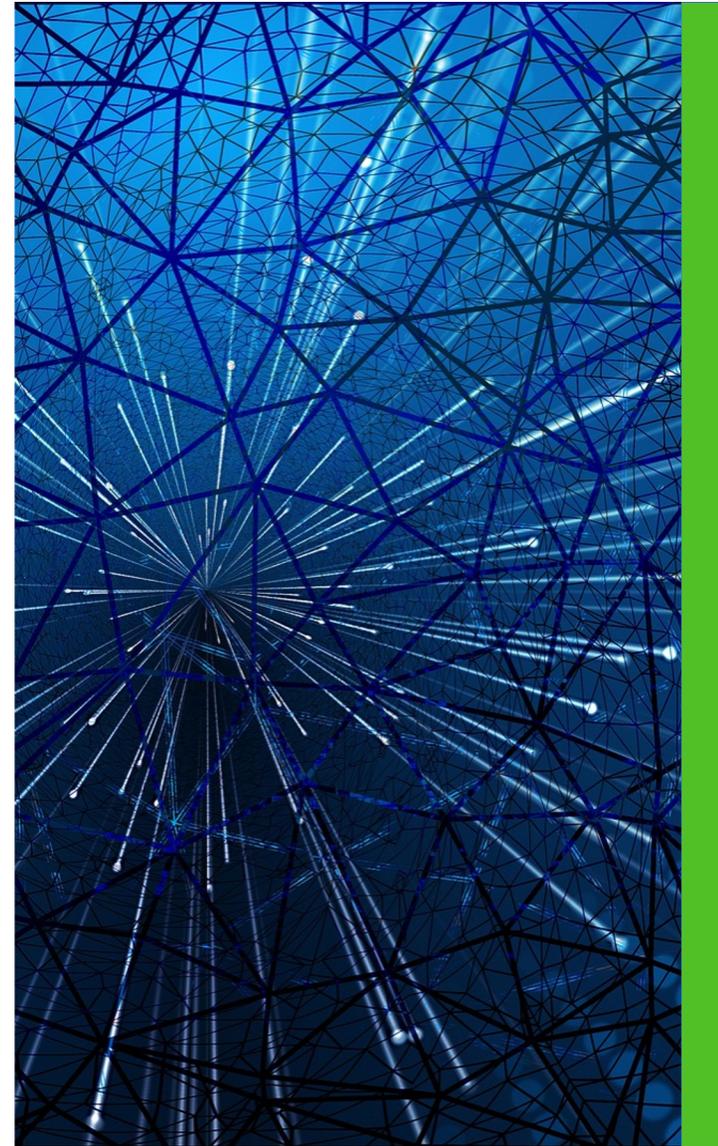


HCAI and Org Design

“Artificial Intelligence (AI) is about to change the way we think about organizations ... forever”

Bill Pasmore

See STSRT Webinar, *“HCAI & the Evolution of Socio-Technical Systems”*,
October 2025, by Stuart Winby



The Modern Organization - Definition

What makes the modern organization different? Simply put, **advanced technology like HCAI and dynamic organizational capabilities.**

the modern organization is a new organization design paradigm that **integrates technology, data, people, and organization – achieving alignment and optimization of each element (best fit)** -- to create a **reconfigurable adaptive system.**

Coupled with advanced digital and AI technology are **dynamic organizational design capabilities**— the ability of an organization to adapt, integrate, reconfigure, and renew its resource base and operational processes in response to changing environments and market demands.

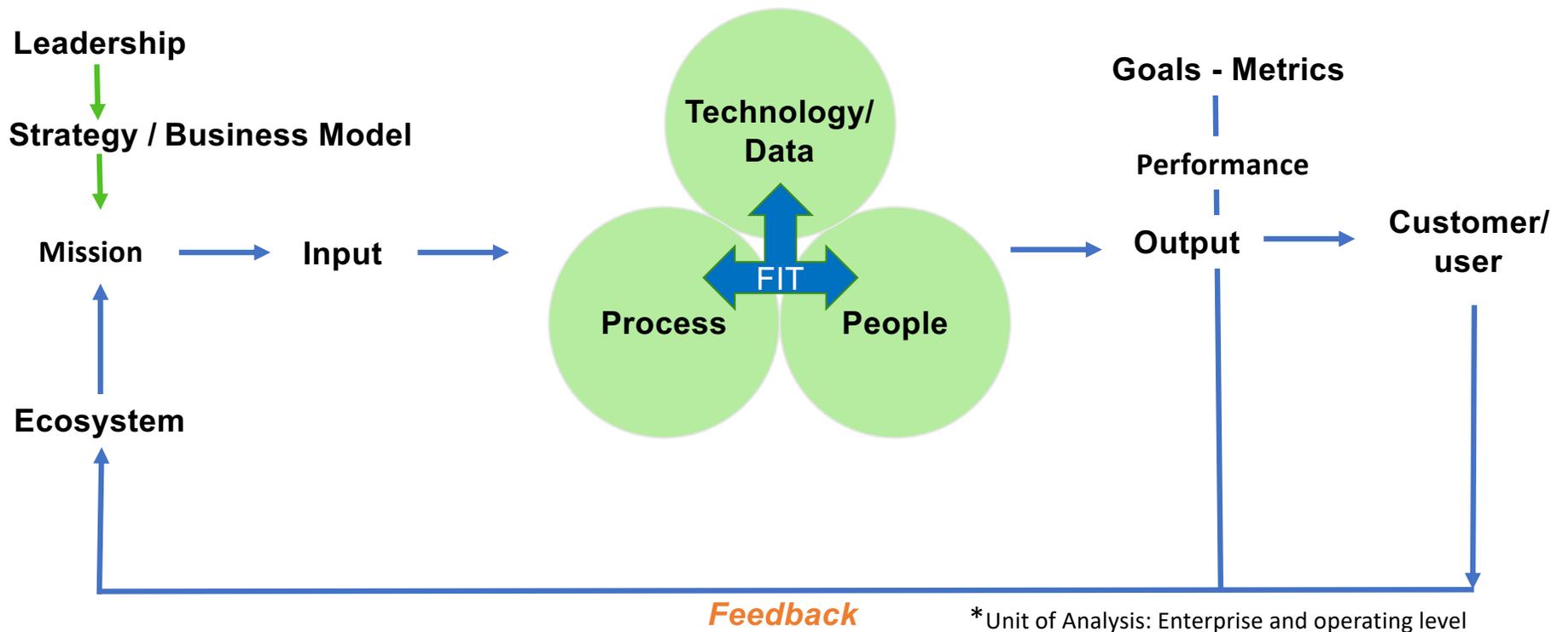
The traditional hierarchical structures and siloed departments that once served an enterprise organization well are no longer sufficient.

The Modern Organization:

- Design for Adaptiveness and Performance

- **When all four components are integrated** seamlessly, the organization can respond quickly to changing market conditions, innovate rapidly, and deliver exceptional customer/user experiences and business performance.
- In a dynamic modern organization, the design pivots on the **microstructure model** of open system work systems, in a unit of analysis involving the customer and the ecosystem.
- **Work systems** play a crucial role in enabling the organization to respond quickly to changing market conditions and customer needs by designing flexible, adaptable, work systems that can facilitate the free flow of information, ideas, and resources across work units and functional structures.

Modern Organization – Work System Model*



A Method To Determine
How to Get the BEST FIT
of HCAI Technology, Process and PEOPLE
To Achieve Our Desired Operational/Business Performance



Explore Technical Innovations/Opportunities...BUT

1. Start Design with the Needs of USERS & the BUSINESS



Our NEEDS & Needs of CUSTOMERS—Aspirations & “Pain Points”?

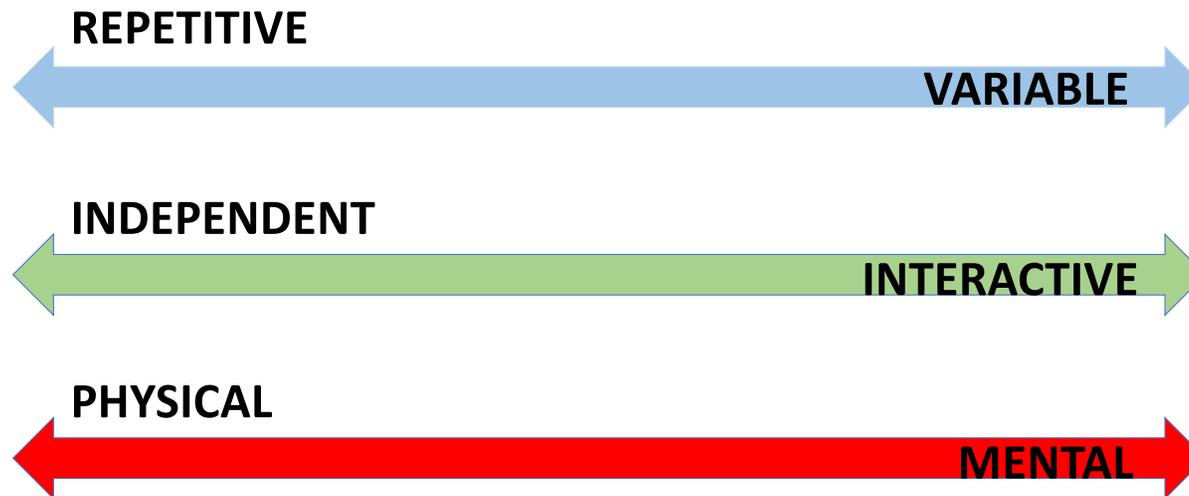
What application or reconfiguration of HCAI might Add VALUE to People & the Business?

2. REIMAGINE Our Own Processes: Need a VISION

How might HCAI move us from standardized to adaptive processes?



**3. DECONSTRUCT Work Roles & Processes to Assess
Compatibility of HCAI/AUTOMATION
with Specific TASKS/Activities**



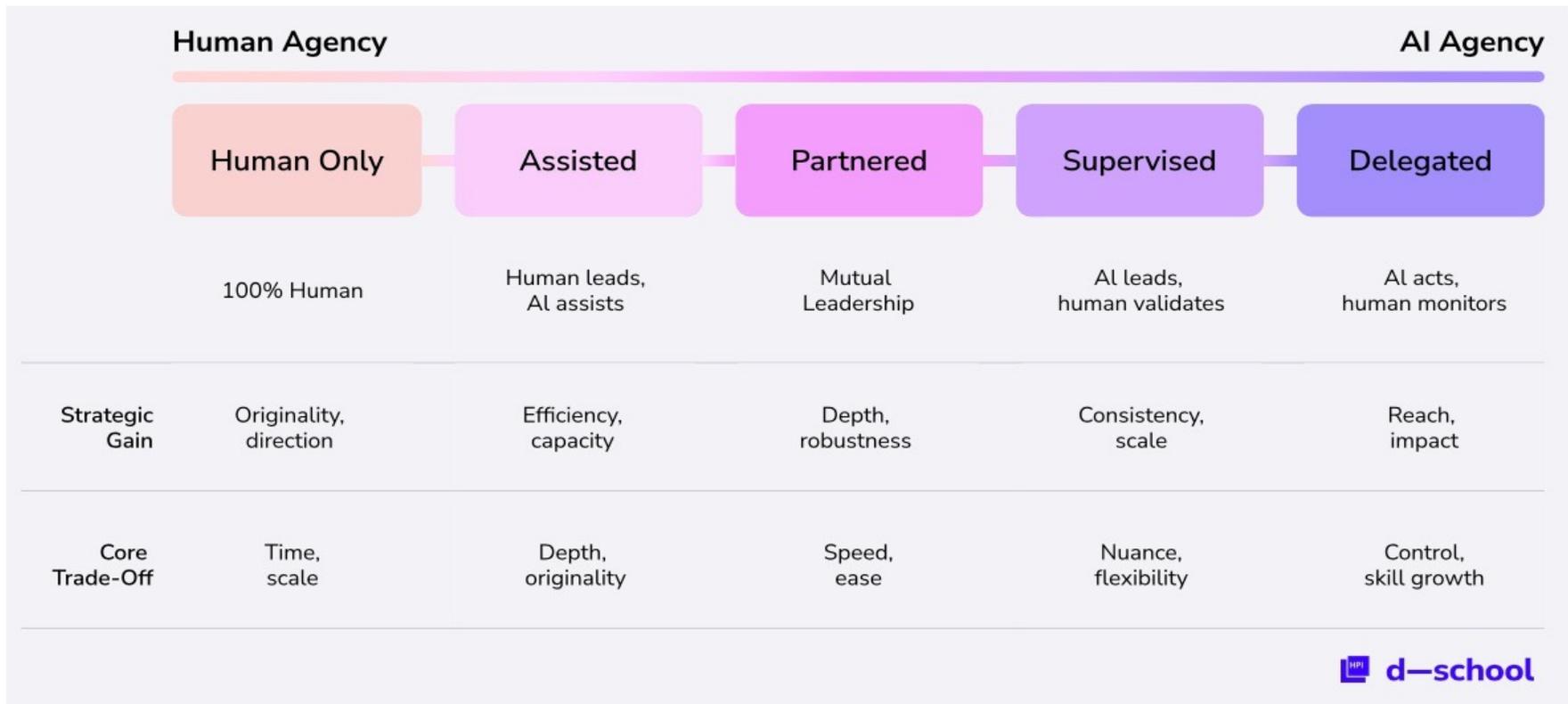
***HCAI/Automation Fits BEST with REPETITIVE,
INDEPENDENT Mental Work and/or PHYSICAL Labor
(e.g. Automated Drone Monitoring of Timber Inventory)***

Apply a Key Value:
The DISTINCTIVE and SYMBIOTIC Contributions
of **HUMANS and **MACHINES** ***

Primarily HUMAN Activity	<i>HUMAN and Hybrid</i>	<i>MACHINE Activities</i>	Primarily MACHINE Activity
JUDGE	<i>HUMANS support Machines</i>	<i>TECHNOLOGY augments Humans</i>	TRANSACTION
CREATE	<i>TRAIN</i>	<i>AMPLIFY</i>	ITERATE
EMPATHIZE	<i>EXPLAIN</i>	<i>INTERACT</i>	PREDICT
LEAD	<i>SUSTAIN</i>	<i>EMBODY</i>	ADAPT

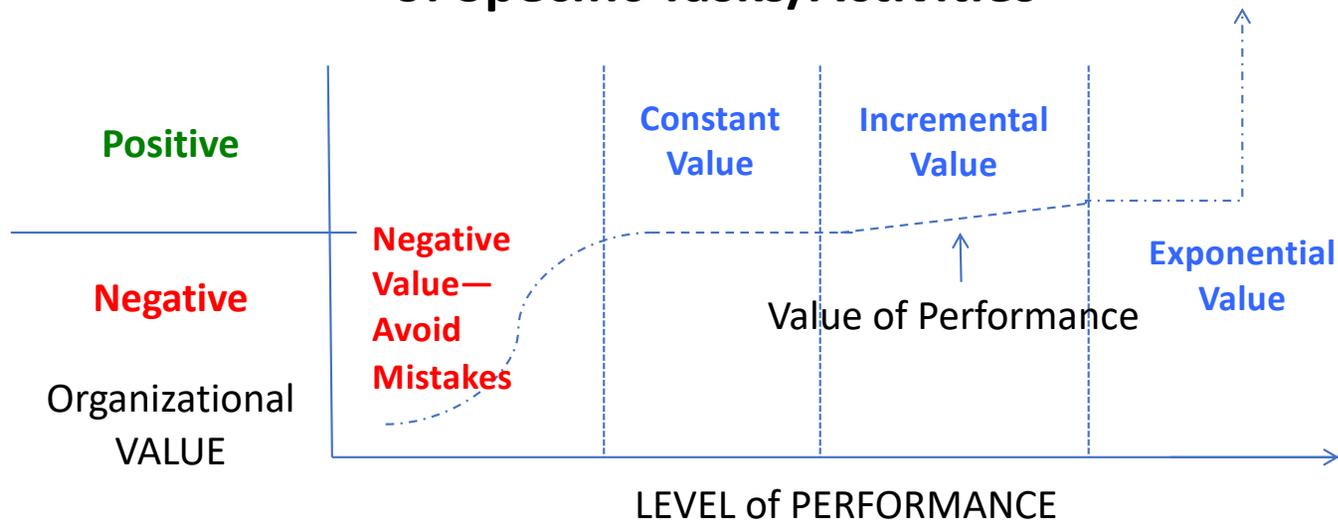
* *Human + Machine*, Daugherty & Wilson, Harvard Business Review Press, 2018

Strategic Framework for Distributing Human-AI Decision-Making



See: The Agency Continuum, Samuel Tschepe, Whitepaper, Hasso-Plattner Institute, 2026

Deconstruct the Work to Assess
RETURN/PAY-OFF on IMPROVED PERFORMANCE
of Specific Tasks/Activities



The biggest PAY-OFFS from Ai Technology are usually to Increase Speed or Coordination or to Prevent/Reduce Mistakes or Costs (e.g. 15% reduced Energy use with Advanced Process Controls) OR to create New Value/Service or Breakthrough Performance (e.g. Augmenting Technicians' use of Predictive Maintenance)

**Assess available FUNCTIONALITIES of AI Software
For their Impact On
Type of Work and Size of performance Pay-Off**



*Sometimes, tasks that are Variable are mistakenly fully automated;
AI can speed-up decision-making but still requires human oversight;
Sometimes, software is overloaded with 'Irrelevant' functionalities;
Software can need reconfiguration for a 'custom' High Value capability.*

4. **RECONSTRUCT** Work Roles & Processes with HCAI CHOOSING Among OPTIONS *

SUBSTITUTE

Technology for Labour

AUGMENT

Work done by People

TRANSFORM

Work done by People



* *Reinventing Jobs*, Jesuthansan & Boudreau, Harvard Business Review Press, 2018

OPTIMIZE WORK for People & the Business By Making Choices

Based on Answers to Technology Questions of Compatibility, Pay-Offs, and Functionality

Substitute



Technology applies best as a Substitute for Labour that is REPETITIVE, INDEPENDENT, or prone to Human ERROR/inaccuracy and Performance LOSSES/Risk

Augment



Technology that applies to VARIABLE, INTERACTIVE, or MENTAL Tasks, and produces INCREMENTAL or EXPONENTIAL Value can Augment Human Work

Transform



Technology that Replaces or Augments Human Labour can ALSO provide the DATA and/or CREATE the Opportunity for People To do NEW, Higher Value Work

* *Reinventing Jobs*, Jesuthansan & Boudreau, Harvard Business Review Press, 2018

Make Human-AI Agency Choices Based on Appropriate 'Fit' between Situation & Mode

Mode	Ask	Requires	Watch For
Human Only	What should we do?	Goal is direction, not output	Avoiding AI without strategic reason
Assisted	How can we do this faster?	Task defined, outputs verifiable	Accepting outputs without evaluation
Partnered	How can we do this better?	Time exists for multiple rounds	Settling after a single iteration
Supervised	How can we scale this?	Criteria are explicit, errors tolerable	Reviewing faster than thinking
Delegated	How can we multiply this?	Errors are detectable and recoverable	No visibility until damage occurs

 MPI d-school

See: The Agency Continuum, Samuel Tschepe, Whitepaper, Hasso-Plattner Institute, 2026

HCAI Deliberations & Participative Design

- As a HCAI practice, organizational design choices are made in deliberations that facilitate full stakeholder/user involvement in concurrent social and technical design and deployment of HCAI.
- The deliberative process aims to make sure that human control over AI systems are maintained.
- A DELIBERATION is a structured discussion or process where a group of people carefully consider and weigh the pros and cons of different options, solutions, or courses of action related to a specific issue.
- The goal of a deliberation is to reach a clear understanding of the problem and a well-reasoned and informed decision, typically involving a variety of perspectives and evidence (Pava, 1983).

Design Lab – Forum for Continuous Design

- A constant facility and capability accessible for the continuous design, evaluation, and refinement of rapidly changing HCAI technology
 - with co-evolutionary design of people's roles, organization, and processes
- Enables dynamic design of the organization applying HCAI in rapid prototyping
 - fast and continuous organizational reconfigurability
- Involves all key Stakeholders in Deliberations for an Adaptive Work System
- Org Design Practitioner
 - Sponsor design and ownership
 - Facilitate effective Participatin
 - Provide roadmap for prototyping & feedback through to implementation

HCAI & Adaptive Work System Design: Summary

- Various **system integration** and testing steps occur in the design phase. A plan is developed for integration of the AI system within existing workflows or platforms, ensuring compatibility with other systems and databases. Validation and verification (unit tests, integration tests, user acceptance testing) is done to ensure the system performs as intended and meets quality standards.
- The **primary focus is on clarity on what tasks are handled by AI and what are managed by humans**. Feedback loops are established for human oversight and AI explanations. Ethical frameworks guide the development of AI systems by emphasizing fairness, accountability, transparency, and user respect. **Once a thorough process analysis is conducted and a plan to reduce variances and automate processes is completed, the next step is to design the organization to ensure effective execution.**

HCAI & Adaptive Work System Design: Implementation

- Implementation starts with developing a **comprehensive deployment strategy**, including scaling, training for users, and technical support.
- A **launch plan is created** where a roll out of the AI system is in phases, allowing for gradual user adoption, and monitoring performance and user engagement.
- **User feedback mechanisms are established** to gauge user satisfactions, as well as performance analytics. It's important to establish a culture of iterative development, continuously improving the AI system based on user feedback and performance data.
- **Adaption/reconfigurability behaviors are established to enable adjustments to the AI model** and features to adapt to changing user needs or technological advancements. Provide robust documentation for users, outlining how to interact with the AI system, its capabilities, and its limitations. Offer ongoing training sessions to educate users on effectively using the AI system and understanding its implications.

Winby, S. & Xu, Wei, *Human-Centered AI Maturity Model: An Organizational Design Perspective*,
December 2025

**Support With
FIVE
KEY MANAGEMENT PRACTICES (MELDS) ***

MINDSET – Focus on Reimagining how work is performed,
Not just ‘bolting on’ shiny AI technology to existing work

EXPERIMENTATION – Foster a culture of Continuous Learning
with *perpetually* changing technology and jobs

LEADERSHIP – Promote the Participation, Trust, Transparency,
and Ethics for responsible employment of HCAI & People

DATA – Recognize the crucial importance of reliable Data,
Not just one’s own but also the broader available data

SKILLS – Develop a workforce capable of thriving in new forms
of Human-AI machine interaction

* *Human + Machine*, Daugherty & Wilson, Harvard Business Review Press, 2018