# Digital Work & AI:
An HR perspective

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- Head of programme, Msc. Digital Innovation and Management.

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- Editor of Scandinavian Journal of Information Systems.

- Member of the Council of SMB:DIGITAL

- Speaker & keynote

What are we talking about…
when we talk about AI and GAI
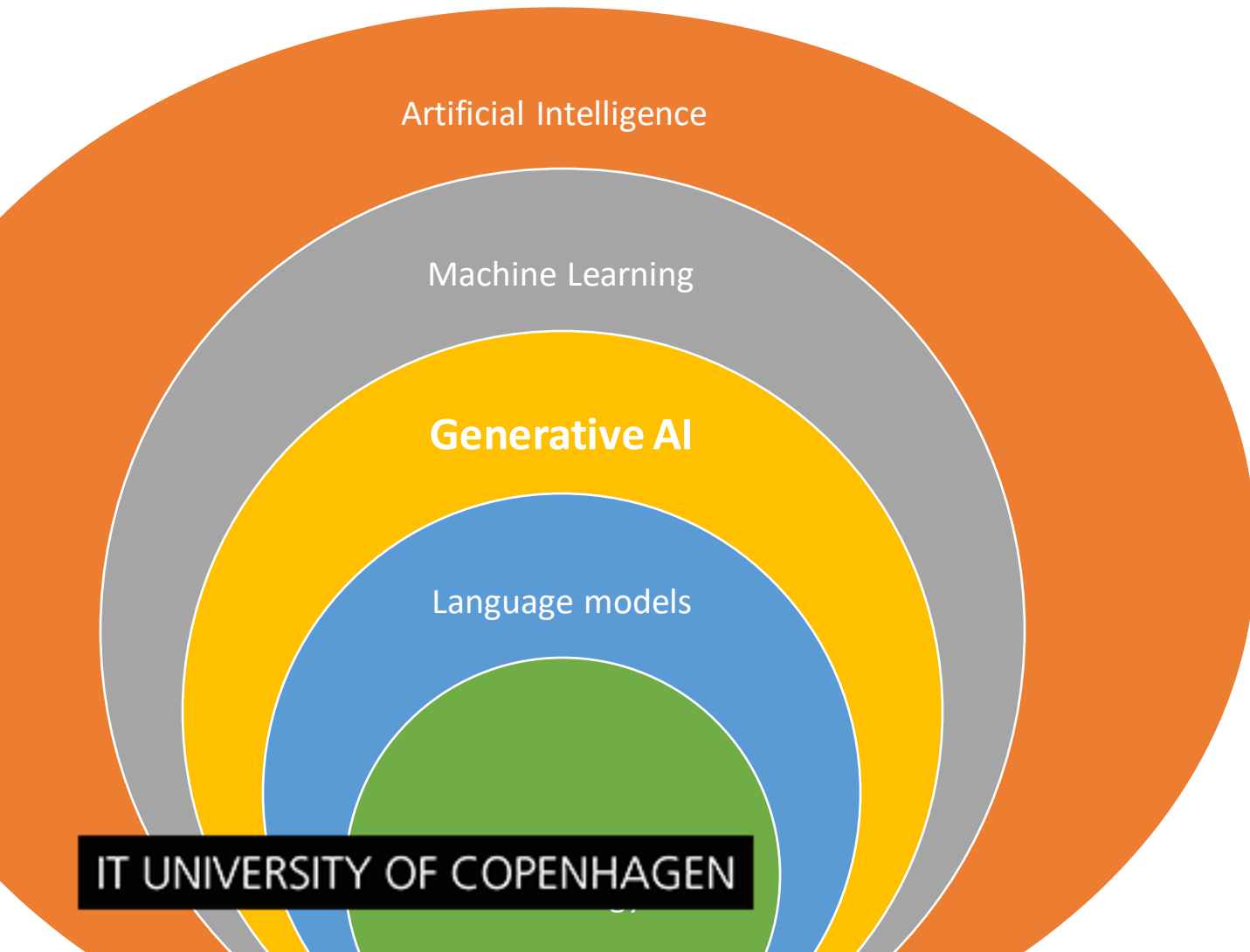
Artificial Intelligence

Machine Learning

Generative AI

Language models

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ARTIFICIAL INTELLIGENCE (AI) – a broad term for software that can perform tasks that have traditionally required human intelligence.

MACHINE LEARNING - a subcategory in which a model achieves abilities after it is trained on a larger amount of sample data. For example. speech-to-text software.

GENERATIVE ARTIFICIAL INTELLIGENCE - a class in artificial intelligence that has the ability to generate content such as images, video, audio, text, etc.

Examples of these LLMs models are GPT-4, PaLM, DALL· E 2 and stable diffusion.

Current use in cognitive work…

Dialogue and conversation: Simulate a conversation with an expert in a given field

Create new content: By suggesting a draft email or memo to

Analyze content: highlight important points in a text

Change content: translate, summarize, and simplify texts

New exciting cases, opportunities and ideas for how generative artificial intelligence can revolutionize not only the private sector, but also the public sector, emerge every day. The possibilities seem endless right now, and if you ask those who sell software and solutions, it is only the imagination that sets the limits.

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Pros & Cons

- **Highe**r quality, uniformity and efficiency in the task solution, as you ensure a more informed basis and inc_____information search/te___

- **Higher** _____as modern_____into the task solu_____nt that will affect _____no matter what.

- **Up-skilling** of modern skills such as prompting, which ensures the modernization of the workforce, which therefore acquires skills to take on new tasks.

Learning constantly for keeping up with the development.

- By removing 'no brain' tasks (such as copywriting), the workload becomes significantly more intense for the employee, who can therefore disconnect less during the working day.

- By removing _____rring with others than _____solation in the work___

- Autonomy, p_____reduced. You take some _____ut of the workflows when yo_____nate certain steps.

- De-skilling (loss of competence) as a result of employees stopping having to think for themselves/be critical thinkers.

"In 10 years' time, there will not be a caseworker who can read a legal text".
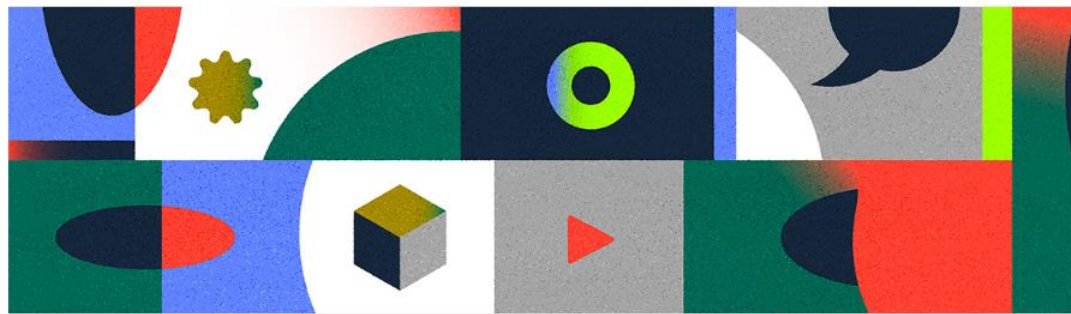
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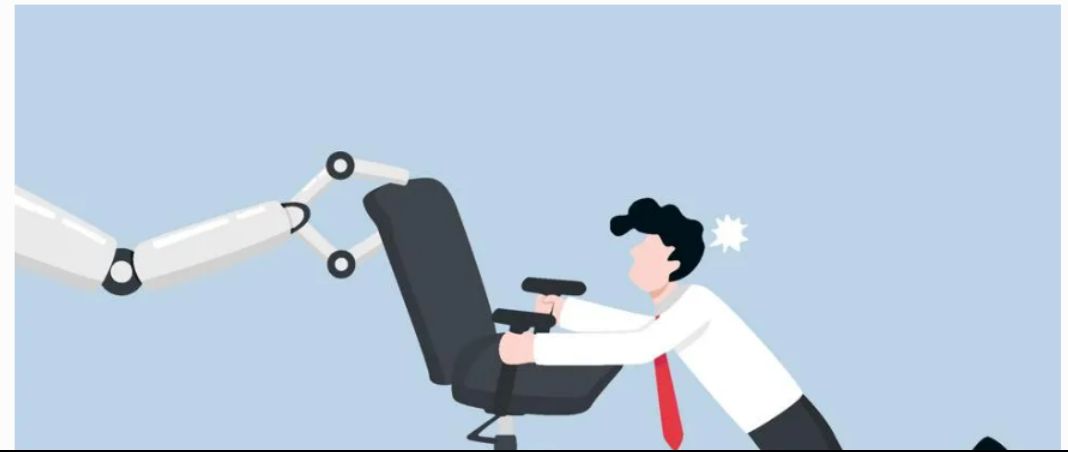
Effects on workers and work-system

The increased coupling of employees and AI portends a shift toward more of an "asocial system," wherein people may feel socially disconnected at work. Researchers delineate both adaptive and maladaptive consequences of this situation.

The more employees interact with AI in the pursuit of work goals, the more they experience a need for social affiliation (adaptive). This may contribute to more helping behavior toward coworkers at work—as well as a feeling of loneliness (maladaptive). Which then further impair employee well-being after work (i.e., more insomnia and alcohol consumption).

Tang, P. M., Koopman, J., Mai, K. M., De Cremer, D., Zhang, J. H., Reynders, P., Ng, C. T. S., & Chen, I-H. (2023). No person is an island: Unpacking the work and after-work consequences of interacting with artificial intelligence. *Journal of Applied Psychology, 108*(11), 1766–1789. https://doi.org/10.1037/apl0001103

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Effects on work (job/tasks) and organisation

Leader should resist the urge to integrate it into every job and task throughout the organization. Two core problems of LLMs are critical to medium- and long-term business implications:

1. Its persistent ability to produce convincing falsities, with negative effects for the entire system.

2. the long-term negative effects of using LLMs on employees and internal processes. The productivity effects of LLMs are often confined to performance on a self-contained task where a model has already been trained — a fact that can distort incentives for top performers and introduce systemic risks into complex workflows.

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Cascading effects and implications

- **Un-coordinated/over-optimistic usage** af AI and GAI has cascading effects on wellbeing and productivity.

- **Cascading effects:**
    - Huge chunks of tasks are suddenly being done with GAI:
    - Tasks that took 4 hours, now take 4 minutes.
    - But are the quality good/reliable enough?
    - Does it create extra work/new tasks on others in the organization?
    - What should the worker do in those remaining 3. 56 minutes?
    - What other/or whoms tasks?
    - What about the loss of connections and loneliness.
    - + anxiety, fear of replacement, loss of job identity, loss of meaning.

We need a people and culture focus

- This is why we need HR and responsible leaders to lean into this agenda.
- Considerate work design requires a sociotechnical perspective as a foundational way of thinking 'digital'.

The sociotechnical perspective
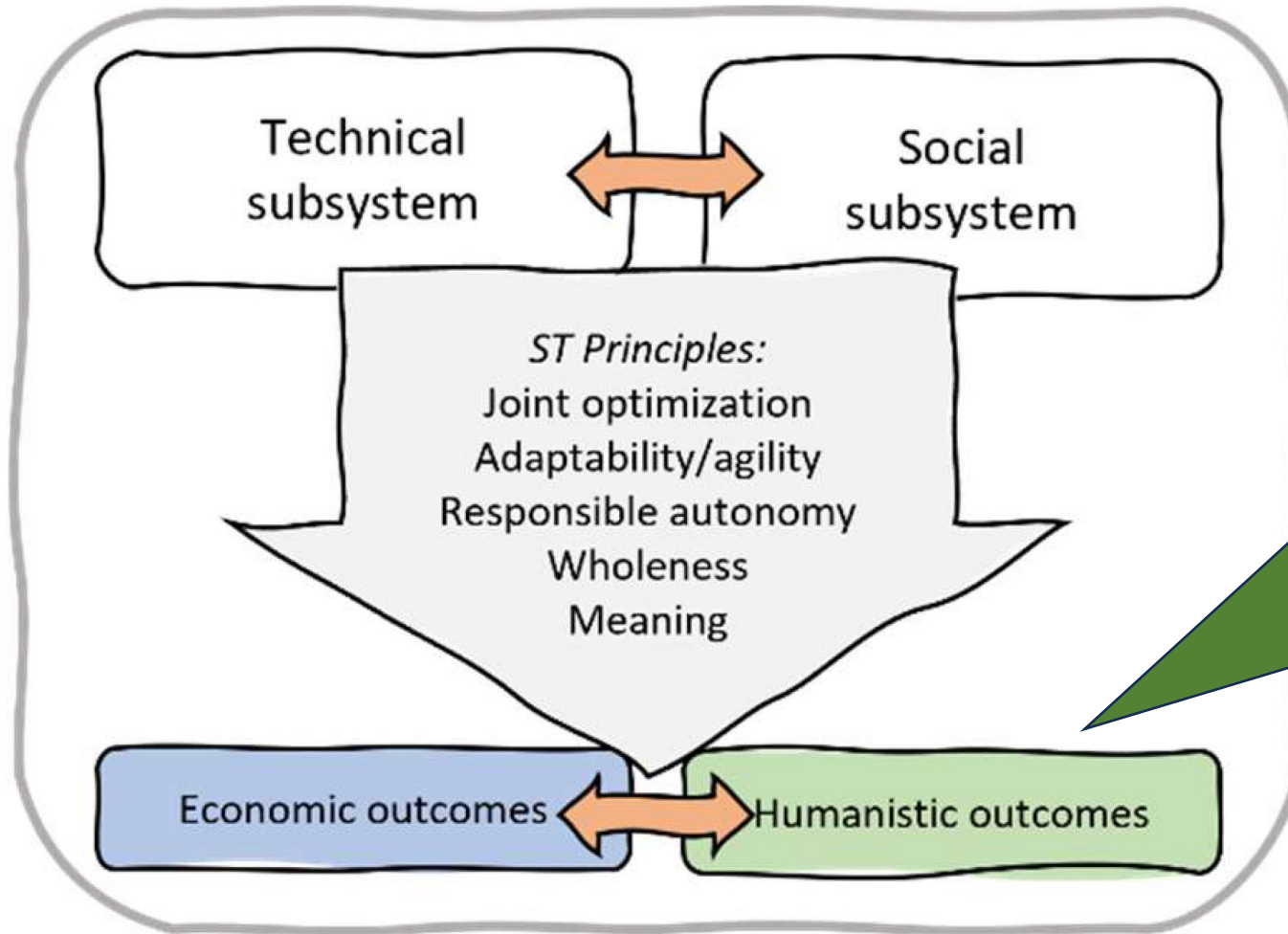
Sociotechnic is a perspective that secures both productivity and wellbeing as equal objectives when enabling work with new digital technologies. Right now both well-being and productivity is in jeopardy

Fischer, L.H.; Wunderlich, N.; Baskerville, R. (2023): Artificial Intelligence and Digital Work: The Sociotechnical Reversal.
In: 56th Hawaii International Conference of System Science

Table 1. Classic sociotechnical system design principles.

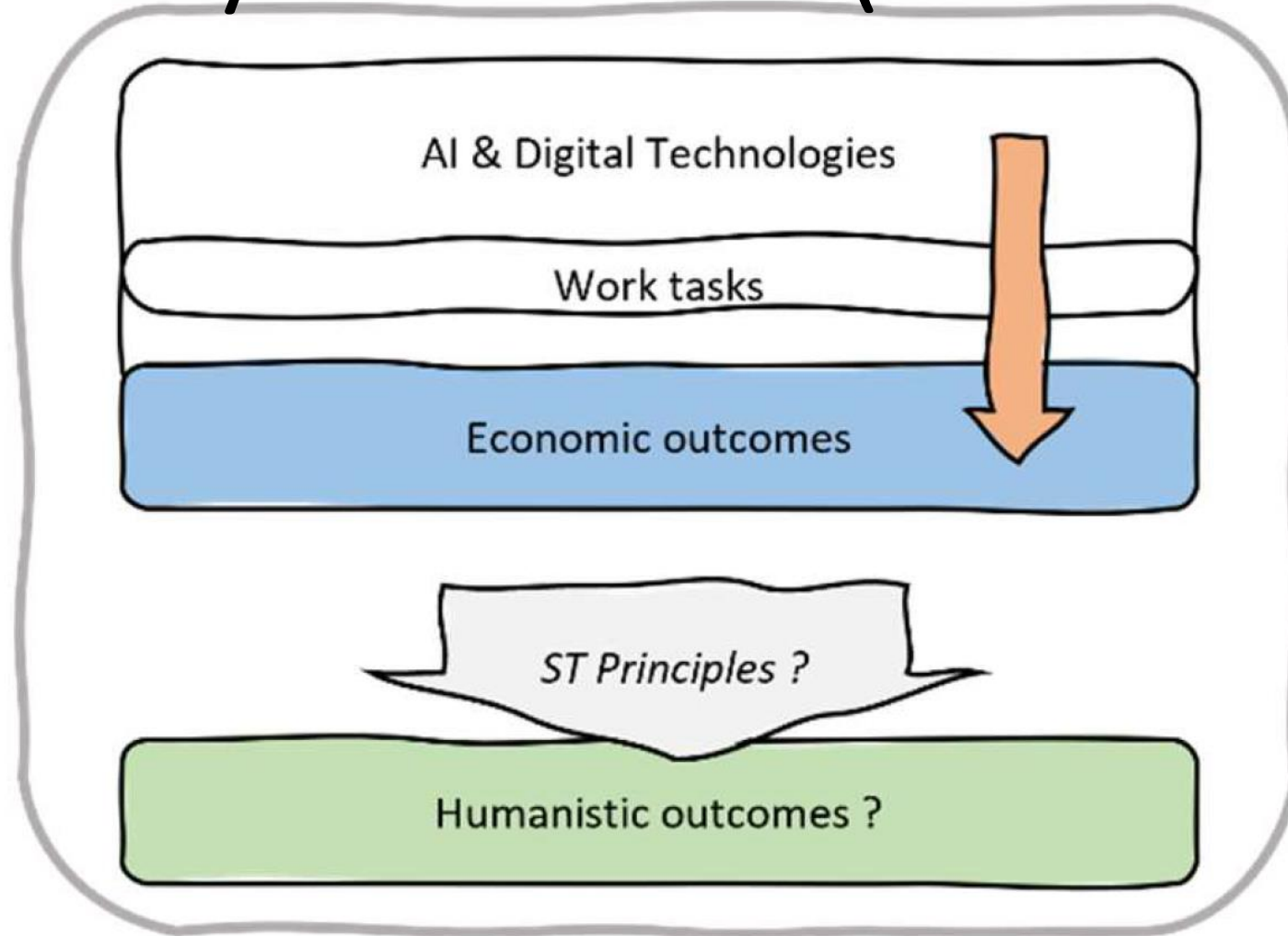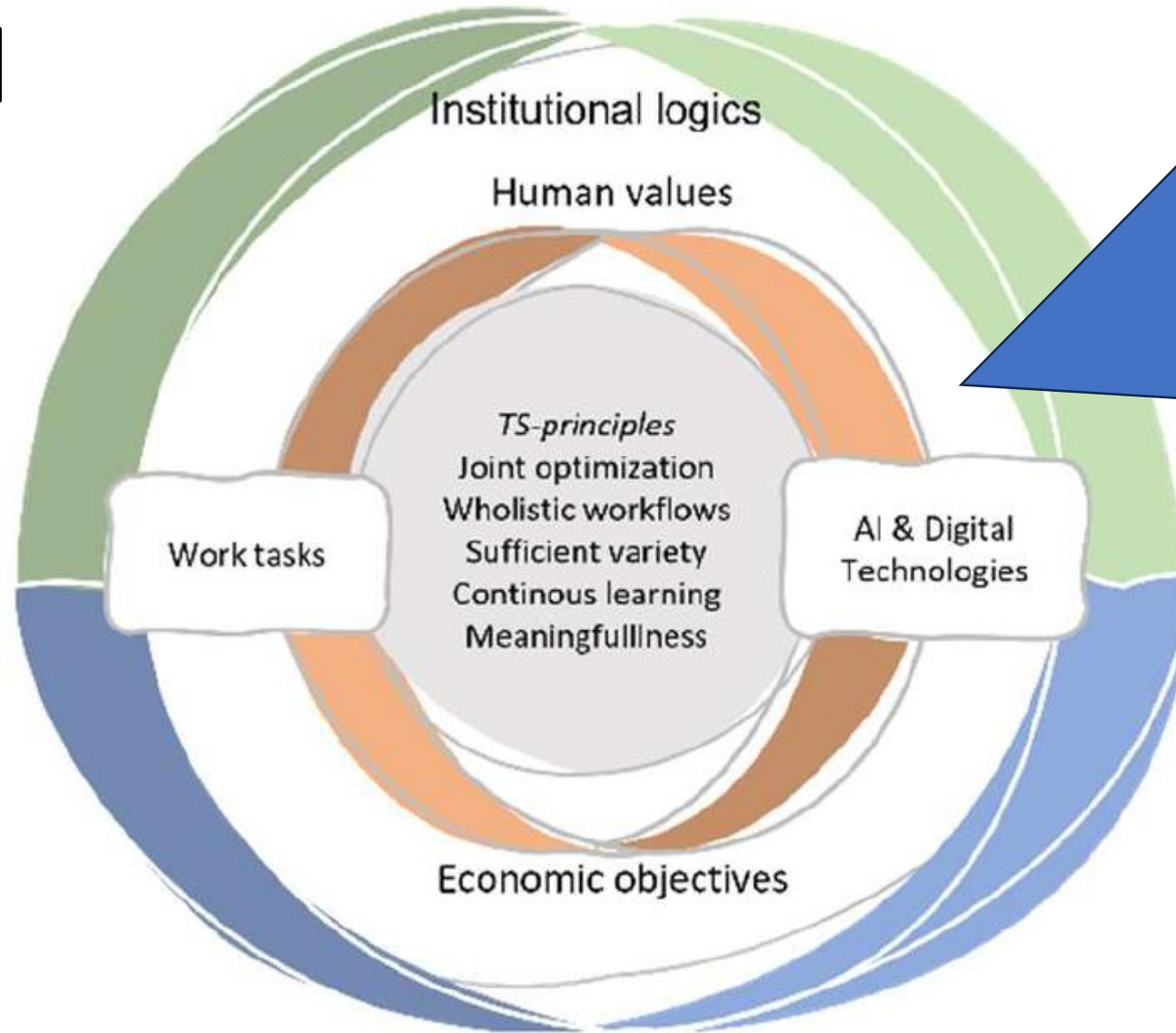| Principle	Explanation
Wholeness	The work system should be conceived as a set of activities making up a functioning whole, rather than a collection of individual jobs.
Teams	The work group should be considered more central than individual jobholders.
Process control	Variances (problems or deviations from expectations) should be identified and handled as close to their point of origin as possible, preferably by those who can prevent them from occurring, without requiring supervisory intervention
Self-direction	Internal regulation of the work system is preferable to external regulation of individuals by supervisors.
Multi-skilling	The underlying design philosophy should be based on a redundancy of functions rather than on a redundancy of parts (multiskilling vs. single-skilling).
Discretion	The discretionary component of work is as important to the success of the system as the prescribed component.
Joint-optimization	The individual should be viewed as complementary to the machine rather than as an extension of it.
Adaptation	The design of work should be variety increasing rather than variety decreasing, meaning that individual and organizational learning is essential to allow organizational adaptation to change.
Meaning	At the level of the individual job in a socio-technical system, there should be for each person an optimal level of variety, learning opportunities, some scope for setting decisions that affect the outcomes of work, organizational support, a job worthy of societal recognition, and the potential for a desirable future.
Incompletion	Since the context of the organization will continue to evolve over time, no design can be considered 'finished.'

A small study revealed this (Fischer et al. 2023)

Fischer, L.H.; Wunderlich, N.; Baskerville, R. (2023): Artificial Intelligence and Digital Work: The Sociotechnical Reversal. In: 56th Hawaii International Conference of System Science

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Instead

We began an interventionist research project in a communication department in august 2023.

'Crafting meaningfull GAI enabled workflows' *(forthcoming)*

Fischer, L.H.; Wunderlich, N.; Baskerville, R. (2023): Artificial Intelligence and Digital Work: The Sociotechnical Reversal.
In: 56th Hawaii International Conference of System Science

Through group-interviews and observations

A solid and shared understanding of tasks, workflows, and central purposes. This emphasizes the importance of everyone having a clear and common comprehension of their job responsibilities, how tasks are carried out, and the overarching goals.
Strong individual and institutional knowledge, demonstrating care and support for others; assisting and collaborating with colleagues; engaging in constant dialogue. This highlights the value of possessing both personal and organizational knowledge. It emphasizes the importance of showing care and support for colleagues, actively helping and collaborating, and maintaining open communication.
Clear in value creation and organizational "brand" and "tone-of-voice.". This suggests the need for clarity in expressing the value generated, as well as a distinct organizational identity or brand. It emphasizes maintaining a consistent and recognizable tone-of-voice in communication.
Adequate resources available to support tasks and workflows. This underscores the importance of having sufficient resources to effectively support and carry out tasks and work processes. It implies that having the right resources is crucial for successful operations.
High ethical standards, professional pride, and a strong sense of job identity. This involves maintaining high ethical norms, taking pride in one's professional work, and having a deep connection to one's job. It encourages upholding a high level of ethical behavior, feeling a sense of accomplishment and pride in one's professional achievements, and having a strong identification with one's role in the workplace.

Table 1. Workplace characteristics of the communication department.

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From group-interviews and observations we derived the first version of the design artefact:

Discuss in groups

Workplace culture

What does the GAI enhanced workflows change?

Context awareness

HUMAN OBJECTIVES

Coordination of work

Quality assurance

WORKFLOWS

Socio-technical principles?

Sparring partner

Task generator

Idea generator

ECONOMIC OBJECTIVES

How is the role of AI perceived in the organisation?

What is required to maintain high quality in work and wellbeing?

Critical reflection   *Creativity*

Visibility and transparency   *Constant learning*

ARTIFICAL INTELLIGENCE

roductivity   *Optimization*

Automatation

What value AI can add to workflows?

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Fischer et al., 2023; Fischer et al. *forthcoming*)

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Insights from intervention 2

3. Immediate changes to communication work?
- Coordination-mechanisms of mutual adjustment will change
- New competences will be required
- Know how to apply
- Transparency in workflows decrease
- Communication skills and professionalism must be maintained
- Higher quality/productivity demands
- Sparring with colleagues diminishes
- Source critique will increase
- Our jobs as advisers might be replaced.

4. How to maintaining high quality and well-being?
- We do not want to become 'quality assures' of GAI
- We want to make the fun part of work, not the other way around.
- A collective approach to evaluating value from GAI
- Common basic narrative about how we use it
- Are the requirements/speed for production increasing?
- Greater dissatisfaction
- Does it threaten my professionalism
- AI competencies must not replace communication competency

Workplace culture characteristics

Human objectives

WORKFLOWS

SOCIOTECHNICAL PRINCIPLES

GENERATIVE AI

2. What role will GAI take in communication workflows?
- Give new angles
- Act as a sparring partner
- Generate ideas
- Read texts and generate text.
- Generate code
- Act as an assistant in the production process
- Give advice
- Take over the boring elements of work.
- Turn a collection of texts into SoMe campaigns
- Fine-tuning texts

1. What value will GAI deliver to workflows?
- *Automating tasks*
- *Optimization in general*
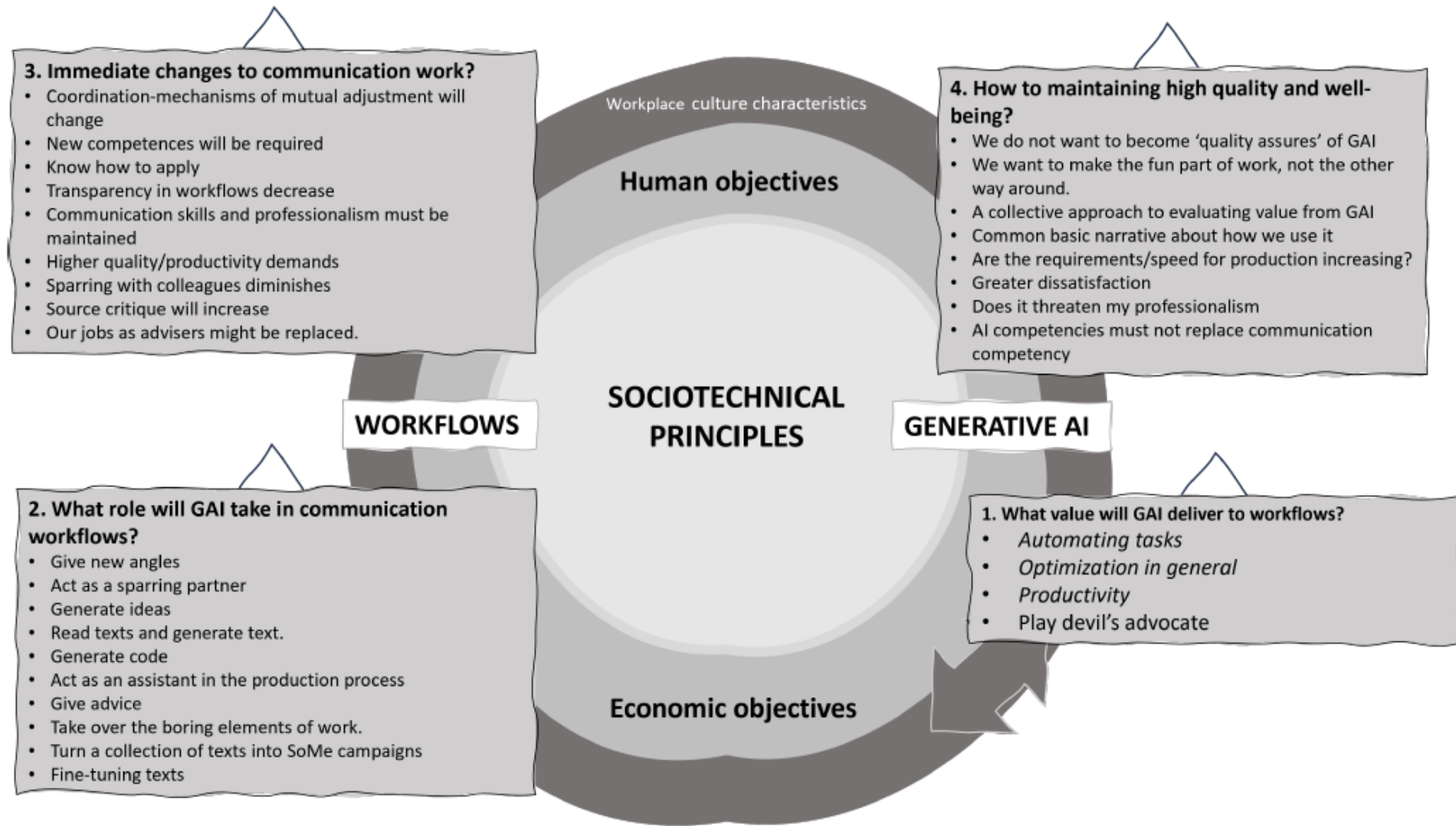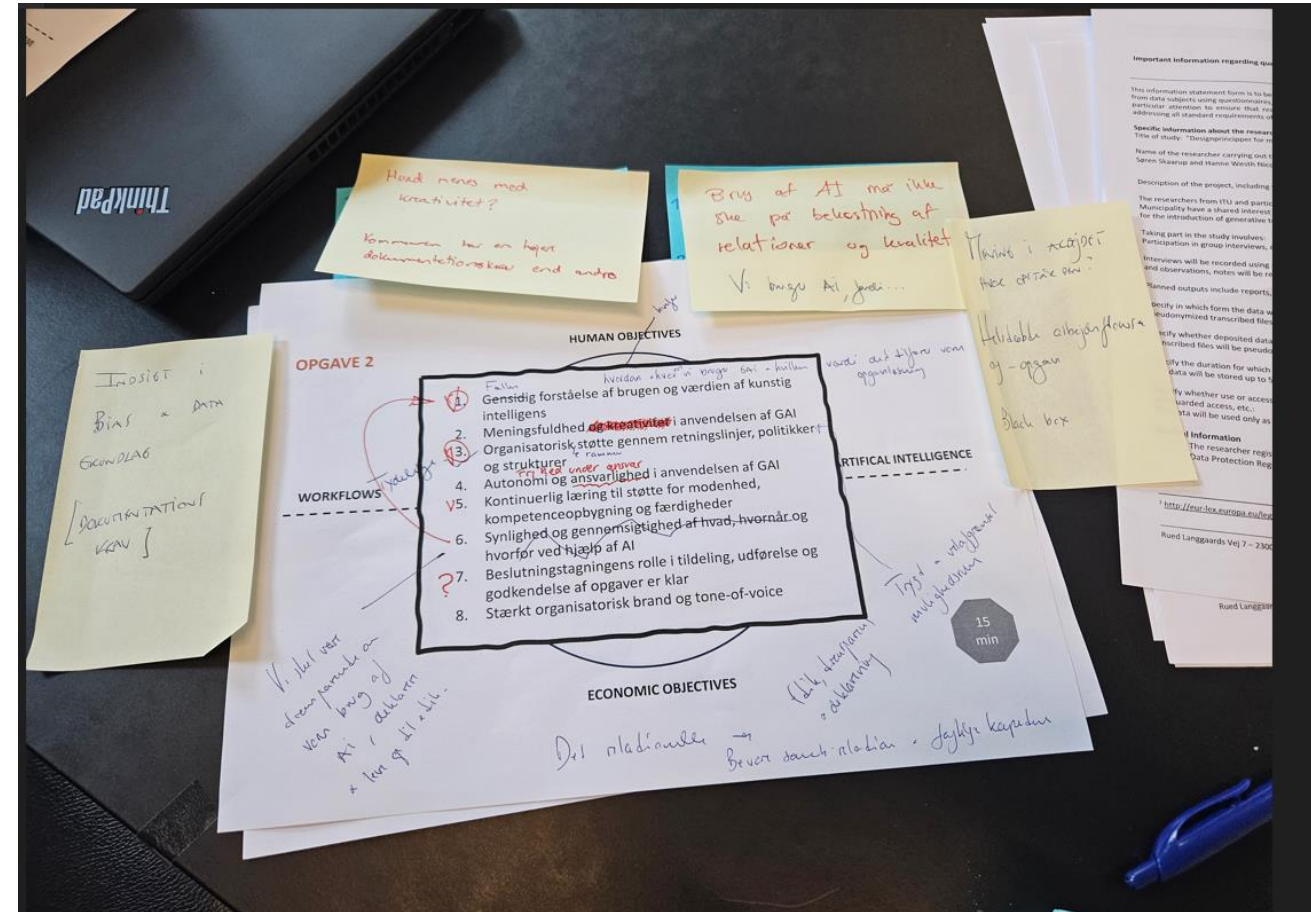- *Productivity*
- *Play devil's advocate*

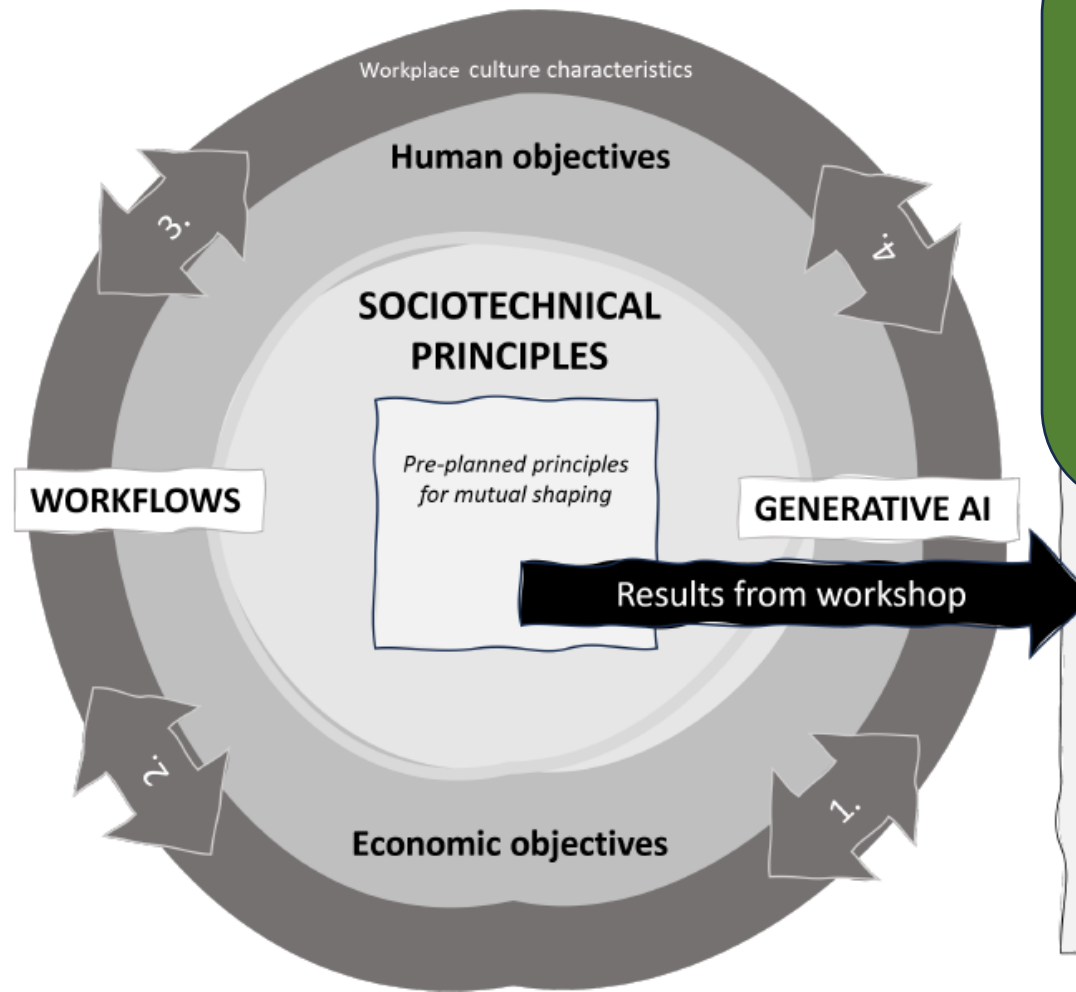**Economic objectives**

Figure 3. Insights from intervention workshop

Discuss in groups these pre-defined sociotechnical principles!

1. Mutual understanding of the use and value of GAI

2. Meaningfulness and creativity in the application of GAI

3. Organizational support through guidelines, policies and structures

4. Autonomy and accountability in the application of GAI

5. Continuous learning to support maturity, competence building and skills

6. Visibility and transparency of what, when, and why using AI

7. The role of AI in decision-power in assigning, executing and approving tasks is clear

8. Strong organizational brand and tone-of-voice.

Insights from intervention 2

Workplace culture characteristics

Human objectives

SOCIOTECHNICAL PRINCIPLES

Pre-planned principles for mutual shaping

WORKFLOWS

GENERATIVE AI

Results from workshop

Economic objectives

Monday the 5th a new intervention is planned for discussing, refining, and assigning responsibilities, ressources, and governance structure.

...e to experiment
5. We a...th responsible autonomy
6. We provide training/learning opportunities for competence building and skills
7. We preserve the relational and interpersonal element in work.
8. We seek climate friendly solutions
9. We maintain human creativity in work
10. We declare and visibly tell when using GAI
11. It is an individual choice to use GAI

...d sociotechnical principles for GAI-enabled knowledge work

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Parker, S. K., & Grote, G. (2020, February 13). Automation, Algorithms, and Beyond: Why Work Design Matters More Than Ever in a Digital World. *Applied Psychology*, *71*(4), 1171–1204. https://doi.org/10.1111/apps.12241

Intervention A

Intervention B

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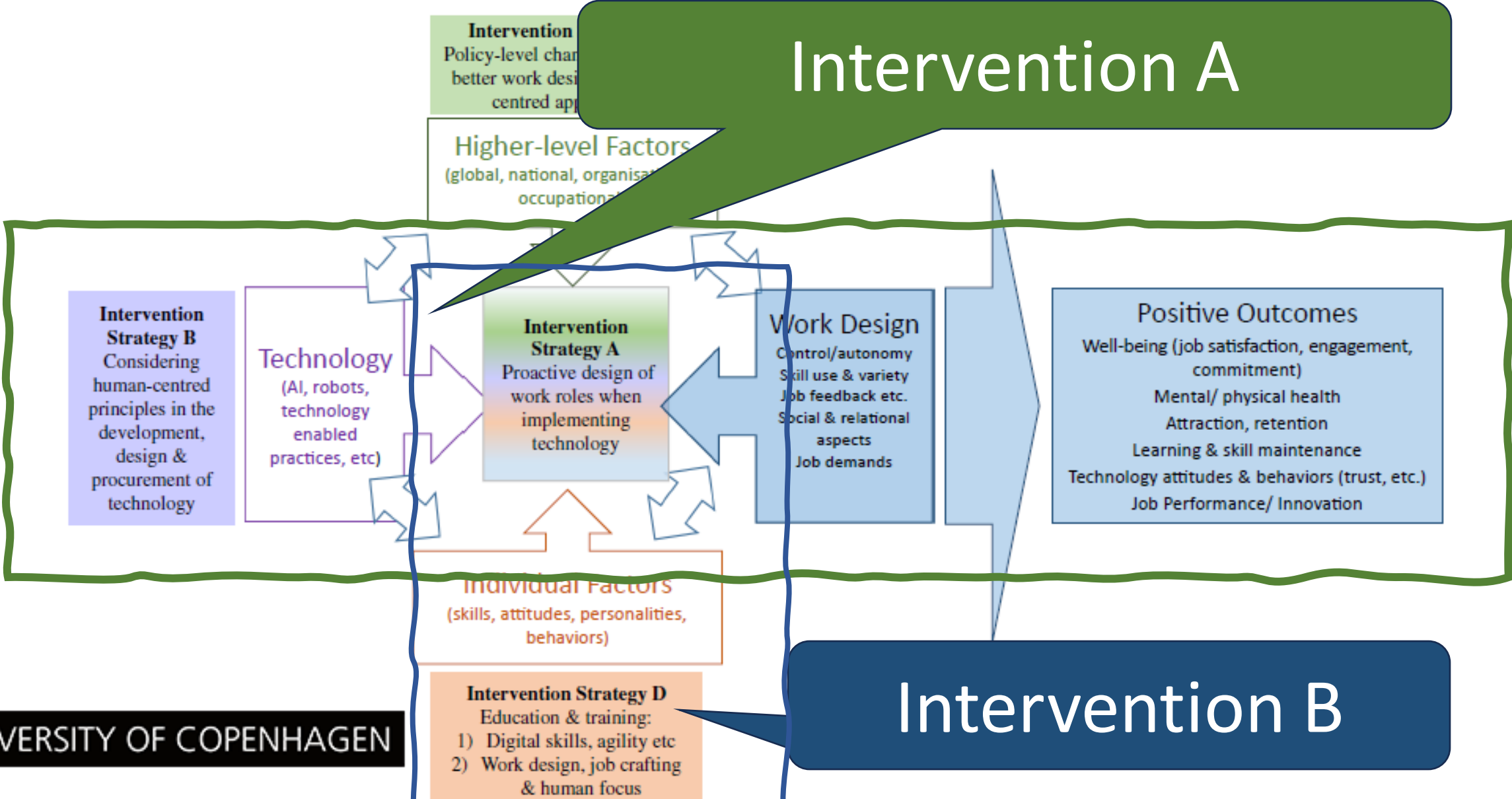
We're redefining the way we learn at AstraZeneca.

AstraZeneca

To drive growth through innovation and deliver the medicines patients rely on we must empower our people to renew and refresh the skills and capabilities they need to thrive in an ever-changing world. That's why we are creating a learning ecosystem, based on the 3Es.

How can you use the 3Es in your life?

Experience

- Solve a problem
- Share lessons learned
- Stretch assignments
- Shadowing
- Lead a project
- New responsibilities
- Job rotations
- New roles
- Publish papers

Exposure

- Feedback
- Coaching
- Mentoring
- Teamwork
- Internal and external networks
- Professional bodies
- Communities of practice
- Work out Loud (WoL)

Education

- E-learning
- Webinars
- Seminars
- Structured programmes
- Workshops
- Qualifications
- Accreditations
- Conferences

Learning Through Exposure

Through the power of conversation, networking, collaboration and community

Learning Through Experience

Through daily work, getting involved in complex projects and stretching yourself beyond your comfort zone.

Learning Through Education

Through structured development plans and formal training programmes.

Intervention B

Q/A

Meta-work
in the age of AI

Forthcomming by Dr. Malar Hirudayaraj

Associate Professor, Department of Management, Saunders College of business

Rochester institute of technology, Rochester NY, USA.

Who?

Who in the organization can lead or co-ordinate the meta-work?

Meta-work as managing emergent human/ AI configurations.

Why?

The HR Function

- The Human Resource Function is ideally suited to address the effects of the multi-level disruptions caused by AI integration

- Work, Workers, & the workplace are integral HR domains of operation

- Strategic human resource management:
  - future-oriented process of developing and implementing HR programs
  - address and solve business problems
  - directly contribute to major long-term business objectives

Emergent Priorities & Strategic HR Roles

Emergent Priorities	Level of intervention	Required Capabilities	Strategic HR role
Re-envision work	**Micro** (job role) and **Meso** (process/ function) levels	**Digital Work Design (DWD)**	Strategic partner
Re-configure jobs			Employee advocate
Rethink workforce	**Meso** (team/ functional) and **Macro** (organizational) levels	**Structural Digital Work (SDW)**	Employee advocate
Redesign workplace/ work systems			Change agent

Interv. A

Interv. B

Imminent shifts in HR…

New Framing:
From Digitalization to digital disruption & digital transformation

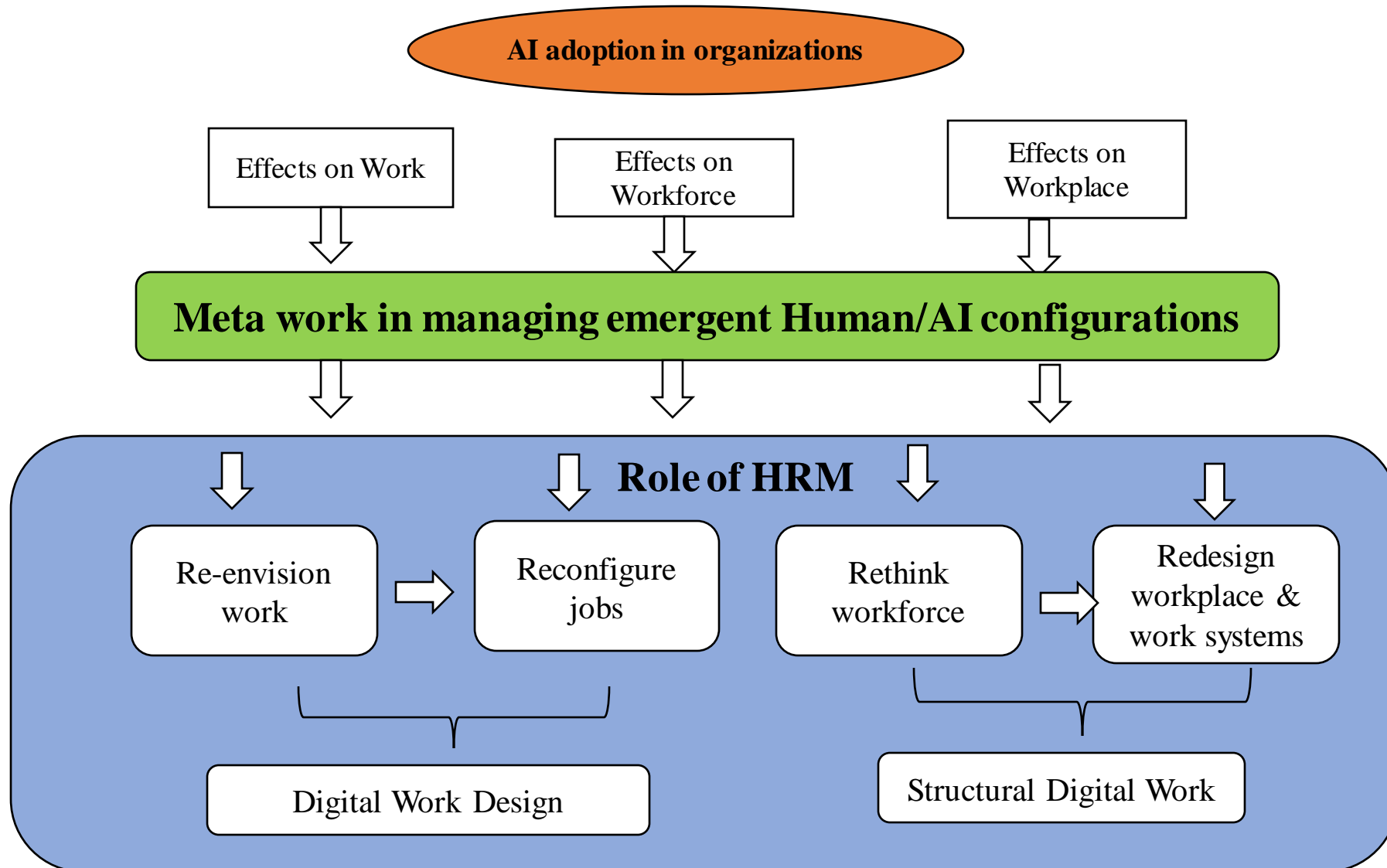From Transactional/Operational HR activities to Transformational/Strategic activities

New Focus:
From **AI for HR to HR for AI**

AI for HR: Focus on utilizing AI tools in HR activities such as recruitment, workforce planning, training, and performance management

HR for AI: HR as a key strategic player and driver in the process of embedding AI more widely in the organization and coordinating the meta-work

HR for AI Framework

AI adoption in organizations

Effects on Work

Effects on Workforce

Effects on Workplace

Meta work in managing emergent Human/AI configurations

Role of HRM

Re-envision work

Reconfigure jobs

Rethink workforce

Redesign workplace & work systems

Digital Work Design

Structural Digital Work

Forthcomming by Dr. Malar Hirudayaraj, Associate Professor, Department of Management, Saunders College of business, Rochester institute of technology, Rochester N Y, USA.

Summing up...

- Increasing prevalence of AI in the workplace
- Integration of AI causes multi-level changes in organization
- Multi-level changes: Work, Workforce, and Workplace/Work systems
- Socio-technical perspective is needed
- Interventions on many levels are needed
- Capabilities new digital work design & structural digital design
- Emergence of meta-work
- HR has a critical and strategic role to play in coordinating the meta-work

Questions??

Thank you