMENT

Customer-Experience Compatibility Intelligence is an emerging CX discipline proposed by David Williams and Signal & Journey. CIBECOS is the patent-pending framework for evaluating how well physical, digital, social, and operational experience environments align with the needs, preferences, capabilities, expectations, and circumstances of the people using them.

Recommended brand and category architecture

BRAND ELEMENT	ROLE
David Williams	Originator of the CIBECOS framework and public voice advancing the Customer-Experience Compatibility Intelligence category thesis.
Signal & Journey	The research, advisory, and implementation firm developing the point of view, conducting customer and operational research, designing pilots, and helping organizations change experience environments.
CIBECOS	The patent-pending behavioral-environmental compatibility framework and potential future technology platform.
Powered by CIBECOS	A designation for selected Signal & Journey audits, research reports, pilots, scoring models, and enterprise integrations.
Customer-Experience Compatibility Audit	A named advisory offer that turns the thought-leadership idea into a practical journey, channel, location, or promise-to-delivery diagnostic.

The thought-leadership narrative

The public narrative should not claim that CIBECOS can read minds, predict emotion with certainty, or discover a single perfect journey. The stronger and more credible idea is that the CX industry has spent decades measuring customer reactions while under-modeling the environments that produce them. David Williams and Signal & Journey are proposing a disciplined way to compare customer requirements with designed conditions, identify the compatibility gap, and use that evidence to improve journeys, operations, personalization, and trust.

How Signal & Journey can earn category credibility

1. Publish this paper as the category thesis and clearly separate established research from original propositions and unvalidated hypotheses.
2. Create an executive brief, visual framework, and practical diagnostic that make the idea useful to CX leaders without oversimplifying it.
3. Run an initial pilot in a journey with visible promise-to-delivery, channel, location, or support mismatch.
4. Publish a methodology note explaining dimensions, evidence standards, governance, and validation while protecting unnecessary technical detail.
5. Develop a case study that reports the baseline, intervention, results, limitations, responsible-use findings, and lessons - not only favorable outcomes.
6. Build partnerships with CX leaders, service designers, accessibility professionals, researchers, academics, frontline teams, and enterprise data specialists.
7. Use evidence to decide whether the next investment should be a larger advisory practice, an assessment platform, an enterprise decision engine, licensing, or a research partnership.

17

LIMITATIONS AND RESEARCH AGENDA

What the emerging discipline must prove, bound, and improve

Customer-Experience Compatibility Intelligence is a promising proposition, but conceptual coherence is not validated performance. Compatibility is only one contributor to customer outcomes. Product quality, price, brand, employee behavior, market conditions, culture, urgency, prior experience, regulation, and random events also matter. A responsible thought leader must state these limits, publish boundary conditions, and invite the model to be tested rather than protected from criticism.

RESEARCH QUESTION	WHAT MUST BE ESTABLISHED
Construct validity	Do the selected dimensions represent meaningful customer needs and environment conditions, or are they consultant-created categories with weak empirical distinction?
Measurement reliability	Can different researchers, auditors, and data sources score the same experience consistently?
Predictive validity	Does calculated mismatch predict effort, completion, satisfaction, complaints, trust, or retention beyond existing models?
Causal validity	Do interventions that reduce mismatch actually improve outcomes, or are observed relationships explained by other factors?
Temporal stability	Which preferences are stable, which are situational, and how quickly should profiles decay or refresh?
Cross-cultural validity	Do dimensions and weights transfer across cultures, languages, countries, and service norms?
Fairness	Does the model create unequal benefit, burden, routing, or service quality for any group?

RESEARCH QUESTION	WHAT MUST BE ESTABLISHED
Operational validity	Can frontline teams use outputs without confusion, delay, stereotyping, or excessive process burden?
Privacy and trust	Will customers understand and accept the data use, and can the organization deliver meaningful choice and control?
Economic value	Does the outcome lift justify data, integration, governance, change-management, and ongoing monitoring costs?

A research agenda for the emerging discipline

- Develop and test a core cross-industry compatibility-dimension library.
- Create sector-specific environment taxonomies, evidence standards, decision rights, and prohibited-use rules.
- Compare declared customer requirements with observed behavior and outcome data without treating observation as unquestioned truth.
- Test whether compatibility gaps explain meaningful variation within conventional segments.
- Evaluate environment-level interventions through controlled and field research.
- Study customer understanding, perceived fairness, autonomy, trust, and acceptance of compatibility-informed experiences.
- Develop model cards, data sheets, audit procedures, employee guidance, customer explanations, and redress standards.
- Publish negative findings, failed hypotheses, and conditions where the framework adds little or no value.

18

A CALL TO THE CX INDUSTRY

From measuring customer reactions to designing compatible experience environments

Customer experience is produced through an interaction between people and environments. The same policy, interface, location, employee script, or service process can create different outcomes because customers bring different needs, capabilities, expectations, sensitivities, histories, and circumstances. Current CX systems observe many of the resulting behaviors and opinions, but they rarely model the compatibility relationship directly.

This paper has introduced Customer-Experience Compatibility Intelligence as a new lens for the industry and CIBECOS as Signal & Journey's proposed method for operationalizing it. By representing customer requirements and experience conditions on comparable dimensions, identifying explainable gaps, and connecting those gaps to environment-level interventions, the framework could extend customer intelligence beyond feedback and propensity. It could help organizations anticipate friction, design multiple effective pathways, align promises with delivery, improve recovery, compare locations and channels, and make personalization more accountable.

The opportunity is significant, but the responsibility is equally significant. Compatibility intelligence must never become covert psychological targeting, sensitive-trait inference, discriminatory exclusion, or a substitute for accessible and well-designed base experiences. Its purpose should be to increase customer control and reduce organizational friction. It should be transparent enough to audit, modest enough to validate, and practical enough to change real decisions.

The future of customer experience is not one perfect journey. It is the ability to design and govern environments that fit more people, in more situations, with less friction and greater trust.

Signal & Journey is advancing this idea as an open invitation to the CX community: test the proposition, challenge the dimensions, improve the safeguards, and help determine where compatibility intelligence can create meaningful value.

The next step is not a declaration of victory. It is a carefully governed pilot that turns the thought-leadership thesis into evidence.

19

APPENDIX A - WORKING DEFINITIONS

A common language for research, pilots, partnerships, and product development

TERM	WORKING DEFINITION
Behavioral signal	A structured response, declared preference, observed action, or contextual indicator approved for a defined use in the model.
Customer requirement profile	A normalized representation of the conditions a customer needs or prefers for a specific goal, task, journey stage, and context.
Experience environment profile	A normalized representation of the physical, digital, social, operational, policy, and support conditions provided by an experience.
Customer-experience compatibility	The degree of alignment between customer requirements and experience provisions.
Compatibility gap	A dimension-level difference between what the customer requires and what the environment provides, adjusted for importance, sensitivity, confidence, and context.
Compatibility friction	Effort, confusion, delay, stress, exclusion, loss of control, distrust, or preventable burden associated with a compatibility gap.
Intervention	A governed change to content, process, channel, support, policy, environment, timing, or recovery intended to reduce a validated gap.
Reason code	A human-readable explanation identifying the dimensions, evidence, direction, and uncertainty contributing to an output.
Confidence	An assessment of evidence quality, recency, completeness, representativeness, agreement, and model uncertainty.
Adaptive experience fit	A governed adaptation intended to improve compatibility, customer agency, and task success rather than merely increase conversion or engagement.
Environment redesign	A structural change to the base experience so more customers can succeed without individual profiling.
Promise-to-delivery gap	The difference between expectations created before an interaction and the conditions encountered during delivery.

20

APPENDIX B - ILLUSTRATIVE DIMENSION MATRIX

A starting point for a low-risk compatibility pilot

DIMENSION	CUSTOMER SIDE	ENVIRONMENT SIDE	CANDIDATE OUTCOMES
Clarity	Need for explicit information	Instruction sequence; disclosure timing; jargon; confirmation	Errors; help use; comprehension; complaints
Control	Need for choice and reversibility	Back/edit/save; channel choice; opt-out; escalation	Abandonment; overrides; satisfaction; completion

DIMENSION	CUSTOMER SIDE	ENVIRONMENT SIDE	CANDIDATE OUTCOMES
Human support	Need for person-to-person assistance	Availability; expertise; empathy; authority; continuity	Transfers; repeat contact; resolution; recovery satisfaction
Pace	Sensitivity to time and uncertainty	Wait; response cadence; status visibility; deadline	Time to completion; complaints; channel switching
Cognitive load	Tolerance for complexity	Steps; fields; decisions; memory; information density	Error rate; abandonment; dwell time; support use
Privacy	Need for data control	Collection; consent; verification; sharing; visibility	Consent decline; trust; complaints; completion
Fee predictability	Need for price certainty	Disclosure; optionality; total cost; exception rules	Disputes; refunds; complaints; conversion
Accessibility	Declared functional requirements	Conformance; alternatives; authentication; assistive support	Completion; accommodation requests; accessibility defects
Recovery	Need for resolution and restoration	Escalation; authority; apology; restitution; follow-up	Resolution time; repeat contact; retention; trust

21

APPENDIX C - PILOT WORKSHOP QUESTIONS

Questions for customer, frontline, operational, and executive discovery

Customer discovery questions

- What were you trying to accomplish, and what did you expect the organization to make possible?
- At what point did the experience make you feel uncertain, slowed down, exposed, ignored, overloaded, or out of control?
- What information, support, choice, confirmation, accommodation, or recovery option would have made the task easier?
- Did you change channels, seek help, repeat a step, delay the task, or abandon it? What condition led to that decision?
- What would a fair, trustworthy, and compatible resolution have looked like?

Frontline and partner questions

- Which customer situations are hardest to explain, complete, or resolve within the current environment?
- Where do policies, tools, training, incentives, customer promises, and local operating practices conflict?
- Which exceptions require judgment, and who has the authority, information, and time to act?
- Which customer signals are useful and appropriate, and which would feel invasive, unreliable, or unfair?
- What changes would reduce effort and uncertainty for both customers and employees?

Executive and governance questions

- Which customer condition and business outcome must improve for this work to be valuable?
- What decision will the compatibility model change that current CX tools do not change today?
- Which uses are prohibited even when they could improve conversion, retention, cost, or operational efficiency?
- Which leaders own the environment conditions creating the gap, and can they change them?
- What evidence would justify scaling, redesigning, narrowing, pausing, or stopping the pilot?

22

APPENDIX D - REFERENCES

Selected research, standards, and official guidance

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INTELLECTUAL PROPERTY AND PUBLICATION NOTE

This paper presents a thought-leadership and commercialization thesis associated with the CIBECOS patent-pending framework. It does not define the legal scope of any patent claim or promise predictive performance. The USPTO explains that a provisional application establishes a filing date, is not examined, and generally requires a corresponding nonprovisional filing during the 12-month pendency period to claim the benefit of that filing.[10] Patent counsel should review publication timing, claim support, new matter, international rights, technical disclosure, and terminology.

23

ABOUT DAVID WILLIAMS AND SIGNAL & JOURNEY

Advancing customer-experience intelligence through research, systems thinking, and responsible innovation

David Williams is the co-founder of Signal & Journey and creator of the CIBECOS patent-pending framework. His work spans customer experience, customer intelligence, product strategy, artificial intelligence, analytics, digital transformation, and service innovation across technology, financial services, healthcare, telecommunications, and public-sector environments. He holds a Master of Science in Information Technology from the University of Denver and a Bachelor of Science in Environmental Design/Architecture from Morgan State University. His current work focuses on the relationship between customer behavior, experience environments, operational systems, and business outcomes.

Signal & Journey is a customer-experience intelligence and advisory firm founded on the belief that customer feedback contains signals about deeper operational and environmental conditions. The firm combines customer research, Voice of

the Customer analysis, journey mapping, behavioral and operational evidence, service design, and responsible use of analytics and artificial intelligence to help organizations understand what customers are experiencing, why those experiences occur, and what leaders should change.

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