

Industry-Wise Use Cases of Generative AI (GenAI)

GenAI
RESEARCH

Part 01 – Comprehensive Study of GenAI Applications

Across Healthcare, Banking, Manufacturing,
Retail & E-Commerce, and IT & Software

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Internship Research Program – GenAI Research Journey

Healthcare

Banking

Manufacturing

Retail

IT & Software

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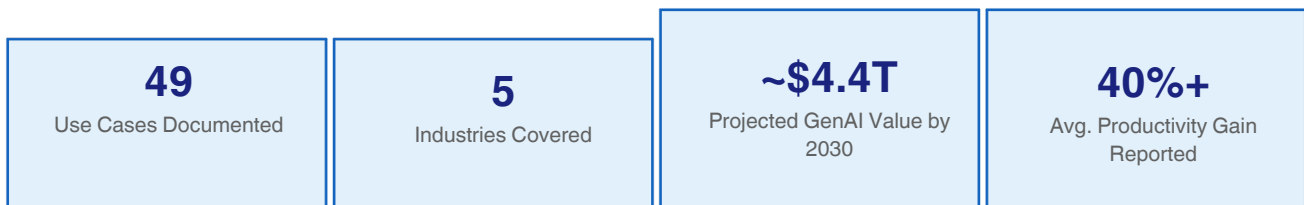
Program:
GenAI Research Internship Program

Week:
Week 01 – GenAI Use Cases Study

1. Executive Summary

A high-level overview of GenAI's transformative role across industries

This research document presents a comprehensive analysis of real-world Generative AI (GenAI) applications across five major industries: Healthcare & Life Sciences, Banking & Financial Services, Manufacturing & Industry 4.0, Retail & E-Commerce, and Information Technology & Software. Drawing from structured use-case frameworks, this report documents 49 distinct GenAI implementations, explores the underlying workflows and implementation approaches, and identifies high-potential research directions for the future.



Key Findings

Automation of Repetitive Tasks: Across all industries, GenAI is primarily being deployed to automate high-volume, repetitive knowledge work — from clinical documentation to financial report generation and code auto-completion.

Decision Support Systems: AI is increasingly used not to replace human decisions, but to augment them — providing risk scores, diagnostics, and insights that enable faster and more accurate decisions.

Personalization at Scale: Retail, banking, and healthcare are leveraging GenAI to deliver hyper-personalized experiences for millions of users simultaneously.

Data Synthesis & Privacy: Synthetic data generation is emerging as a critical enabler — particularly in healthcare and finance — where real data is scarce or privacy-restricted.

Developer & Operational Productivity: In IT, GenAI is dramatically compressing software development cycles, reducing bug resolution time, and automating infrastructure management.

2. Introduction to Generative AI

Understanding the technology powering the next industrial revolution

What is Generative AI?

Generative AI refers to a class of artificial intelligence systems capable of producing new content — text, images, code, audio, video, and structured data — by learning patterns from large datasets. Unlike traditional discriminative AI that classifies or predicts from existing data, GenAI models like Large Language Models (LLMs), Diffusion Models, and Multimodal Transformers can generate novel, contextually relevant outputs.

Core Technology Pillars

Technology	Description	Primary Applications
Large Language Models (LLMs)	GPT-4, Claude, Gemini — process and generate human language at scale	Text generation, summarization, Q&A, code
Diffusion Models	Stable Diffusion, DALL-E — generate images from text prompts	Medical imaging, product visuals, design
Multimodal Models	Process text + image + audio together	Healthcare diagnostics, quality inspection
Retrieval-Augmented Generation	Combine LLMs with knowledge bases for grounded responses	Enterprise Q&A, compliance, documentation
Agentic AI Systems	AI agents that plan and execute multi-step tasks	DevOps automation, supply chain, coding

Why GenAI Matters Now

The convergence of three forces — massive pre-trained foundation models, scalable cloud infrastructure, and accessible APIs — has lowered the barrier to GenAI adoption dramatically. Organizations no longer need to train models from scratch; they can fine-tune or prompt-engineer existing models for their specific domain needs within weeks rather than years.

My Understanding of Generative AI

- During this week, I studied how Generative AI is being applied across different industries to solve real-world problems.
- I understood that GenAI is not only about generating content but also about improving workflows, decision-making, automation, and user experiences.
- From my analysis, successful GenAI implementation depends on quality data, domain knowledge, proper evaluation, and human supervision.

3. Healthcare & Life Sciences

How GenAI is Transforming Patient Care, Research, and Clinical Operations

Industry Overview

The healthcare industry is undergoing a profound transformation driven by Generative AI. From automating administrative burdens that consume up to 35% of a clinician's time, to accelerating drug discovery timelines from decades to years, GenAI is becoming an essential tool in the modern healthcare ecosystem. The technology's ability to process unstructured medical text, interpret complex imaging data, and generate privacy-preserving synthetic datasets makes it uniquely suited to address healthcare's most persistent challenges.

10 Use Cases Identified	\$150B Annual Admin Cost Savings	18mo Drug Discovery Timeline	35% Admin Burden Reduction
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GenAI Use Cases

# Use Case	Description	Business Impact
1. Clinical Documentation Automation	Automatically generates clinical notes, SOAP summaries, and discharge reports from voice input or consultation transcripts, saving clinicians 1–2 hours daily.	35% reduction in admin burden; improved accuracy
2. Medical Imaging Report Generation	AI analyzes X-ray, CT, and MRI scans to generate accurate, structured radiology reports, flagging critical findings for radiologist review.	2x faster report turnaround; reduced missed findings
3. AI-Assisted Drug Discovery	GenAI models propose novel molecular structures, predict drug-target interactions, and optimize compounds, compressing early discovery phases.	Cut discovery timeline from ~5 years to ~18 months
4. Synthetic Patient Data Generation	Creates realistic, privacy-preserving patient datasets for AI model training, clinical research, and analytics without compromising real patient data.	Enables HIPAA-compliant AI development at scale
5. Personalized Treatment Recommendations	Analyzes patient profiles (demographics, genetics, history) to suggest tailored treatment plans, dosages, and lifestyle interventions.	Improved patient outcomes; reduced trial-and-error

# Use Case	Description	Business Impact
6. Biomedical Research Summarization	Processes thousands of scientific papers to extract key findings, identify research gaps, and generate structured literature reviews.	10x faster literature review; better research insights
7. Healthcare Virtual Assistants	AI chatbots provide 24/7 patient support — answering queries, triaging symptoms, scheduling appointments, and sending medication reminders.	30% reduction in call center volume
8. Medical Coding Automation	Converts clinical notes to accurate ICD-10 and CPT codes automatically, reducing billing errors and claim denials.	90%+ coding accuracy; faster reimbursement cycles
9. Genomic Data Interpretation	Interprets complex genomic variants to identify pathogenic mutations, assess disease risk, and recommend preventive interventions.	Faster precision medicine adoption
10. Clinical Trial Optimization	AI identifies eligible patients, predicts dropout risk, optimizes study design, and monitors trial progress in real time.	40% faster patient recruitment; lower trial costs

Implementation Workflow

- Step 1 – Data Ingestion:** EHR data, imaging files, genomic sequences, and research literature are ingested via HL7 FHIR APIs and DICOM pipelines.
- Step 2 – Pre-processing:** Medical NLP models de-identify and structure unstructured text; imaging data is normalized and segmented.
- Step 3 – GenAI Processing:** Fine-tuned LLMs (e.g., Med-PaLM, BioGPT) or multimodal models generate reports, recommendations, and summaries.
- Step 4 – Clinician Review:** AI outputs are presented as decision-support tools; clinicians validate, edit, and approve before use.
- Step 5 – Feedback Loop:** Clinician corrections are used to continuously fine-tune models, improving accuracy over time.

Business Impact & Scalability

Efficiency: Clinical documentation automation alone can save US healthcare systems an estimated \$150B annually in administrative costs.

Accuracy: AI-assisted medical coding achieves 92–95% accuracy vs. 70–80% for manual coding, significantly reducing claim denials.

Scalability: GenAI solutions scale across hospital networks — a single model can serve thousands of clinicians simultaneously.

Patient Outcomes: Personalized treatment recommendations and genomic interpretation are enabling precision medicine at population scale.

Research Acceleration: Drug discovery AI has already contributed to multiple clinical-stage candidates, including novel antibiotic structures.

Key Research Insight – Healthcare

The most transformative near-term opportunity in healthcare GenAI lies at the intersection of multimodal AI and clinical decision support. Models that can simultaneously process patient history text, lab values, imaging data, and genomic profiles to provide a unified, explainable clinical recommendation represent the next frontier — moving beyond single-modality tools toward true AI-augmented clinical intelligence.

Future Opportunities

Ambient Clinical Intelligence: Real-time AI listening during consultations to auto-generate SOAP notes, flag drug interactions, and suggest follow-up tests.

Federated Learning for Healthcare: Training shared GenAI models across hospital networks without sharing sensitive patient data.

AI-Driven Rare Disease Diagnosis: Using GenAI to identify patterns across rare disease case reports and suggest diagnoses for undiagnosed patients.

Digital Biomarker Development: Generating and validating novel digital biomarkers from wearable and sensor data using GenAI.

My Observation

Healthcare:

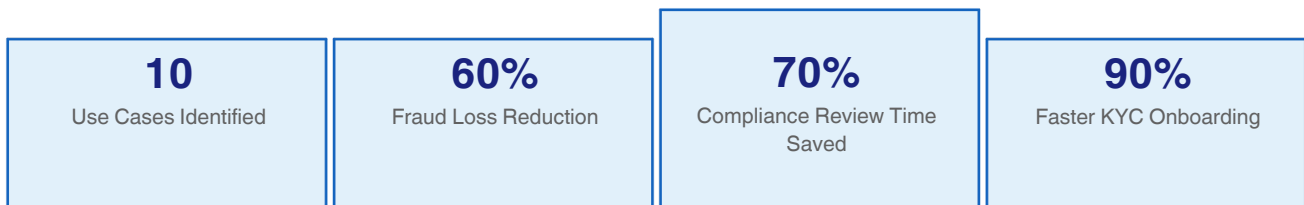
GenAI can support healthcare professionals by reducing repetitive work and improving access to information. However, human validation is important due to the sensitivity of medical decisions.

4. Banking & Financial Services

AI-Powered Solutions for a Smarter, Safer Financial Future

Industry Overview

The banking and financial services sector is among the most aggressive adopters of Generative AI, driven by the dual imperatives of regulatory compliance and competitive pressure to deliver personalized digital experiences. GenAI is being deployed across the full value chain — from real-time fraud detection and algorithmic trading to customer-facing financial advisors and automated compliance document analysis. The technology's ability to process vast volumes of financial data in milliseconds while generating human-readable insights makes it a powerful competitive differentiator.



GenAI Use Cases

# Use Case	Description	Business Impact
1. Fraud Detection via Anomaly Patterns	AI generates and recognizes anomalous transaction patterns in real time, detecting fraud before it completes, even for novel attack vectors.	Up to 60% reduction in fraud losses
2. Automated Financial Report Generation	GenAI produces accurate, compliant financial reports, earnings summaries, and regulatory filings in seconds from raw data.	80% time reduction in report preparation
3. AI Investment Research Assistants	AI analyzes market data, SEC filings, and news to generate investment research notes, stock analysis, and portfolio recommendations.	10x analyst productivity increase
4. Regulatory Compliance Document Analysis	LLMs review thousands of pages of regulatory documents (Basel III, GDPR, MiFID II) to flag compliance gaps and generate action items.	Reduces compliance review time by 70%
5. Intelligent Risk Assessment Models	AI models assess credit, market, liquidity, and operational risk simultaneously, generating composite risk scores and mitigation recommendations.	25% improvement in risk prediction accuracy

# Use Case	Description	Business Impact
6. Loan Underwriting Automation	Automates applicant evaluation, credit scoring, document verification, and decision rationale generation for faster, fairer loan approvals.	Loan decision time from days to minutes
7. Financial Chatbot Advisors	24/7 AI advisors answer customer queries, explain products, generate personalized financial plans, and guide investment decisions conversationally.	40% reduction in contact center costs
8. KYC and AML Document Verification	AI verifies customer identity documents, screens transactions against watchlists, and generates suspicious activity reports automatically.	90% faster KYC onboarding
9. Market Sentiment Analysis	Analyzes real-time news feeds and social media to generate sentiment scores and predict market movements before they materialize in price.	Quantifiable alpha generation in trading strategies
10. Algorithmic Trading Support	AI identifies trading opportunities, generates execution strategies, and optimizes order routing at microsecond speed.	Improved Sharpe ratios; lower execution costs

Implementation Workflow

Step 1 – Data Integration: Real-time transaction streams, market feeds, regulatory databases, and customer profiles are aggregated via enterprise data platforms.

Step 2 – Model Selection: Domain-fine-tuned financial LLMs (e.g., BloombergGPT, FinBERT) process structured and unstructured financial data.

Step 3 – Risk & Compliance Guardrails: All AI outputs pass through compliance filters and explainability modules before reaching end users or automated systems.

Step 4 – Human-in-the-Loop Validation: High-stakes decisions (large loans, flagged transactions) require human analyst review of AI-generated recommendations.

Step 5 – Auditability & Logging: Every AI decision is logged with full reasoning chains to satisfy regulatory audit requirements.

Business Impact & Scalability

Fraud Prevention: Real-time GenAI fraud detection has reduced false positive rates by 30–50% vs. traditional rule-based systems, improving customer experience.

Operational Efficiency: Automating report generation and compliance review frees analysts for higher-value strategic work, with ROI typically exceeding 300%.

Customer Experience: AI financial advisors have demonstrated 85%+ customer satisfaction scores, rivaling human advisor interactions for routine queries.

Regulatory Compliance: Automated compliance monitoring reduces the risk of regulatory violations that can carry multi-billion dollar penalties.

Scalability: A single GenAI compliance system can monitor millions of transactions daily — impossible with manual review teams.

Key Research Insight – Banking & Finance

The convergence of GenAI with real-time financial data infrastructure presents a unique research opportunity in 'Explainable Financial AI' — systems that not only make accurate predictions but generate natural language explanations of their reasoning that satisfy both regulators and customers. This is particularly critical in credit decisioning, where regulations like ECOA mandate that adverse action reasons be communicated clearly to applicants.

Future Opportunities

Generative Stress Testing: AI generates thousands of synthetic economic scenarios to stress-test portfolios beyond historical data limitations.

Hyper-Personalized Wealth Management: LLMs that maintain long-term memory of client financial goals, life events, and risk tolerance for truly personalized advice.

Regulatory Change Impact Analysis: AI that automatically assesses the impact of new regulations on existing products and processes.

Cross-Border Transaction Intelligence: GenAI for real-time analysis of multi-currency, multi-jurisdiction transactions for AML compliance.

MY OBSERVATION

Banking & Financial Services :

From my analysis, I observed that banking is an area where GenAI can improve customer experience through intelligent assistants and automation. At the same time, accuracy, privacy, and security are critical because financial systems handle sensitive customer information and high-impact decisions.

5. Manufacturing & Industry 4.0

AI-Powered Solutions for Smarter, Faster & More Efficient Operations

Industry Overview

Manufacturing is entering the era of Industry 4.0, where physical production systems are digitally augmented by AI, IoT, and real-time data analytics. Generative AI is accelerating this transition by enabling predictive intelligence, autonomous documentation, and virtual simulation capabilities that were previously impossible. From smart factory digital twins to AI-powered quality inspection, GenAI is helping manufacturers achieve the twin goals of higher productivity and zero-defect production.

9 Use Cases Identified	50% Downtime Reduction	99%+ Defect Detection Rate	40% Faster Process Validation
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GenAI Use Cases

# Use Case	Description	Business Impact
1. Predictive Maintenance Reports	AI analyzes sensor data from machinery to predict failures before they occur, generating detailed maintenance reports and scheduling recommendations.	Up to 50% reduction in unplanned downtime
2. AI-Generated SOPs & Manuals	Automatically creates accurate, up-to-date Standard Operating Procedures and maintenance manuals from engineering specs and historical data.	80% faster documentation creation
3. Production Anomaly Detection	Monitors production lines in real time, detecting deviations from normal patterns and alerting operators before defects propagate.	87% anomaly detection accuracy reported
4. Quality Inspection via Vision AI	Computer vision models inspect products at line speed with microscopic precision, detecting surface defects, dimensional errors, and assembly issues.	99%+ defect detection rate; replaces manual inspection
5. Supply Chain Forecasting	AI forecasts demand, supply risks, and logistics disruptions, enabling proactive inventory management and supplier diversification.	20–30% reduction in inventory holding costs

# Use Case	Description	Business Impact
6. Automated Engineering Documentation	GenAI automatically generates CAD documentation, Bills of Materials (BOMs), technical drawings narratives, and change records.	Engineers save 4–6 hours/week on documentation
7. Root Cause Analysis Assistance	AI analyzes production data using Ishikawa (fishbone) frameworks to identify root causes of defects and generate corrective action reports.	60% faster root cause identification
8. Inventory Optimization	AI continuously monitors stock levels, demand forecasts, and lead times to recommend optimal reorder points and quantities.	15–25% reduction in stockout incidents
9. Manufacturing Process Simulation	GenAI creates virtual simulations of proposed process changes, predicting outcomes before physical implementation to reduce risk.	Reduces process validation time by 40%

Implementation Workflow

Step 1 – IoT Data Collection: Thousands of sensors on machines, conveyors, and environmental systems stream real-time data to edge computing nodes.

Step 2 – Digital Twin Integration: AI maintains real-time virtual replicas (digital twins) of physical assets, enabling simulation and scenario modeling.

Step 3 – GenAI Analysis Layer: LLMs and specialized manufacturing AI models analyze telemetry data to generate reports, predictions, and recommendations.

Step 4 – Human-Machine Interface: Operators receive AI insights through intuitive dashboards; maintenance engineers receive work order recommendations.

Step 5 – Continuous Learning: AI models are retrained as new production data accumulates, improving prediction accuracy over equipment lifecycle.

Business Impact & Scalability

Downtime Reduction: Predictive maintenance AI reduces unplanned downtime by 40–50%, with some manufacturers reporting savings of \$1M+ annually per facility.

Quality Improvement: Vision AI quality inspection reduces defect escape rates to near zero, dramatically lowering warranty claims and rework costs.

Supply Chain Resilience: AI-powered supply chain forecasting enabled manufacturers to navigate disruptions (COVID, chip shortages) with 30% less impact than competitors.

Documentation Efficiency: Automated SOP generation has reduced new product introduction documentation cycles from weeks to days.

Sustainability: Process simulation and optimization reduce energy consumption and material waste, supporting sustainability goals.

Key Research Insight – Manufacturing

The most promising emerging research area in manufacturing GenAI is the integration of generative design with production simulation. AI systems that can simultaneously generate optimal product designs, simulate manufacturability, predict quality outcomes, and generate complete production documentation represent a fundamental shift from 'AI as assistant' to 'AI as co-engineer' — potentially compressing new product introduction cycles from months to days.

Future Opportunities

Generative Product Design: AI generates optimal product geometries based on performance requirements, manufacturing constraints, and material properties.

Autonomous Quality Systems: Self-learning inspection AI that adapts to new product variants without reprogramming.

Natural Language Factory Control: Operators issue production commands in natural language, with AI translating to machine-level instructions.

Sustainability Optimization: GenAI models that optimize production schedules for minimum carbon footprint alongside cost and throughput.

MY OBSERVATION

Manufacturing :

While exploring manufacturing use cases, I understood that GenAI becomes more valuable when combined with existing technologies such as IoT and automation. It can help industries analyze information faster, optimize processes, and support engineers in making better operational decisions.

6. Retail & E-Commerce

AI-Powered Solutions for Smarter Shopping & Higher Sales

Industry Overview

Retail and e-commerce represent one of the highest-velocity adoption environments for Generative AI. Consumer expectations for personalized, frictionless shopping experiences have created strong competitive pressure to deploy AI at scale. GenAI is enabling retailers to deliver Amazon-level personalization capabilities to mid-market brands, automate content creation at catalog scale, and extract actionable insights from massive volumes of customer behavioral data. The result is a measurable uplift in conversion rates, average order values, and customer lifetime value.

10 Use Cases Identified	35% Order Value Increase	87% Purchase Intent Accuracy	40% Return Rate Reduction
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GenAI Use Cases

# Use Case	Description	Business Impact
1. Personalized Product Recommendation	AI analyzes browsing history, purchase patterns, and real-time behavior to recommend products each customer is most likely to purchase next.	35% increase in average order value reported
2. AI-Generated Product Descriptions	Creates unique, SEO-optimized product descriptions for entire catalogs in seconds, maintaining brand voice across thousands of SKUs.	95% reduction in content creation time
3. Customer Behavior Prediction	Predicts customer intent, purchase probability, churn risk, and lifetime value to enable proactive marketing interventions.	87% purchase intent prediction accuracy
4. Conversational Shopping Assistants	AI chatbots guide customers through discovery, answer product questions, handle objections, and complete transactions conversationally.	25% higher conversion rate vs. standard search
5. Demand Forecasting	Predicts future demand at SKU and category level considering seasonality, trends, events, and external signals for inventory optimization.	20–30% reduction in stockouts and overstock

# Use Case	Description	Business Impact
6. Dynamic Pricing Optimization	Adjusts prices in real time based on demand, competitor pricing, and customer segment to maximize revenue while maintaining competitiveness.	5–15% revenue uplift from price optimization
7. AI-Powered Catalog Management	Automates product tagging, category mapping, attribute extraction, and catalog enrichment at scale, reducing manual effort.	Catalog update time from weeks to hours
8. Visual Search Systems	Customers upload or capture images to find visually similar products instantly, enabling discovery beyond keyword limitations.	3x higher engagement vs. text search for fashion
9. Review Summarization & Sentiment Analysis	Summarizes thousands of customer reviews into key themes and sentiment insights to help businesses improve products and build trust.	Product improvement cycle accelerated by 40%
10. Virtual Try-On Systems	AR-powered AI enables virtual try-on for glasses, makeup, jewelry, and apparel to enhance online shopping confidence and reduce returns.	25–40% reduction in return rates

Implementation Workflow

Step 1 – Customer Data Platform: Behavioral data (clicks, purchases, searches, returns) is unified in a Customer Data Platform (CDP) for AI consumption.

Step 2 – Real-Time Personalization Engine: ML models process customer signals in <100ms to serve personalized recommendations and dynamic content.

Step 3 – GenAI Content Layer: LLMs generate product descriptions, chatbot responses, and email content tailored to individual customer segments.

Step 4 – A/B Testing & Optimization: AI continuously tests and optimizes recommendation algorithms, pricing strategies, and content variants.

Step 5 – Feedback Integration: Purchase outcomes and customer feedback are fed back to continuously improve model performance.

Business Impact & Scalability

Revenue Growth: Personalization engines driven by GenAI have delivered 15–35% revenue uplifts for early adopters, with Amazon attributing 35% of revenue to its recommendation engine.

Operational Efficiency: AI-generated product descriptions and catalog management reduce content costs by 80–95%, enabling rapid catalog expansion.

Customer Experience: Conversational shopping assistants have demonstrated higher CSAT scores than traditional site search, particularly for complex product categories.

Inventory Optimization: AI demand forecasting has reduced inventory-related costs (stockouts + overstock) by 20–30% at major retailers.

Return Rate Reduction: Virtual try-on and AI-powered size recommendation have reduced return rates by 25–40%, significantly improving unit economics.

Key Research Insight – Retail & E-Commerce

The next frontier in retail GenAI is 'Agentic Commerce' — AI shopping agents that autonomously research products across retailers, negotiate prices, monitor deals, and execute purchases on behalf of consumers. This represents a fundamental shift in the retail paradigm, where AI becomes the primary interface between consumers and merchants, requiring retailers to optimize for AI discovery rather than purely human browsing behavior.

Future Opportunities

Agentic Shopping AI: Autonomous AI agents that manage the full shopping lifecycle on behalf of consumers, from discovery to post-purchase.

Multimodal Product Search: Combining image, text, and voice inputs for richer product discovery experiences.

Generative Merchandising: AI that dynamically creates and tests new product bundles, cross-sell scenarios, and promotional strategies.

Sustainability Intelligence: AI that surfaces the environmental impact of purchase decisions and suggests sustainable alternatives.

MY OBSERVATION

Retail & E-Commerce :

Through the retail use cases, I observed that GenAI mainly focuses on improving personalization and customer interaction. AI-powered recommendations and assistants can create better shopping experiences by understanding customer needs and providing more relevant responses.

7. Information Technology & Software

AI-Powered Solutions for Smarter Development, Operations & Security

Industry Overview

The IT and software industry is both the primary builder and the largest consumer of Generative AI technology. GenAI is transforming the software development lifecycle end-to-end — from intelligent code generation and automated testing to AI-powered security threat analysis and cloud cost optimization. For development teams, GenAI tools like GitHub Copilot, Cursor, and Claude Code are delivering productivity gains of 30–50%, fundamentally changing what it means to be a software engineer. For operations teams, AI is enabling proactive, predictive infrastructure management that dramatically reduces incidents and costs.

10 Use Cases Identified	55% Developer Productivity Gain	65% Faster Incident Resolution	22% Cloud Cost Reduction
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GenAI Use Cases

# Use Case	Description	Business Impact
1. AI Code Generation & Auto-Completion	LLMs suggest, generate, and complete code in real time within IDEs, accelerating development and reducing boilerplate writing.	30–50% developer productivity increase
2. Automated Bug Detection & Fixing	AI identifies bugs, security vulnerabilities, and code smells in real time, suggesting specific fixes with explanations.	40% reduction in code review time
3. DevOps Incident Summarization	AI automatically summarizes incidents, identifies root causes, and recommends remediation steps from log data and monitoring systems.	60% faster mean time to resolution (MTTR)
4. AI-Powered Software Testing	GenAI generates comprehensive test cases, executes intelligent test suites, and reports on coverage gaps automatically.	85%+ test pass rate; 3x faster test creation
5. API Documentation Generation	AI automatically generates clear, accurate, and up-to-date API documentation from code and specifications.	Documentation time reduced from days to minutes

# Use Case	Description	Business Impact
6. Infrastructure-as-Code Assistance	AI helps generate, validate, and optimize Terraform, Kubernetes, and CloudFormation scripts for faster, error-free deployments.	70% reduction in IaC configuration errors
7. Intelligent Log Analysis	AI analyzes millions of log lines to detect anomalies, identify error patterns, and provide actionable operational insights.	Proactive issue detection 2–3 hours before user impact
8. Cloud Optimization Recommendations	Analyzes cloud usage patterns and recommends right-sizing, reserved instance purchases, and resource elimination to reduce costs.	Average 22% cloud cost reduction reported
9. AI-Based Cybersecurity Threat Analysis	Detects threats, analyzes attack patterns, correlates signals across systems, and generates incident response playbooks in real time.	3x faster threat detection vs. rule-based SIEM
10. Conversational Database Querying	Allows non-technical users to query databases using natural language, with AI generating and explaining the underlying SQL.	Data democratization across non-technical teams

Implementation Workflow

- Step 1 – IDE / CI/CD Integration:** GenAI tools integrate directly into developer IDEs, code repositories, and CI/CD pipelines for seamless workflow augmentation.
- Step 2 – Context Ingestion:** AI models ingest codebase context, documentation, and historical incident data to provide relevant, project-specific suggestions.
- Step 3 – Generation & Validation:** AI generates code, tests, documentation, or infrastructure scripts; static analysis and security scanners validate outputs.
- Step 4 – Developer Review:** Engineers review AI suggestions, accept/modify/reject, and the feedback trains personalized model adaptations.
- Step 5 – Continuous Improvement:** Usage telemetry improves model quality over time; security models update with new threat intelligence daily.

Business Impact & Scalability

Developer Productivity: GitHub reports that developers using Copilot complete tasks 55% faster on average, with studies showing higher job satisfaction and reduced cognitive load.

Code Quality: AI-assisted code review and automated testing have demonstrated 20–40% reductions in production bug rates at enterprise adopters.

Incident Response: AI-powered incident summarization and root cause analysis have reduced MTTR by 50–65% at major tech companies.

Cloud Costs: Intelligent cloud optimization recommendations have delivered average savings of 15–25% on cloud infrastructure bills.

Security Posture: AI threat detection systems catch 3x more threats than rule-based systems while generating 50% fewer false positives.

Key Research Insight – IT & Software

The most significant near-term research frontier in software GenAI is 'fully agentic software development' — AI systems that can autonomously handle entire development tasks from requirement to deployment, including writing code, writing tests, reviewing for security issues, creating documentation, and deploying to production. Early systems like Devin and Claude Code represent the beginning of this trajectory. The key research challenges are reliability, security, and the human oversight model needed to deploy such agents safely in production environments.

Future Opportunities

Autonomous Software Agents: AI agents that complete multi-step development tasks end-to-end, from requirements to deployment.

Self-Healing Systems: Infrastructure that detects, diagnoses, and resolves its own issues without human intervention.

AI-Driven Architecture Design: GenAI systems that propose optimal software architectures based on requirements, constraints, and best practices.

Predictive Security: AI that predicts future attack vectors and proactively hardens systems before vulnerabilities are exploited.

MY OBSERVATION

Information Technology & Software :

From studying IT applications, I understood that GenAI is changing the way software is developed by supporting developers in coding, testing, debugging, and documentation. Instead of replacing developers, AI tools can act as assistants that improve productivity and reduce repetitive work.

8. Cross-Industry Insights & Innovation Patterns

Common themes, architectural patterns, and innovation signals across all five sectors

Universal GenAI Adoption Patterns

Analysis across all five industry verticals reveals several consistent patterns in how organizations are successfully adopting and scaling Generative AI. These cross-cutting insights are valuable for designing future research experiments and evaluating GenAI implementations.

Pattern	Description	Industries
Automation First	GenAI is initially deployed to automate high-volume, repetitive knowledge tasks before moving to complex decision support.	All 5
Human-in-the-Loop	Successful deployments maintain human oversight — AI augments rather than replaces human judgment in high-stakes scenarios.	Healthcare, Banking, Manufacturing
Data as Foundation	GenAI value is proportional to data quality and volume. Organizations investing in data infrastructure see the highest ROI.	All 5
RAG Architecture	Retrieval-Augmented Generation is the dominant enterprise deployment pattern, grounding AI in proprietary knowledge bases.	Banking, IT, Healthcare
Multimodal Expansion	Leading implementations are expanding from text-only to multimodal AI, combining text, images, and structured data.	Healthcare, Manufacturing, Retail
API-First Deployment	Organizations prefer API-based access to foundation models over self-hosted deployments for speed and cost efficiency.	IT, Retail, Banking

Overarching Observation

The most successful GenAI implementations share a common architectural principle: they are designed as collaborative intelligence systems, where AI handles scale, speed, and pattern recognition, while humans provide judgment, ethics, and accountability. Organizations that attempt to fully automate high-stakes decisions without human oversight consistently encounter regulatory, ethical, and accuracy challenges that undermine ROI.

9. Future Opportunities & Research Directions

High-potential areas for GenAI research and experimentation in upcoming weeks

Priority Research Areas for Week 02+

Multimodal GenAI Systems: Research into combining text, image, audio, and structured data inputs for richer AI applications — particularly relevant for healthcare diagnostics and manufacturing quality control.

Agentic AI Architectures: Study of multi-agent systems where specialized AI agents collaborate to complete complex, multi-step tasks (e.g., full software development pipelines, end-to-end supply chain management).

RAG System Design & Optimization: Deep dive into Retrieval-Augmented Generation architectures, vector databases, embedding strategies, and hybrid retrieval approaches for enterprise knowledge systems.

Domain-Specific Fine-Tuning: Exploration of parameter-efficient fine-tuning (PEFT, LoRA) techniques for adapting foundation models to specialized domains like medical coding, financial compliance, and industrial maintenance.

GenAI Evaluation Frameworks: Research into robust evaluation methodologies for GenAI outputs — measuring accuracy, hallucination rates, consistency, and domain-specific quality metrics.

Responsible AI & Explainability: Study of explainability techniques (SHAP, LIME, chain-of-thought) that make GenAI decisions auditable and trustworthy in regulated industries.

Cost Optimization Strategies: Research into prompt engineering, model distillation, caching strategies, and inference optimization to make GenAI deployments economically viable at scale.

Suggested Experiment Ideas

Build a Medical Document Summarizer: Fine-tune a small LLM on clinical note datasets to generate SOAP-format summaries from raw consultation transcripts.

Fraud Detection Anomaly Classifier: Train a GenAI-augmented model on synthetic transaction data to detect novel fraud patterns beyond rule-based systems.

Retail Chatbot with RAG: Build a product recommendation chatbot using RAG over a product catalog, with conversational memory and dynamic pricing awareness.

Code Review Automation Tool: Create an automated code review agent using Claude API that identifies bugs, suggests improvements, and generates test cases.

Supply Chain Scenario Generator: Use GenAI to create synthetic supply chain disruption scenarios for testing forecasting model robustness.

10. Conclusion

Summary of key learnings and the path forward in GenAI research

This Week 01 study helped me understand how Generative AI is being applied across different industries. By analyzing healthcare, banking, manufacturing, retail, and IT use cases, I identified key patterns, opportunities, and challenges involved in real-world GenAI adoption.

GenAI is Past the Experimental Phase: Across all five industries studied, GenAI has moved from pilots to production deployments at scale, generating measurable business value.

The Productivity Dividend is Real: Whether in clinical documentation, financial reporting, software development, or quality inspection, GenAI is delivering 30–80% efficiency improvements in targeted workflows.

Industry-Specific Adaptation is Critical: Generic AI models require domain fine-tuning, RAG augmentation, and workflow integration to deliver value in specialized industries like healthcare and finance.

Human Oversight Remains Non-Negotiable: In all high-stakes applications, the winning architecture is collaborative intelligence — AI enhancing human capabilities, not replacing human judgment.

Data Quality is the Real Bottleneck: The organizations achieving the highest GenAI ROI are those that invested early in data infrastructure, governance, and quality — not just AI models.

The Innovation Pace is Accelerating: The use cases documented in this report represent the state of practice as of early 2025; the field is evolving so rapidly that new capabilities are emerging monthly.

Week 01 Key Learnings

- GenAI applications differ based on the needs, challenges, and workflows of each industry.
- Data quality and domain understanding are important factors for successful AI adoption.
- Technologies like RAG, AI agents, and multimodal AI have strong potential for future GenAI applications.
- Human feedback, evaluation, and responsible AI practices are important for building reliable AI systems.

Document prepared as part of Week 01 – GenAI Research Internship Program | Submitted: June 15, 2026

Looking Ahead – Week 02

Based on the understanding gained from Week 01, the next phase will focus on exploring selected GenAI applications in more detail. The upcoming work will involve analyzing practical implementations, identifying possible research areas, and understanding how these technologies can be applied to solve real-world problems.

Generative AI

Use Cases & Case Studies

Telecommunications · EdTech · Media & Entertainment ·
Automotive & Mobility · Energy & Utilities

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GenAI Research Internship Program
Date: June 23, 2026

01

Executive Summary

A concise overview of GenAI across five more industries

This is Part 02 of our GenAI research study, covering five additional industries:

Telecommunications, Education Technology, Media & Entertainment, Automotive & Mobility, and Energy & Utilities. Together with Part 01, this builds a complete picture of how Generative AI is being applied across major sectors of the economy. In total, this report documents 50 real-world GenAI use cases, written in clear, accessible language to support upcoming project draft preparation.

50

Use Cases Documented

5

Industries Covered

100%

Practical, Real-World Focus

What This Report Covers

- Simple explanations of how GenAI is used in each industry — no heavy jargon.
- 10 specific use cases per industry, each with a short description and clear business impact.
- A basic workflow showing how the AI solution typically works end-to-end.
- Key takeaways and ideas that can feed directly into upcoming project drafts.

02

Overview

Telecommunications

GENAI APPLICATIONS IN TELECOMMUNICATION OPERATIONS

Telecom companies manage massive, complex networks that must run reliably 24/7. Generative AI helps telecom operators predict problems before they happen, support customers faster, and use network resources more efficiently. As 5G networks expand and data usage keeps growing, GenAI is becoming essential for keeping networks fast, stable, and cost-effective.



Key Use Cases

1 Network Fault Prediction

AI studies network data to predict equipment failures (like base stations or fiber links) before they actually happen.

Impact: Fewer outages, less downtime

2 AI-Generated Network Optimization Reports

AI reviews network performance and automatically creates reports with clear recommendations to improve speed and reduce costs.

Impact: Better network performance

3 Customer Support Automation

AI chatbots handle common customer issues like slow internet or billing questions instantly, any time of day.

Impact: Faster resolutions, 24/7 support

4 Telecom Usage Pattern Analysis

AI studies how customers use data, calls, and messages to help design better data plans and predict busy periods.

Impact: Smarter plan design

5 Intelligent Bandwidth Allocation

AI automatically shifts network bandwidth to where it's needed most in real time, based on traffic and demand.

Impact: Less congestion, better service

6 Voice AI Assistants

Voice-based AI helps customers check balances, pay bills, or troubleshoot issues just by speaking naturally.

Impact: Quick, hands-free self-service

7 Fraudulent Activity Detection

AI detects unusual calling or usage patterns that may indicate fraud, such as SIM box fraud or international scams.

Impact: Reduced revenue loss

8 Automated Ticket Resolution

AI automatically sorts, prioritizes, and resolves common support tickets without needing a human agent.

Impact: Faster, cheaper support operations

9 5G Network Performance Analytics

AI continuously monitors 5G network speed, latency, and reliability to ensure customers get a consistently good experience.

Impact: Higher network quality

10 Telecom Infrastructure Monitoring

AI watches physical infrastructure like towers, power systems, and cooling units, alerting teams to issues early.

Impact: Improved uptime and safety

How It Works — Simple Workflow

- Network and customer data (calls, usage, sensors) is continuously collected.
- AI models analyze this data to spot unusual patterns or predict future problems.
- The system generates simple alerts, reports, or automated responses.
- Network engineers or support teams review and act on AI recommendations.
- Outcomes are fed back into the system so the AI keeps improving over time.

Business Impact

- Reduces network downtime by up to 40%, keeping services more reliable.
- Lowers operational costs by up to 30% through automation.
- Improves customer satisfaction with faster, round-the-clock support.
- Increases overall network efficiency by around 25%.
- Helps protect revenue by catching fraud early, before major losses occur.

Key Takeaway — Telecommunications

Telecom is a strong candidate for early-stage GenAI projects because the data (network logs, customer tickets, usage patterns) is already digital and abundant. A good starter project could focus on a single, well-defined use case — such as an AI support chatbot or a network fault prediction model — using publicly available telecom datasets.

03

Education Technology (EdTech)

GENAI APPLICATIONS IN EDUCATION AND LEARNING SYSTEMS

Overview

Education is shifting from one-size-fits-all teaching to personalized learning for every student. Generative AI makes this possible by creating custom lessons, tutoring students individually, and freeing up teachers' time from repetitive tasks like grading. This helps students learn at their own pace while giving teachers better tools and insights to support them.

85%Avg. Test Score
(Sample)**24/7**

Tutor Availability

12+

Languages Supported

100%

Personalized Feedback

Key Use Cases

1

Personalized Learning Content Generation

AI creates lessons, examples, and practice questions tailored to each student's level and learning style.

Impact: Learning matched to each student

2

AI Tutoring Systems

AI tutors are available 24/7 to answer questions, give hints, and explain concepts step by step.

Impact: On-demand doubt solving

3

Automated Question Paper Generation

AI instantly creates question papers based on the syllabus, difficulty level, and topic coverage needed.

Impact: Saves teachers hours of work

4 Student Performance Analytics

AI tracks each student's progress in real time and highlights strong and weak areas for improvement.

Impact: Clear, data-driven insights

5 Learning Path Recommendation Engines

AI suggests the best next topic to study based on a student's goals, strengths, and gaps.

Impact: Personalized learning journeys

6 Multilingual Educational Content Generation

AI translates and adapts learning materials into multiple languages while keeping the meaning accurate.

Impact: Wider access to quality education

7 Virtual Teaching Assistants

AI assistants answer student questions, share resources, and remind them of deadlines, supporting both students and teachers.

Impact: Reduced teacher workload

8 Interactive Learning Simulations

AI-powered simulations (like a solar system model) make difficult concepts easier to understand visually.

Impact: Better understanding of complex topics

9 Automated Assignment Evaluation

AI evaluates essays, code, and quizzes quickly, providing consistent and constructive feedback.

Impact: Faster, fairer grading

10 Knowledge Graph Creation

AI connects related concepts and topics into a visual map, helping students see how ideas relate to each other.

Impact: Deeper conceptual understanding

How It Works — Simple Workflow

- Student data such as test scores, course progress, and learning preferences is collected.
- AI analyzes this information to understand each student's current level and needs.
- The system generates personalized content, recommendations, or feedback.
- Students interact with AI tools (tutors, simulations, assistants) to learn or practice.
- Teachers review performance dashboards to guide and support students further.

Business Impact

- Every student can learn at their own pace, improving comprehension and confidence.
- Data-driven insights help identify and close learning gaps faster.
- Learning becomes accessible anytime, anywhere — not limited to classroom hours.
- Interactive and engaging content keeps students more involved in learning.
- Teachers save significant time on repetitive tasks like grading and content creation.

Key Takeaway — EdTech

EdTech offers some of the most beginner-friendly GenAI project ideas, since tools like chatbots and content generators can be built using simple prompt engineering on existing LLMs. A great starting project would be a subject-specific AI tutor that explains concepts and generates practice questions for a chosen topic.

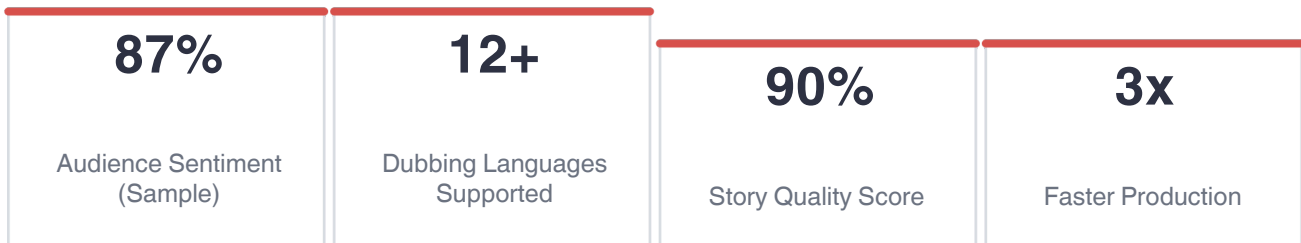
04

Media & Entertainment

GENAI APPLICATIONS IN CONTENT CREATION AND MEDIA WORKFLOWS

Overview

The media and entertainment industry is using Generative AI to speed up content creation, from scriptwriting to music composition, while also making content safer and more personalized for audiences. GenAI is helping creators produce more content faster, automate technical tasks like subtitling, and better understand what audiences actually enjoy.



Key Use Cases

1 AI-Generated Video Scripts & Storyboards

AI writes scripts and creates visual storyboards for scenes in just seconds, speeding up pre-production.

Impact: Faster content creation

2 Deepfake & Synthetic Media Generation

AI creates realistic digital humans and synthetic media for films, ads, and other creative projects.

Impact: New creative possibilities

3 Personalized Content Recommendation

AI studies viewing behavior to recommend shows or content that match each viewer's interests.

Impact: Higher viewer engagement

4 Automated Subtitle & Dubbing Generation

AI automatically generates subtitles and dubs content into multiple languages within minutes.

Impact: Faster global content reach

5 AI Music Composition

AI composes original background music tailored to a scene's mood, genre, and duration.

Impact: Quick, custom soundtracks

6 Virtual Character Creation

AI creates realistic virtual characters, ready for animation, for films, games, and digital worlds.

Impact: Faster character production

7 Gaming Narrative Generation

AI generates unique storylines, quests, and dialogues for video games based on the game's context.

Impact: Richer, dynamic game stories

8 Video Editing Automation

AI automates cuts, transitions, and scene detection, speeding up the overall video editing process.

Impact: Faster post-production

9 Audience Sentiment Analytics

AI analyzes audience reactions and comments to understand what's working and what isn't in content.

Impact: Better content decisions

10 Real-Time Content Moderation

AI detects and removes harmful content like hate speech or violence from live streams instantly.

Impact: Safer platforms for users

How It Works — Simple Workflow

- Raw content ideas, footage, or audience data is fed into the AI system.
- AI generates first drafts of scripts, music, subtitles, or visual content.
- Creative teams review and refine the AI-generated output.
- Finished content is published, with AI monitoring audience response and moderating in real time.
- Audience feedback data is used to improve future recommendations and content strategy.

Business Impact

- Speeds up content production, reducing time from idea to finished product.
- Lowers production costs by automating repetitive technical tasks.
- Helps reach global audiences quickly through fast multilingual subtitling and dubbing.
- Increases audience engagement through better-personalized recommendations.
- Improves platform safety by moderating harmful content in real time.

Key Takeaway — Media & Entertainment

This industry is a rich area for creative GenAI experimentation — text-to-image, text-to-music, and script generation tools are widely accessible. A simple, impactful project idea would be an AI-powered short-video script and storyboard generator for a specific genre or theme.

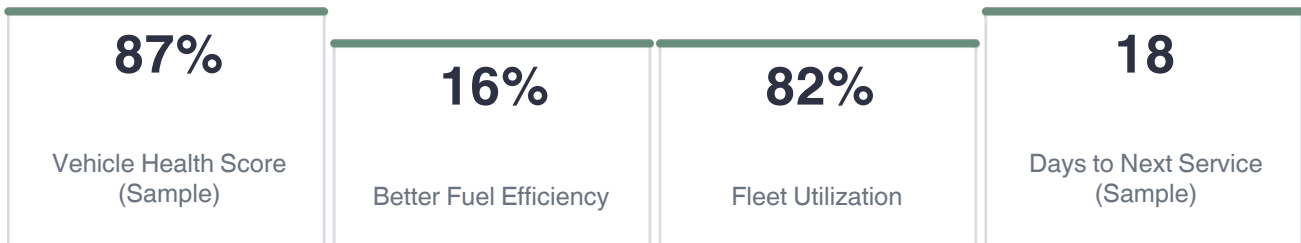
05

Overview

Automotive & Mobility

GENAI APPLICATIONS IN AUTOMOTIVE AND MOBILITY SYSTEMS

The automotive industry is moving toward smarter, safer, and more sustainable vehicles. Generative AI supports this shift by speeding up vehicle design, predicting maintenance needs, improving driver safety, and optimizing entire supply chains. As vehicles become more connected and autonomous, GenAI plays a growing role in both how cars are built and how they're used.



Key Use Cases

1 Autonomous Driving Simulation

AI creates realistic virtual environments to test self-driving systems safely before real-world deployment.

Impact: Safer, faster AV development

2 Predictive Vehicle Maintenance

AI predicts mechanical issues before they happen by analyzing vehicle sensor data, scheduling maintenance proactively.

Impact: Fewer breakdowns, lower costs

3 AI-Assisted Vehicle Design

AI explores multiple design options to optimize a vehicle for performance, safety, and efficiency.

Impact: Faster, better vehicle design

4 Driver Behavior Analysis

AI monitors driving patterns like speeding or hard braking to score risk and give personalized safety feedback.

Impact: Improved road safety

5 Smart Traffic Management Systems

AI monitors traffic in real time and adjusts signals to reduce congestion and improve traffic flow.

Impact: Smoother city traffic

6 Vehicle Diagnostics Automation

AI automatically analyzes diagnostic data to detect faults and recommend repairs, speeding up servicing.

Impact: Faster, more accurate repairs

7 In-Car Conversational AI

Voice assistants in vehicles understand natural speech, helping drivers navigate and control features hands-free.

Impact: Safer, more convenient driving

8 Fleet Optimization Analytics

AI optimizes delivery routes, fuel use, and driver performance across an entire vehicle fleet.

Impact: Lower fleet operating costs

9 Digital Twin for Automotive Testing

AI creates a virtual replica of a vehicle to test and validate performance and safety before physical builds.

Impact: Reduced prototyping costs

10 Supply Chain Automation in Manufacturing

AI improves visibility and forecasting across suppliers, parts, and production for smoother manufacturing.

Impact: More resilient supply chains

How It Works — Simple Workflow

- Sensor, vehicle, and driving data is continuously collected from cars or simulations.
- AI models process this data to detect patterns, predict issues, or test scenarios virtually.
- The system provides recommendations — for maintenance, design changes, or safety alerts.
- Engineers, drivers, or fleet managers act on the AI's recommendations.
- Real-world results are used to keep refining the AI models over time.

Business Impact

- Improves road safety by detecting risky driving behavior and predicting failures early.
- Reduces maintenance and operational costs through predictive, rather than reactive, servicing.
- Speeds up vehicle development and time-to-market through faster design and testing cycles.
- Improves the overall customer experience with smarter, more connected vehicles.
- Supports sustainability goals through optimized fuel use and lower emissions.

Key Takeaway — Automotive & Mobility

Automotive GenAI projects often require sensor or telemetry data, making this a great area for research using publicly available driving or vehicle datasets. A practical beginner project could be a predictive maintenance model that flags likely vehicle issues from basic sensor readings.

06

Energy & Utilities

KEY BUSINESS IMPACT OF GENAI IN ENERGY

Overview

Energy companies face the dual challenge of keeping power reliable while transitioning to cleaner, renewable sources. Generative AI helps by predicting equipment failures, forecasting energy demand, and automating compliance reporting. This allows utilities to run more efficiently, reduce costs, and support sustainability goals like reducing carbon emissions.

92%

Grid Efficiency (Sample)

68%

Renewable Contribution

20%

Lower Operational Costs

30%

Better Asset Reliability

Key Use Cases

1 Smart Grid Optimization

AI balances electricity load across the grid in real time, reducing energy loss and improving stability.

Impact: Higher grid efficiency

2 Predictive Equipment Maintenance

AI predicts equipment failures early, allowing maintenance to be scheduled before breakdowns occur.

Impact: Less downtime, longer equipment life

3 Energy Demand Forecasting

AI forecasts how much energy will be needed in the near future, helping plan resources accurately.

Impact: Better resource planning

4 AI-Generated Compliance Reports

AI automatically generates reports proving compliance with environmental and safety regulations.

Impact: Less manual reporting work

5 Renewable Energy Analytics

AI tracks the performance of solar and wind assets and forecasts production based on weather conditions.

Impact: Optimized renewable output

6 Utility Consumption Prediction

AI predicts customer energy usage patterns, helping utilities design better pricing plans.

Impact: Improved customer satisfaction

7 Oil and Gas Exploration Analysis

AI analyzes geological data to help identify the most promising areas for resource exploration.

Impact: More efficient exploration

8 Intelligent Outage Management

AI detects power outages instantly, predicts their impact, and helps coordinate faster repair crews.

Impact: Faster outage restoration

9 Sustainability Reporting Automation

AI automates the collection and reporting of environmental and sustainability (ESG) data.

Impact: Easier ESG compliance

10 Carbon Footprint Monitoring

AI tracks emissions in real time and suggests ways to reduce a company's overall carbon footprint.

Impact: Progress toward net-zero goals

How It Works — Simple Workflow

- Data from smart meters, sensors, and weather sources is continuously collected.
- AI analyzes this data to detect patterns, predict demand, or spot equipment risks.
- The system generates forecasts, alerts, or automated compliance reports.
- Utility teams use these insights to plan maintenance, manage outages, or adjust the grid.
- Outcomes are tracked and fed back to continuously refine prediction accuracy.

Business Impact

- Lowers operational costs by up to 20% through smarter planning and automation.
- Improves asset reliability by up to 30% with proactive, predictive maintenance.
- Reduces outage downtime by up to 25%, improving customer reliability.
- Supports environmental goals by tracking and reducing carbon emissions.
- Simplifies regulatory compliance with automated, accurate reporting.

Key Takeaway — Energy & Utilities

Energy is an excellent domain for impact-driven GenAI projects, particularly around sustainability. A strong starter project would be an AI tool that forecasts short-term energy demand using historical consumption data — a foundational skill applicable across the sector.

07

Cross-Industry Takeaways

What these five industries have in common

After analyzing Telecommunications, EdTech, Media & Entertainment, Automotive & Mobility, and Energy & Utilities, several common patterns were identified:

- **Prediction is a major application area:** AI-based systems are being used to forecast network issues, vehicle failures, and energy demand before problems occur.
- **Personalization improves user experience:** From customized learning paths in EdTech to content recommendations in Media, personalized AI solutions improve engagement.
- **Automation improves operational efficiency:** GenAI helps reduce repetitive tasks such as reporting, grading, ticket handling, and content processing.
- **Real-time monitoring supports safety and reliability:** Applications like outage detection, fraud monitoring, and content moderation depend on AI-based analysis.
- **Practical use cases can be implemented with existing technologies:** Chatbots, report generation, and prediction systems provide suitable starting points for real-world GenAI projects.

Personal Observations & Learnings:

While analyzing these five industries, I observed that Generative AI adoption is not limited to content generation. Many real-world applications focus on prediction, automation, personalization, and decision support.

I understood that successful AI solutions depend on three major factors: quality data, domain knowledge, and human validation. This study helped me understand how GenAI can be converted from an idea into practical industry solutions.

08

Looking Ahead

Project Draft Directions for the Next Phase

With Part 01 and Part 02 now complete, we have a solid, simple understanding of GenAI use cases across ten major industries. The next phase will involve narrowing down to a few promising ideas and beginning project draft preparation.

Suggested Starter Project Ideas

- **Telecom:** A simple AI chatbot that resolves common customer support queries.
- **EdTech:** A subject-specific AI tutor that explains topics and creates practice questions.
- **Media:** A script and storyboard generator for short-form video content.
- **Automotive:** A predictive maintenance model using basic vehicle sensor data.
- **Energy:** A short-term energy demand forecasting tool using historical usage data.

Part 02 of GenAI Research — Industries 6 to 10 | Prepared: June 23, 2026