

Transforming Knowledge Management using Generative AI: From Theory to Practice



Haaga-Helia

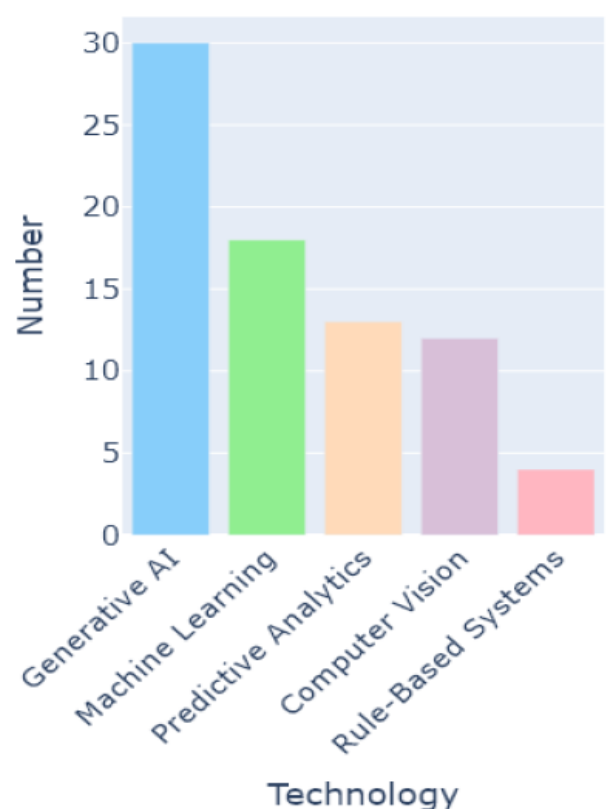
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Driver of the research:

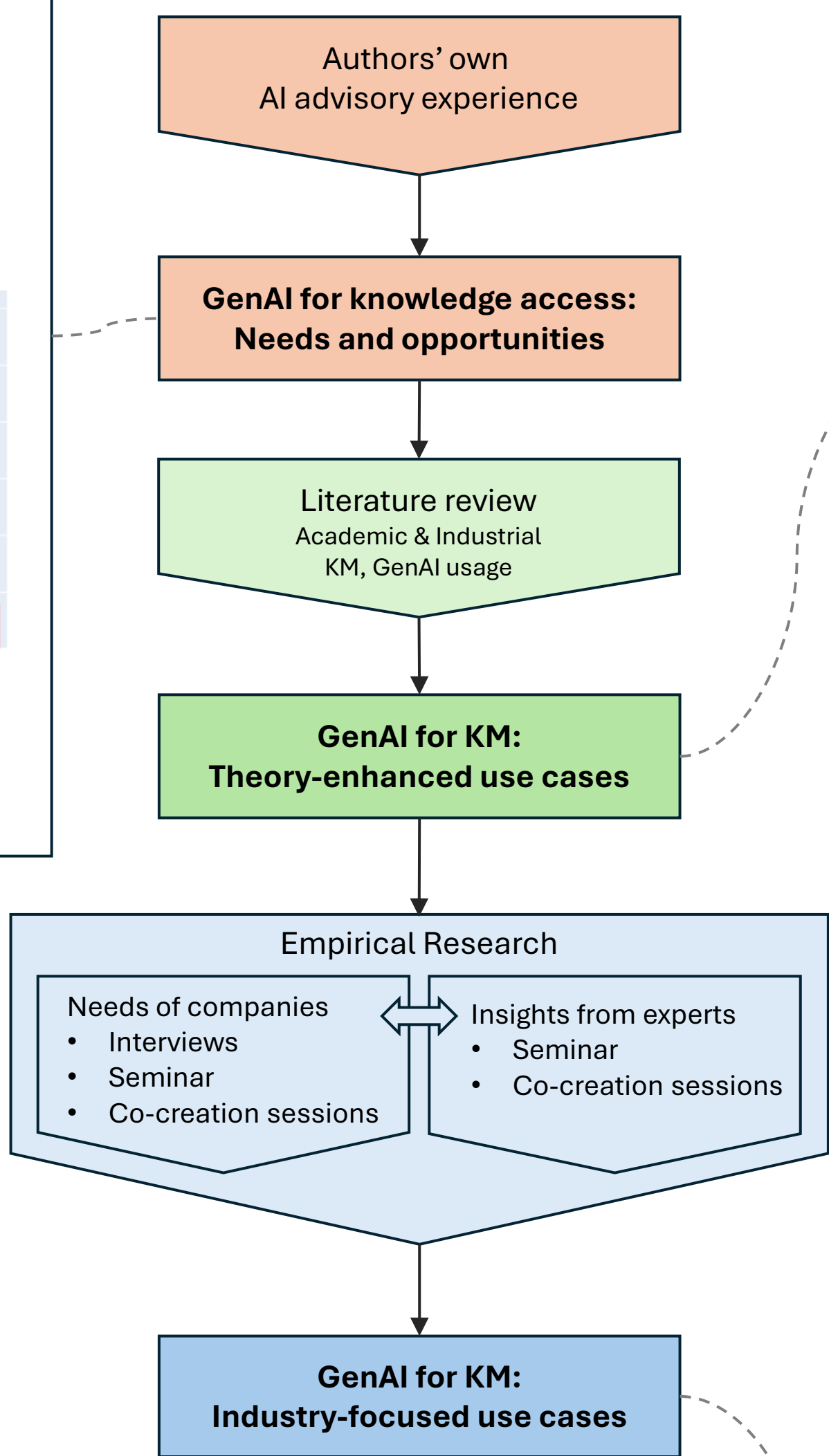
Our experience from AI needs analysis and advisory sessions within the Finnish AI Region (FAIR) EDIH project <https://www.fairedih.fi>

60+ companies
Approx. 30 are implementing GenAI



Transformative Research Question:

RQ1: How GenAI can transform KM?
What are the GenAI use cases for KM?



The list of generic GenAI-based knowledge services with domain-specific examples

Knowledge process	Generic AI-based knowledge services	Service/product design use cases	Onboarding of new employees use cases	Skills management use cases
Knowledge Creation	<ul style="list-style-type: none">Idea GenerationContent SynthesisLearning & Reflection Aid	<ul style="list-style-type: none">Analyzing customer feedbackGenerating product/service ideas	<ul style="list-style-type: none">Role-specific training contentConcise summaries of documents	<ul style="list-style-type: none">Identifying employee skillsDefining skill needs for a project
Knowledge Capture and Organization	<ul style="list-style-type: none">Guided knowledge acquisitionAutomated taggingKnowledge curationKnowledge coveersion	<ul style="list-style-type: none">Classifying reusable product componentsSynthesizing design guidelines & practices	<ul style="list-style-type: none">Auto-tagging and categorizing policies & proceduresAutomatic content updates	<ul style="list-style-type: none">Updating skill profilesCurating skill catalogs
Knowledge Access	<ul style="list-style-type: none">Chatbot interfaceEnhanced searchPersonalized contentExpert search & recommendations	<ul style="list-style-type: none">Suggesting product elementsProduct launch steps suggestions	<ul style="list-style-type: none">Answering new hire queriesRole-based alerts & recommendationsSuggesting similar interests or roles	<ul style="list-style-type: none">Finding specialist for required expertiseRecommending experts for specific tasks, projects or questions.

- 20+ companies from various sectors participated in interviews.
- Awareness-raising seminar on “Generative AI-Enhanced Knowledge Management in Business.” (May 2024)
- Seminar included a panel discussion with AI and KM industry experts.
- 20+ onsite and 20+ online participants attended.
- 6 Finnish companies joined in-depth use-case analysis and co-creation workshops.
- Collaboration with the University of Helsinki and Tampere University.

The industry-focused prioritized list of the most needed GenAI use cases for KM

Knowledge process	Generic use cases	Company-specific use cases
Knowledge access	AI assistance for talking to the company's data and systems (“ChatGPT” for the company's own documents/data)	<ul style="list-style-type: none">Chatbot for manuals/documentsConversational agent for dental videosGenAI assistant for scheduling/optimization
Knowledge creation	Report and document creation assistance (project reports, business proposals/offers)	<ul style="list-style-type: none">Sales order assistantReports generation assistantCustomer proposal generationProject summary reportsEasy-to-read summaries for customersVerbal interpretation of financial reports
Knowledge capture	Speech to structured documents conversion	<ul style="list-style-type: none">Incident reporting assistantFinnish transcript extraction and translationDiary generation from speech

Implementation Research Questions

RQ2: What are the challenges of using GenAI for KM, and how can they be addressed?	RQ3: What are the research tasks associated with applying GenAI for KM?	RQ4: How to enable companies develop GenAI-enhanced KM solutions?
<ul style="list-style-type: none">Compatibility and integration challenges with existing KM systemsData privacy, confidentiality, and compliance concernsChange management and alignment of AI capabilities with established workflowsAddressing hallucinations, biases, and limited real-world understanding in GenAI modelsNavigating regulatory, ethical, and governance challenges	<ul style="list-style-type: none">Identify knowledge tasks suitable for GenAI to maximize business value.Develop data pipelines for efficient data collection, preparation, and updates for LLMs.Create and integrate domain-specific knowledge graphs with LLMs for better accuracy.Ensure scalability, explainability, and accuracy in GenAI KM solutions.Address ethical and regulatory challenges in GenAI use within organizations.	<ul style="list-style-type: none">Develop a GenAI-enhanced toolkit for KM processes using domain-specific approachProvide software, method, and content components in the toolkitIntegrate advanced RAG and knowledge graph technologiesEnsure scalability, accuracy, explainability, and traceabilityExplore compliance with data privacy and regulatory frameworks

GenAI-Enhanced KM Solution Proposal

