

Structural Empowerment as a Cornerstone of Trustworthy AI Governance in Healthcare

Volume 6, No. 4

August 2025

Michael Leyer University of Marburg

Oliver Behn University of Marburg

Marc Jungtäubl HöMS Wiesbaden

Mascha Will-Zocholl HöMS Wiesbaden

Layout & Design: Oliver Behn



White Paper Series of the Chair ABWL:
Digitalisation and Process Management

Volume 6

The increasing integration of artificial intelligence (AI) into healthcare presents organizations with fundamental challenges in ensuring the trustworthy and responsible use of technology. While technical aspects of AI implementation are widely discussed, the organizational dimension—especially the empowerment of employees to competently assess and use AI systems—often receives insufficient attention.

The Complexity of AI Trustworthiness

Assessing the trustworthiness of AI systems requires much more than technical expertise. It involves a complex ability that combines individual competencies with organizational structures. Healthcare professionals need not only to understand how AI systems work, but also to possess the self-confidence and institutional support to critically question and appropriately interpret AI-generated recommendations. This competency includes an understanding of the impact of AI decisions on various stakeholders as well as the ability to assess far-reaching implications for workflows, clinical outcomes, and

societal consequences. Purely providing technical information is not enough—systematic organizational approaches to empowerment are necessary.

Structural Empowerment Theory as an Organizational Framework

The concept of structural empowerment provides a proven theoretical framework for developing trustworthy AI governance. Its four core dimensions—access to information, resources, support, and opportunities for development—are essential for enabling employees to competently use AI.

Access to Information: Employees need transparent access to understandable information about how AI systems function, their training data, limitations, and potential biases. Only in this way can informed decisions be made about their use.

Access to Resources: Temporal, financial, and technical resources enable continuous training and the development of AI compe-



tencies. This is particularly relevant in a rapidly evolving technological environment.

Access to Support: Institutional backing from colleagues, supervisors, and experts provides the necessary security for responsible use of AI systems, particularly in critical decision-making situations.

Access to Development Opportunities: Opportunities to actively shape AI implementation and to continuously develop competencies foster both individual empowerment and the organization's learning ability.

Participative Governance as Empowerment Mechanism

Participative AI governance is a central mechanism for structural empowerment. Actively involving the practical expertise of healthcare professionals in technology design and oversight processes not only creates acceptance, but also leverages valuable experiential knowledge for continuous system improvement. Participation means that employees are not passive users, but rather active shapers of AI technology. This strengthens both individual autonomy and the organization's collective problem-solving capacity. At the same time, important feedback loops are created that contribute to ongoing quality improvement.

Operationalizing Trustworthy AI Governance

The practical implementation of trustworthy AI governance requires systematic organizational measures that promote structural empowerment:



Transparency and Explainability: AI systems must be designed and implemented so that their decision-making is comprehensible for healthcare professionals. This includes technical transparency as well as providing contextual information about training data, uncertainties, and application boundaries.

Autonomy-Preserving System Design: AI systems should consistently be designed as assistive systems that strengthen the professional autonomy of healthcare professionals. This prevents de-skilling effects and preserves practitioners' critical reflection capabilities.

Continuous Competence Development: Organizations must establish systematic programs for ongoing professional development. These should include not only technical aspects but also ethical, legal, and organizational dimensions of AI utilization.

Learning Organizational Structures: Implementing mechanisms for continuous feed-

back, incident reporting, and suggestions for improvement creates a learning organization that can dynamically adapt to new challenges.

Governance Framework for Structural Empowerment

An effective governance framework for AI in healthcare must systematically address four core elements:

Data Governance: Mastery of data quality and management of data sources are the foundation for trustworthy AI applications. Employees need access to information about data origin, quality, and processing.

Technology Governance: Robustness, reliability, and security of AI systems must be continuously monitored and evaluated. This requires both technical expertise and organizational processes for quality assurance.

People and Culture: The organization must foster a culture that promotes structural empowerment while supporting critical thinking and continuous learning. This includes both individual empowerment and collective learning processes.

Process Governance: Standardized yet flexible processes enable the scalable implementation of AI systems while maintaining professional autonomy and responsibility.

Quality Assurance and Building Trust

Enforcing quality standards in the development and provision of AI systems is essential for building trust. Trust arises through demonstration of three core factors:

Competence: Technical robustness, reliability, and performance of AI systems must be continually demonstrated and transparently communicated.

Benevolence: The design of AI systems must clearly prioritize the interests of users and patients, including fairness, privacy, and user-friendly interfaces.

Integrity: Transparency over data origin, development processes, and potential conflicts of interest fosters trust in system reliability.

Challenges in Implementation

Implementing structural empowerment in the AI context faces significant challenges. The increasing complexity of AI systems, especially deep learning models, calls traditional concepts of transparency and explainability into question. Even technical experts often cannot fully understand the decision-making of these systems. Organizational structures in healthcare—with their hierarchies, time constraints, and resource limitations—can further complicate the implementation of empowerment strategies. Developing a learning organization requires fundamental cultural change, which takes time and considerable resources. Additionally, new forms of “algorithmic accountability” are emerging, where employees are held responsible for AI decisions without sufficient control over the underlying systems. This can lead to increased stress and uncertainty if not mitigated by appropriate empowerment structures.

Strategic Success Factors

Several strategic success factors can be identified for successfully implementing structural empowerment in AI governance:

Leadership Commitment: Top management must elevate structural empowerment to a strategic priority and provide the necessary resources.

Gradual Implementation Approach: Stepwise introduction of AI systems enables organizational learning and the continuous adaptation of empowerment structures.

Multidisciplinary Collaboration: Involving diverse departments—from IT to medicine to ethics—creates comprehensive perspectives and enhances acceptance.

Continuous Evaluation: Regularly assessing empowerment structures and their effectiveness enables timely adjustments and improvements.

Outlook and Implications

Successfully integrating structural empowerment into AI governance strategies can prove to be a decisive competitive advantage. Organizations that successfully empower their employees to use AI competently and critically will not only achieve better clinical outcomes but also be more resilient to the risks of AI technology. The future of AI in healthcare will largely depend on combining technological capabilities with human needs for autonomy, competence, and meaning. Structural empowerment provides a proven, theoretically grounded approach for this. Organizations should not view struc-

tural empowerment as an additional task, but rather as an integral component of their AI strategy. Only by systematically enabling their employees can they fully realize the potential of AI technologies while building the necessary trust for their long-term acceptance. Practical implementation requires a holistic approach that equally considers technical, organizational, and cultural aspects. It is especially important to see structural empowerment not as a one-off measure, but as a continuous process of organizational development.

CONTACT

Prof. Dr. Michael Leyer
Chair of ABWL:
Digitalisation and Process management

School of Business and Economics Marburg

Adjunct Professor, School of Management,
Queensland University of Technology,
Brisbane, Australien

Email michael.leyer@wiwi.uni-marburg.de