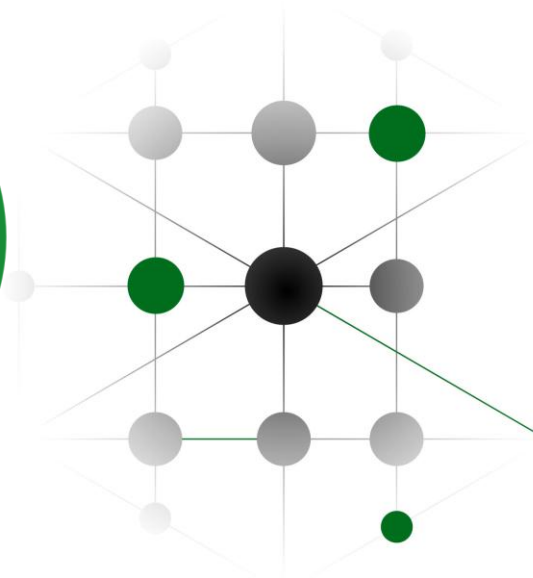


Fujitsu Causal AI

Every decision deserves causal rigor



Fujitsu Research of America



Fujitsu Causal AI

Turning everyday enterprise questions into explainable, defensible decisions in minutes.

Enterprises Make Thousands Of Decisions; Rigorously Analyze Only A Fraction

3_B

Decisions are made annually by managers and executives collectively¹.

38%

Of C-suite executives would trust AI to make business decisions on their behalf².

\$250_M

Is spent annually by a typical Fortune 500 company on decision making³.

Every Business has a long tail of under-analyzed decisions

- Pricing, promotions, staffing, allocation, and operations decisions happen every week.
- Only a fraction receive deep analysis because expert time is scarce.
- The rest rely on dashboards, correlation, spreadsheets, and gut feel.



Fujitsu Causal AI

Accessible

Rigorous

Scalable

1. [Who's making the decisions around here?\(2022\)](#), 2. [SAP Sponsored Survey: Executives Trust AI Over Themselves | SAP News Center](#) (2025) 3. [How to make better decisions in the age of urgency | McKinsey & Company](#) (2023).

A Confident Agent Is Not The Same As A Trusted Decision

Would you make a pricing, staffing, or supply-chain decision just because an AI Agent sounded confident?



- LLMs and agents generate convincing answers, but don't know which lever drives outcomes.
- The challenge is no longer access to AI; but trust in its recommendations.
- Fujitsu Causal AI grounds recommendations in causal reasoning, making them explainable, bounded, and defensible.

Patterns Tell You What Happened, Causality Tells You What To Change

Correlation can mislead when the real driver is hidden.



Umbrella Sales ↑



Traffic Accidents ↑



Rain drives both —
not each other



App Usage ↑



Retention ↑



It's that users who already like
the product use it more.



Meeting Time ↑



Performance ↑



It's the quality of the team that
drives both outcomes

BI dashboards and LLMs detect patterns. Causal inference identifies the lever to pull.

Fujitsu Causal AI Turns Questions Into Defensible Recommendations



- Prediction is useful, but business leaders need to know what action changes the outcome.
- **Fujitsu Causal AI** is a decision intelligence technology that identifies causes from large-scale data and supports optimal decision-making and actions.

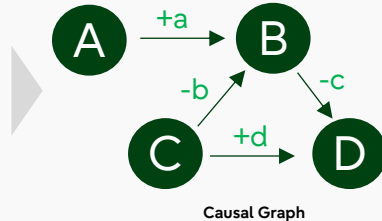
“Causal discovery” and “Causal decision-making” moves teams from insights to action

1. Causal discovery

Key strengths:

1. Fast statistical estimation of causal relationships and causal effects
2. Visualization as a causal graph

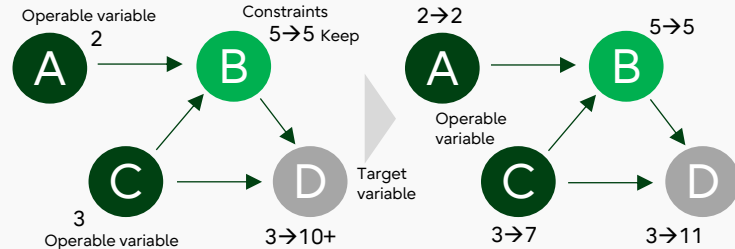
A	B	C	...
8.9	7.4	4.2	...
8.4	2.9	9.1	...
0.9	7.3	7.6	...
...	...	...	...



2. Causal Decision Making

Key strengths:

- Recommending actions to move from a current state to a desired state based on causal relationships



Two Breakthroughs Just Collided

Agentic AI

- Natural language interaction
- Workflow automation
- Broad accessibility

Limitations

- Can hallucinate
- Cannot prove causality

Causal AI

- Identifies true drivers
- Supports intervention analysis
- Produces explainable recommendations

Limitations

- Requires specialized expertise



Fujitsu Causal AI

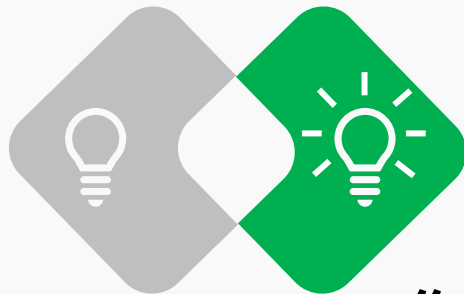
1. Delivers action-ready recommendations **in minutes**
2. Combines insights across **multiple datasets**
3. Identifies true **business drivers**
4. **Recommends actions** under constraints

Same Analyst, Different Authority

Before



Business analyst



After



“ I think we should change the price based on this dashboard. ”

“ Increase price by 4% expected margin uplift is 3.1%; constraints are satisfied; here is the causal chain. ”

Fujitsu Causal AI does not replace the analyst.
It gives the analyst the authority of a senior data science team.

Demo Walkthrough (Agentic Mode)

1

Welcome to Agentic AI

Transform your data into actionable insights with AI-powered causal analysis

Drop file here or click to browse
CSV files only · Up to 200 MB per file

[Click to upload CSV file](#)

Select Analysis Mode

☐ Exploration Mode
Generate results quickly for decision exploration and rapid prototyping
⚡ ~2-3 min Best for testing

☐ Precision Mode
Generate Highly accurate decision with rigorous analysis (takes longer)
🔴 ~8-12 min Production ready

- Upload your CSV file
- Select Analysis mode

2

Data Agent

Chat with your data assistant

What can I do:

- Analyze your dataset structure and statistics
- Summarize columns, distributions, and data types
- Answer questions about your data

Agentic AI Chat

DIG
BAC
TAX
PTRATIO
LSTAT
MEDV

Tell me more about this dataset

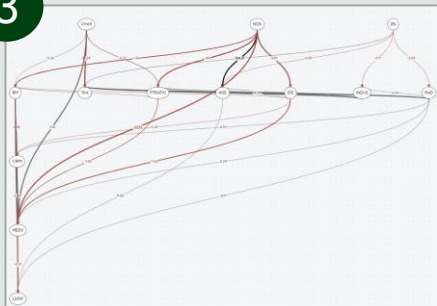
[Proceed to next step](#)

Ask me anything about your data

[Continue to Knowledge Graph generation](#)

- Ask any questions related to your data set to the AI agent
- Generate a causal graph

3



- Understand the causality
- Start over the graph if you want
- Ask any questions about the results

4

Data Agent

Chat with your data assistant

What can I do:

- Analyze your dataset structure and statistics
- Summarize columns, distributions, and data types
- Answer questions about your data

Agentic AI Chat

Running your request — this may take a moment. Results will appear shortly.

Optimization complete — 1 scenario evaluated.

Scenario: Increase MEDV. Goal not exact. Completed. Recommended actions: DIG: -0.002. You can ask me to explain the results, compare scenarios, or suggest next steps.

clarify what action I should take to get the best result

The best scenario so far recommends a small decrease in DIG (-0.004) to increase MEDV by 0.003. This also slightly increases CRIM and BLM while decreasing PTRATIO and LSTAT. This scenario has the root about ZN, CHAS, and NOX. Would you like to refine this scenario or explore a new one?

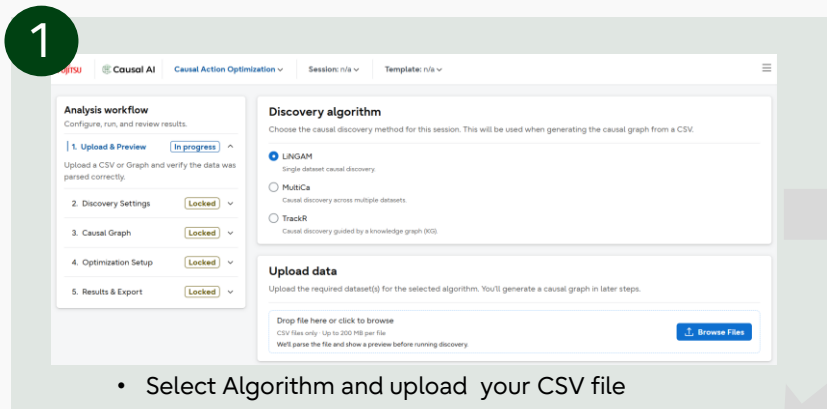
Ask me anything about your data

[Run New Scenario \(3 results\)](#)

[View Graph](#) [Finish Causal Analysis](#)

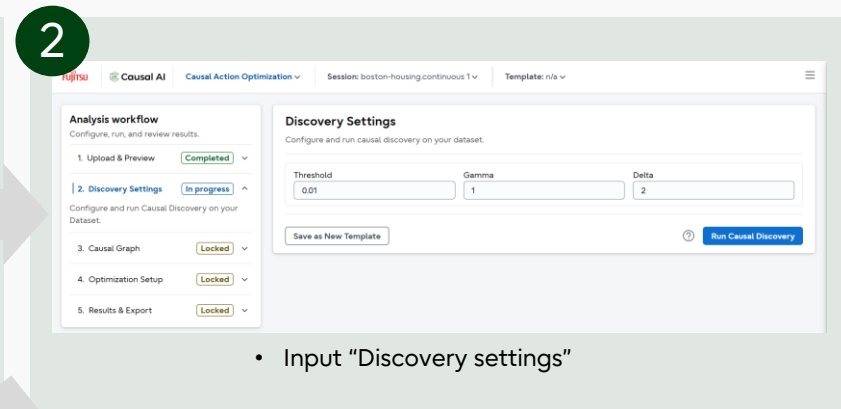
Demo Walkthrough (Expert Mode)

1



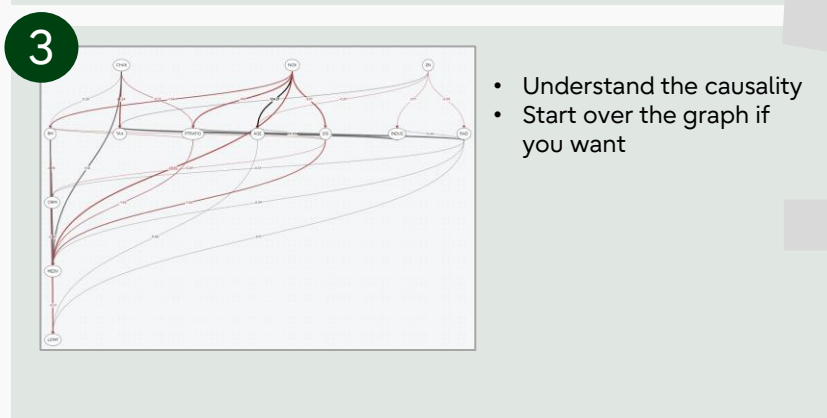
- Select Algorithm and upload your CSV file

2



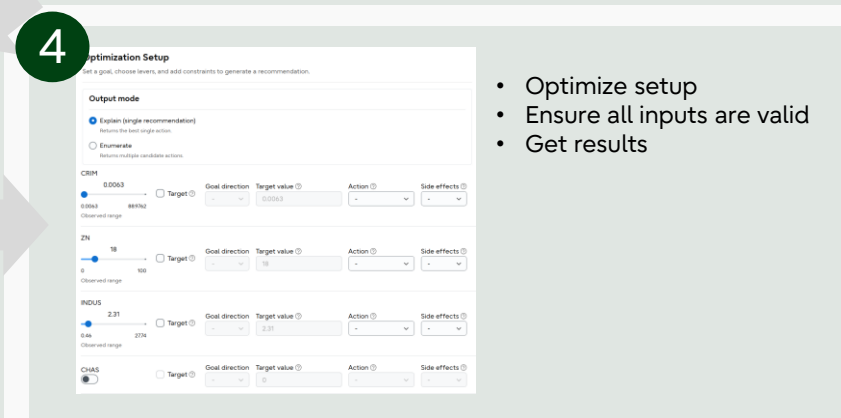
- Input "Discovery settings"

3



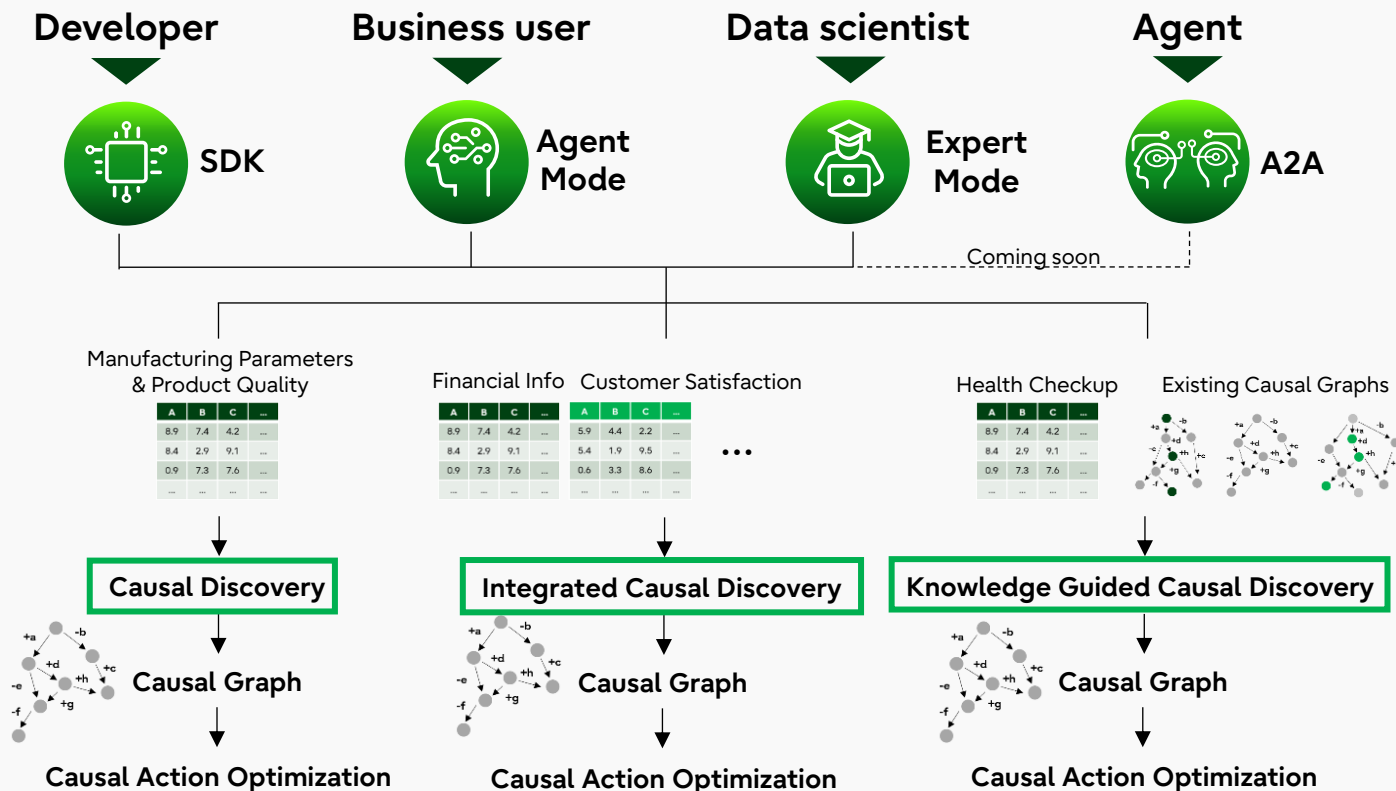
- Understand the causality
- Start over the graph if you want

4

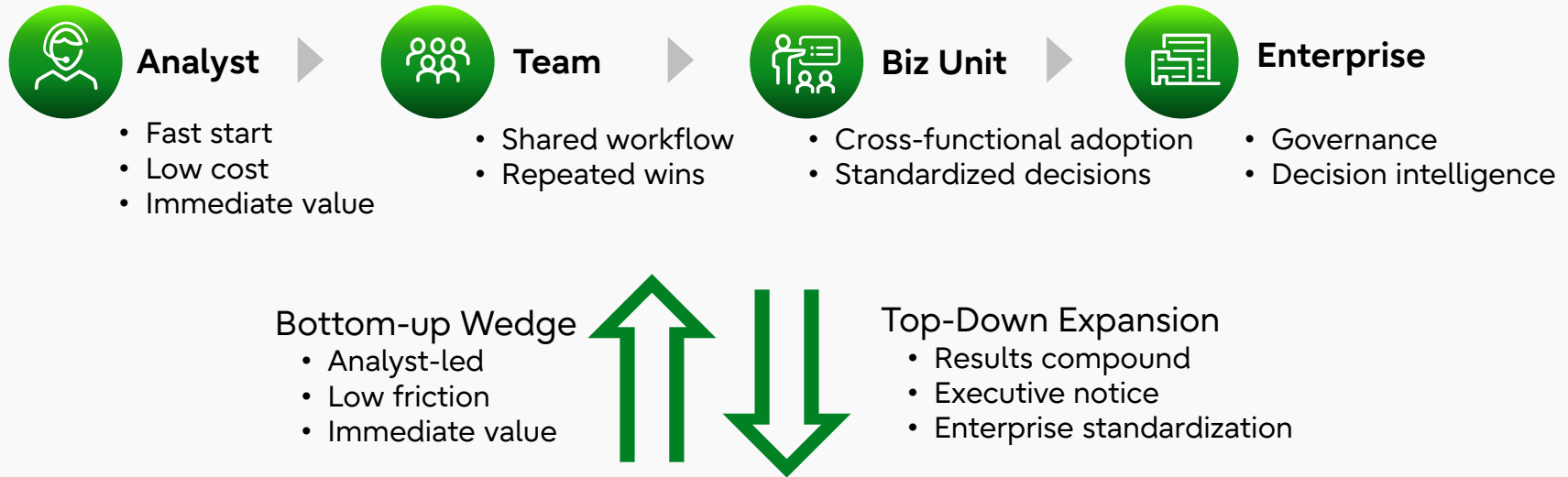


- Optimize setup
- Ensure all inputs are valid
- Get results

One Causal Engine, Multiple Access Points



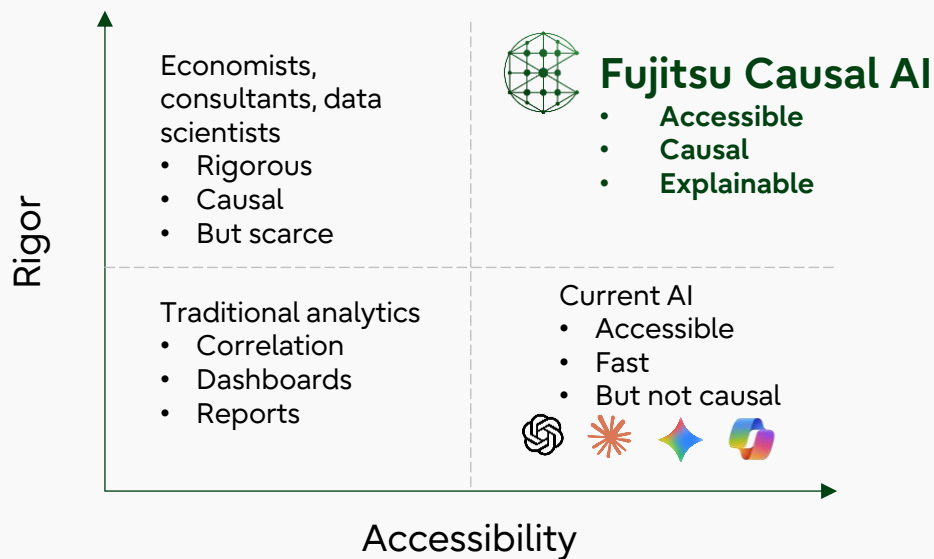
We Enter Through Analysts, We Expand Through Results



Every successful decision creates demand for the next one.

Causal Rigor Is No Longer Locked Behind Experts

For the first time, organizations no longer have to choose
between rigor and accessibility



Sample Customer Use Cases

Distribute optimal coupons

JPN: Major supermarket E (national) and H (regional)

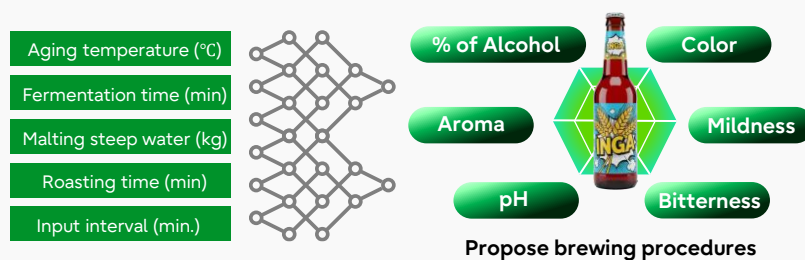
Data partitioning techniques with strong causality



Brew the ideal beer

swivel & knot

Causal exploration tech for combinations of outcomes



Identify financial performance drivers

Fujitsu Corporate Wide Project

Causal discovery: financial and non-financial factors



Case Studies: Proven Across Industries

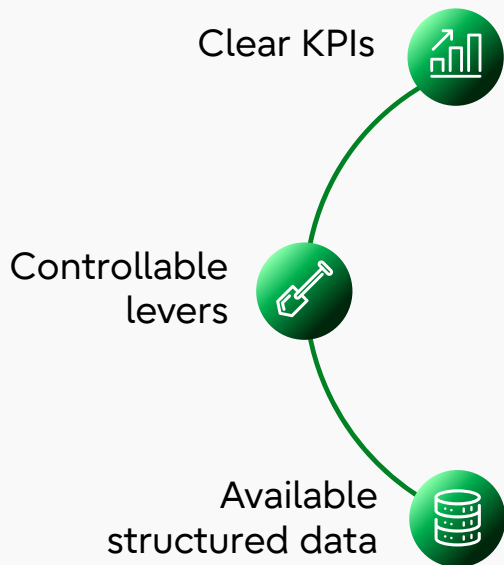
From ESG to healthcare, Fujitsu Causal AI helps organizations uncover hidden drivers, make evidence-based decisions, and accelerate innovation

Collaborator	Domain	Source	Hidden Driver Discovered	Decision Enabled	Key Details
Deloitte Tohmatsu	ESG Management	Press Release , May 29, 2026	Disclosure gaps and competitive differentiation factors	Better ESG strategy	Analyzed ESG disclosure data from 1,000+ listed companies to identify strengths, gaps, and peer differentiation
Kyoto University & Hirosaki University	Population Health	Press Release , March 6, 2025	True causes of sleep disorders	Better health interventions	Combined limited study data with a causal knowledge base built from 20 years of health data and ~3,000 variables
Genequest	Personalized Healthcare	Press Release , October 9, 2025	Genetic and lifestyle drivers of health outcomes	Personalized recommendations	Revealed how genetic traits, dietary preferences, and lifestyle factors jointly influence health outcomes
Atmonia	Materials Science	Press Release , April 13, 2022	Catalyst characteristics driving performance	Faster materials discovery	Accelerated catalyst exploration using HPC, simulations, and AI to reduce discovery time
Tokyo Medical and Dental University	Drug Discovery	Press Release , March 7, 2022	Causal mechanisms behind drug resistance	Accelerated drug development	Identified previously unknown mechanisms of cancer drug resistance through large-scale causal analysis

Start With High-Frequency, Measurable Decisions

Focus on decisions you can measure, influence, and repeat

Best first use cases

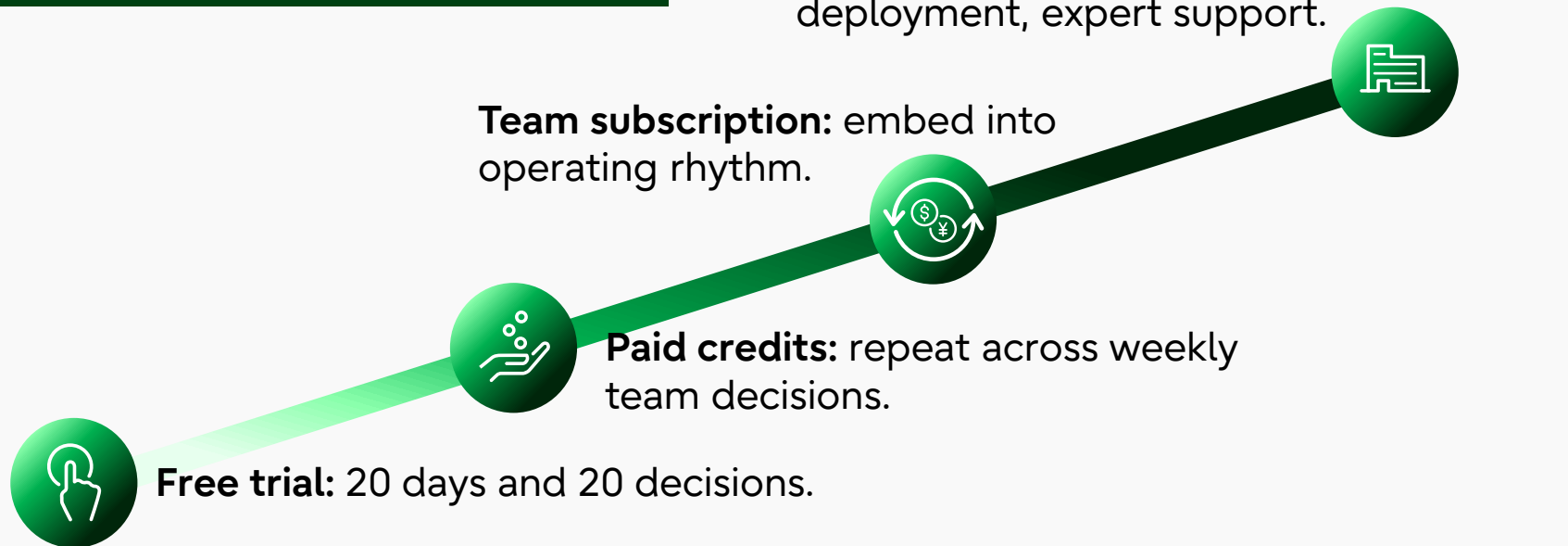


Repeatable decisions



Adoption Starts With One Decision And Scales With Repeated Value

Start small. Prove value. Scale decision rigor across the enterprise.



Get Started Today!!

1. Free trial (cloud version) now available
 2. Technical consultations available upon request
- ☐ Rigor becomes an organizational habit
 - ☐ Small wins compound into lasting advantage
 - ☐ Better decisions become the default



Fujitsu Causal AI – Rigor, On Demand

Thank you

High-speed causal discovery using “LayeredLiNGAM” (ECML-PKDD2024)

Conventional

DirectLiNGAM

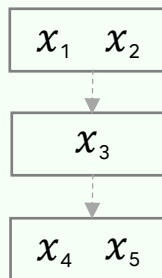
x_1
↓
 x_2
↓
 x_3
↓
 x_4
↓
 x_5

Bottlenecks in computation when deciding the order of variables

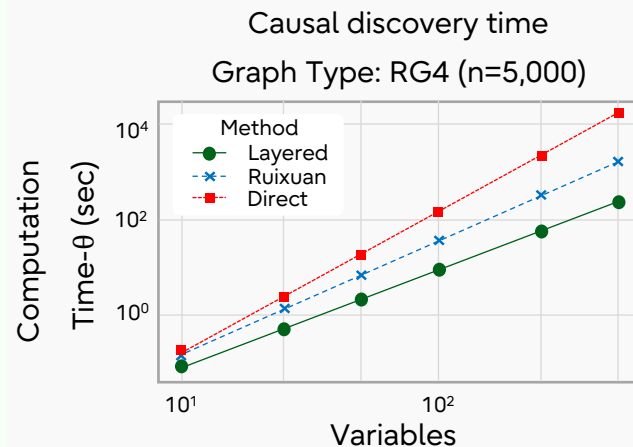


Identify the need for ordering by statistical testing and create “layered groups”

LayeredLiNGAM



Fujitsu Causal AI



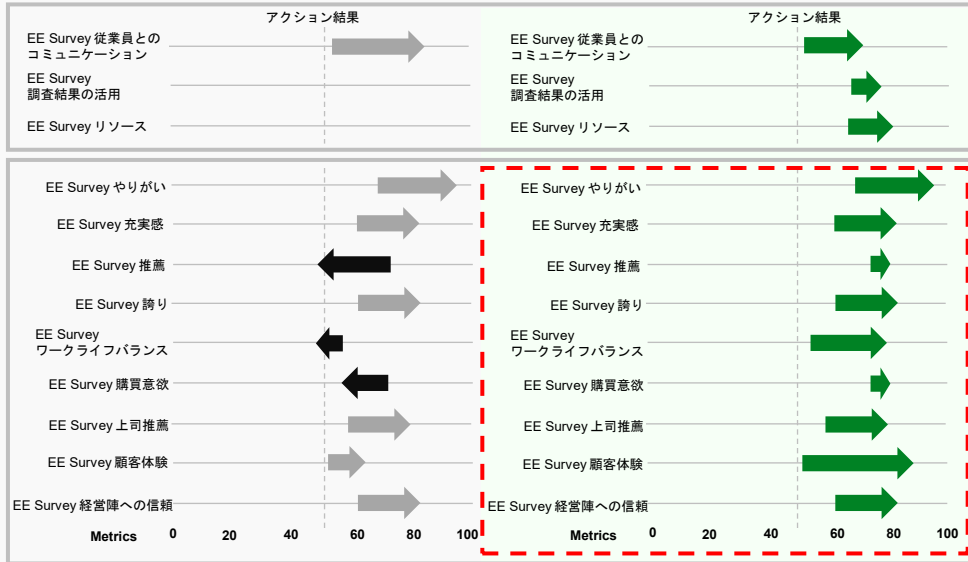
Optimal Causal Decision-making

Recommend the **most effective measures** with the **least negative impact**

Control the effect of actions on other attributes and optimize by considering multiple causal graphs

- Uses mathematical optimization techniques (**linear programming**) to determine actions that:
 - ❑ **Constraints:** Change the value of the target attribute on all causal graphs to the desired value (e.g., no more than 50% turnover risk)
 - ❑ **Minimize:** Action Cost and Causal Effect Change in Non-Target Attribute Values

Conventional



➡ Positive

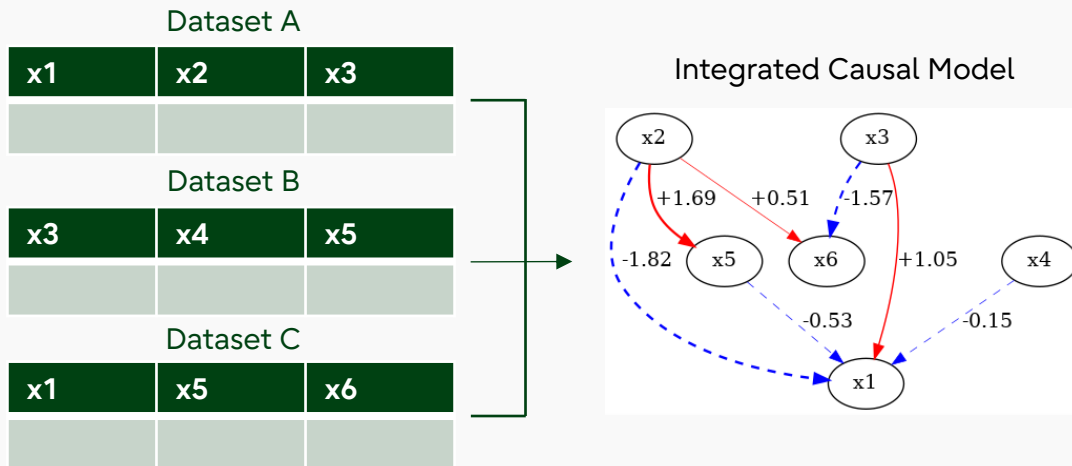
➡ Negative

Achieved targets with no negative impacts

- Purpose: Construct integrated causal models integrating observational data from differing domains
- Reconstructs a single causal relationship from a dataset that has some overlapping variables but also has some distinct variables
 - For example, due to cost issues, each hospital can only measure some of the items
 - Data sets that belong to different domains, such as opportunity data and engagement surveys

Each data set consists of different variables.

Cross-sectional analysis is usually difficult

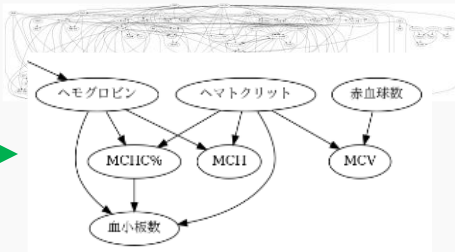


- Purpose: Use Past Causal Graphs as Prerequisite Knowledge for Statistical Causal Discovery
- Appropriate selection considering differences in **observation conditions** and **observation items**
 - For example, a causal graph estimated from Hirosaki COI health examination data can be used as prerequisite knowledge for causal discovery of customer data to derive appropriate causation.

Hirosaki COI Health Examination Data

Reliable Data

Including data on lifestyle, diet, exercise, and working conditions.
(This is hard-to-obtain big data related to health)



Customer Data

