THE AI PLAYBOOK

A Practical Guide to AI Capabilities for Business Professionals

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BCOR 440 / IE 425: Operations & Supply Chain Management

Gannon University

What AI can do. Where it applies. How to use it wisely.

How to Use This Guide

This guide is your reference for understanding what AI can actually do in the real world — not hype, not sci-fi, just practical capabilities you can use right now.

Each section covers a different angle: industries, business functions, security, creative work, and entrepreneurship. Every table follows the same format so you can quickly find what you need:

- What the AI is good at — its core strengths
- Where it applies — real-world use cases
- How it creates value — the business impact
- What humans still do — where your expertise matters
- Watch out for — risks and limitations to keep in mind

Look for the Interview-Ready callout boxes throughout — these give you language you can actually use in job interviews to demonstrate your AI literacy.

1. The AI Decoder Ring

Before diving in, let's clear up the biggest misconception: AI is not one thing. It's a family of technologies, each with different strengths. Here's your quick reference:

AI Type	What It Does	Think of It Like...	Examples You Know
Generative AI	Creates new content — text, images, code, music, video	A creative assistant who can draft, brainstorm, and prototype	ChatGPT, Claude, Midjourney, DALL-E, GitHub Copilot
Predictive AI / Machine Learning	Finds patterns in data to forecast outcomes	A data analyst who never sleeps and spots trends humans miss	Netflix recommendations, credit scoring, demand forecasting
Computer Vision	Interprets images and video	Eyes for machines — it can "see" and classify what it sees	Face ID, self-driving cars, quality inspection cameras
Natural Language Processing (NLP)	Understands and generates human language	A translator between human language and computer logic	Siri, Alexa, email spam filters, sentiment analysis
Robotic Process Automation (RPA)	Automates repetitive digital tasks	A tireless intern who clicks buttons and fills forms perfectly every time	Invoice processing, data entry, report generation
Reinforcement Learning	Learns by trial and error to optimize decisions	A chess player who gets better with every game	AlphaGo, robot navigation, dynamic pricing algorithms

Key Insight

Most real-world AI solutions combine multiple types. Amazon's Alexa uses NLP to understand you, ML to learn your preferences, and generative AI to form responses. Knowing the building blocks helps you see opportunities others miss.

2. AI by Industry

Every industry is being reshaped by AI, but the applications look very different depending on the context. Here's how the major sectors are putting AI to work:

Industry	Good At	Applies Where	Creates Value	Human Still Needed	Watch Out For
Healthcare	Pattern recognition in medical imaging; drug discovery; patient triage	Radiology, pathology, clinical trials, patient scheduling, EHR analysis	Earlier diagnoses, faster drug development, reduced admin burden	Final diagnosis decisions, patient communication, ethical judgment	Bias in training data, patient privacy (HIPAA), liability for errors
Retail & E-Commerce	Demand prediction, personalized recommendations, dynamic pricing	Product recommendations, inventory planning, customer service chatbots	Higher conversion rates, reduced stockouts, 24/7 customer support	Brand strategy, supplier relationships, complex complaint resolution	Price discrimination concerns, over-personalization feeling "creepy"
Manufacturing	Predictive maintenance, quality control, production optimization	Equipment monitoring, defect detection, supply planning, robotics	Less downtime, fewer defects, optimized throughput	Process engineering, safety oversight, creative problem-solving	Workforce displacement concerns, high implementation costs
Financial Services	Fraud detection, risk assessment, algorithmic trading, compliance	Transaction monitoring, credit scoring, robo-advisors, AML screening	Faster fraud detection, more consistent risk assessment, lower costs	Relationship management, complex lending decisions, regulatory interpretation	Algorithmic bias in lending, flash crash risks, regulatory uncertainty
Transportation & Logistics	Route optimization, predictive ETAs, autonomous navigation	Fleet management, warehouse robotics, last-mile delivery, traffic management	Fuel savings, faster deliveries, optimized capacity utilization	Safety oversight, exception handling, customer relationship management	Autonomous vehicle liability, infrastructure requirements
Education	Personalized learning paths, automated grading, content generation	Adaptive tutoring, plagiarism detection, curriculum design, student analytics	Individualized pace, faster feedback, identifying at-risk students early	Mentoring, motivation, complex assessment, social-emotional development	Academic integrity, over-reliance, equity in access
Agriculture	Crop monitoring, yield prediction, precision farming	Drone imaging, soil analysis, automated irrigation, livestock monitoring	Higher yields, less water/pesticide waste, early disease detection	Farm management decisions, local knowledge, weather interpretation	Connectivity in rural areas, high equipment costs, data ownership

Industry	Good At	Applies Where	Creates Value	Human Still Needed	Watch Out For
Energy	Grid optimization, predictive maintenance, demand forecasting	Smart grid management, renewable integration, consumption analysis	Reduced outages, better renewable utilization, lower costs	Infrastructure planning, regulatory compliance, emergency response	Cybersecurity risks to critical infrastructure, data privacy

Interview-Ready

"I understand how AI is transforming [industry] — for example, predictive maintenance in manufacturing can reduce unplanned downtime by up to 50%, but the real value comes from humans interpreting the alerts and making judgment calls about production priorities."

3. AI by Business Function

Regardless of industry, AI shows up differently depending on which department you're in. This is especially useful for understanding how AI connects to your specific major and career path.

Function	Good At	Applies Where	Creates Value	Human Still Needed	Watch Out For
Marketing	Customer segmentation, content generation, A/B testing at scale, sentiment analysis	Ad targeting, email personalization, social listening, brand monitoring, campaign optimization	Higher ROI on campaigns, better targeting, faster content creation	Brand voice, creative strategy, ethical boundaries, relationship building	Deepfake risks, ad fatigue from over-personalization, privacy regulations
Finance & Accounting	Anomaly detection, forecasting, automated reconciliation, expense classification	Budgeting, audit support, accounts payable/receivable, financial reporting, tax prep	Faster close cycles, fewer errors, real-time financial visibility	Strategic financial planning, investor relations, complex judgment calls	Over-reliance on models, regulatory compliance, explainability requirements
Human Resources	Resume screening, attrition prediction, employee sentiment analysis	Recruiting, onboarding, performance analytics, compensation benchmarking, L&D	Faster hiring, reduced bias (when done right), proactive retention	Culture building, difficult conversations, leadership development, empathy	Algorithmic bias in hiring, employee surveillance concerns, legal risks
Operations & Supply Chain	Demand forecasting, process optimization, quality prediction, supplier risk scoring	Inventory management, production scheduling, logistics, procurement, warehouse operations	Lower inventory costs, fewer stockouts, optimized capacity, faster response	Supplier relationship management, strategic sourcing, exception handling	Data quality requirements, over-optimization without buffers, change management
Sales	Lead scoring, pipeline forecasting, conversation intelligence, proposal generation	CRM enrichment, prospecting, follow-up automation, competitive intelligence	Higher win rates, better pipeline visibility, more time for relationship building	Negotiation, trust building, complex deal structuring, empathy	Over-automation feeling impersonal, data privacy in outreach
IT & Engineering	Code generation, bug detection, infrastructure monitoring, documentation	DevOps, testing, cybersecurity, helpdesk, system administration	Faster development cycles, fewer bugs, proactive incident response	Architecture decisions, security strategy, innovation, user experience design	Code quality without review, security vulnerabilities, technical debt

Function	Good At	Applies Where	Creates Value	Human Still Needed	Watch Out For
Legal & Compliance	Contract analysis, regulatory monitoring, due diligence, document review	Contract review, compliance screening, patent search, litigation support	Faster document review, more consistent compliance, reduced outside counsel costs	Legal strategy, negotiation, court advocacy, ethical judgment	Confidentiality risks, hallucinated citations, unauthorized practice of law
Customer Service	Ticket classification, response drafting, sentiment detection, knowledge base curation	Chatbots, email triage, call center support, self-service portals	24/7 availability, faster resolution, consistent quality, cost reduction	Escalation handling, empathy for upset customers, complex problem-solving	Customer frustration with bots, loss of human touch, privacy concerns

Connecting to Your Major

Accounting majors: focus on the Finance row — AI-powered audit and reconciliation skills are in high demand. Marketing majors: the Marketing row shows where AI amplifies creativity but can't replace it. Management majors: Operations and HR show how AI changes leadership. MIS majors: you're the ones making all of this work — the IT row is your home base.

4. AI in Security

AI is both a powerful defense tool and a growing threat vector in cybersecurity. Understanding both sides makes you more valuable in any business role, not just IT.

Area	Good At	Applies Where	Creates Value	Human Still Needed	Watch Out For
Threat Detection	Identifying anomalous patterns in network traffic, user behavior, and system logs	SIEM platforms, endpoint detection, intrusion prevention systems	Catches threats that rule-based systems miss; real-time response	Investigating alerts, distinguishing real threats from false positives	Alert fatigue, adversarial AI that learns to evade detection
Fraud Prevention	Real-time transaction scoring, behavioral biometrics, identity verification	Banking, e-commerce, insurance claims, account takeover prevention	Blocks fraud in milliseconds while reducing false declines	Policy decisions, customer communication, edge case judgment	Sophisticated fraud evolves faster; bias in fraud models
Phishing & Social Engineering	Detecting suspicious emails, deepfake voice/video, impersonation attempts	Email security, voice authentication, content verification	Catches increasingly convincing attacks at scale	Security awareness training, policy enforcement, incident response	AI-generated phishing is getting dangerously convincing
Vulnerability Management	Scanning code for security flaws, prioritizing patches, predicting exploits	DevSecOps, penetration testing, compliance scanning	Faster identification of critical vulnerabilities, smarter prioritization	Architecture review, risk acceptance decisions, remediation strategy	False sense of security; can't catch all zero-day exploits
Data Privacy	Automated data classification, consent management, PII detection	GDPR/CCPA compliance, data loss prevention, access control	Consistent enforcement of privacy policies across large datasets	Privacy policy design, regulatory interpretation, ethical boundaries	Evolving regulations, cross-border data complexities

Interview-Ready

"One thing that fascinates me about AI in security is that it's an arms race — the same technology that detects fraud can also be used to generate more sophisticated attacks. That's why human oversight and critical thinking remain essential, regardless of how advanced the tools get."

5. AI in Creative Work

This is where AI gets exciting and controversial. It's a powerful creative partner, but it comes with real questions about originality, authorship, and quality control.

Domain	Good At	Applies Where	Creates Value	Human Still Needed	Watch Out For
Writing & Content	Drafting, brainstorming, editing, summarizing, translating, repurposing content	Blog posts, social media, reports, emails, product descriptions, documentation	Faster first drafts, consistent quality, content at scale	Voice, strategy, fact-checking, emotional resonance, final approval	Hallucinations (made-up facts), generic tone, plagiarism concerns
Visual Design	Image generation, style transfer, background removal, mockups, variations	Marketing assets, prototyping, social media graphics, product visualization	Rapid prototyping, lower design costs, endless iteration	Brand consistency, creative direction, aesthetic judgment, cultural sensitivity	Copyright of AI-generated art, bias in generated images, uncanny valley
Video & Animation	Video editing, subtitle generation, synthetic presenters, motion graphics	Marketing videos, training content, social clips, product demos	Faster production, lower costs for basic video content	Storytelling, directing, emotional pacing, complex editing	Deepfake potential, quality inconsistency, licensing concerns
Music & Audio	Composition, voice synthesis, sound design, podcast editing, transcription	Background music, jingles, voiceovers, podcast production	Royalty-free custom audio, faster podcast production	Musical taste, emotional expression, performance, cultural context	Copyright ambiguity, artist displacement, authenticity questions
Code & Development	Code generation, debugging, refactoring, documentation, test writing	Web development, app building, data analysis, automation scripting	Faster development, fewer bugs, better documentation	Architecture, security review, user experience, creative problem-solving	Code quality without review, security vulnerabilities, over-dependence
Research & Analysis	Literature review, data synthesis, trend identification, competitive analysis	Market research, academic research, due diligence, strategic planning	Faster synthesis of large information sets, pattern discovery	Critical evaluation, original insight, hypothesis formation, judgment	Hallucinated citations, confirmation bias, missing nuance

The 80/20 Rule of AI in Creative Work

AI can typically get you 80% of the way to a finished product in 20% of the time. But the last 20% — the polish, the insight, the judgment — is where humans add irreplaceable value. The professionals who thrive will be those who use AI to handle the first 80% and focus their energy on the 20% that matters most.

6. AI for Solo Businesses & Freelancers

If you're thinking about starting a side hustle, freelancing, or launching a small business, AI is your competitive equalizer. It lets one person do the work that used to require a team.

Task Area	Good At	Applies Where	Creates Value	Human Still Needed	Watch Out For
Client Acquisition	Prospecting research, proposal drafting, follow-up sequences, CRM management	Freelance platforms, LinkedIn outreach, cold email, RFP responses	More proposals in less time, consistent follow-up, better targeting	Relationship building, personal brand, negotiation, referral cultivation	Impersonal outreach, spam perception, over-automation
Content & Marketing	Social media posts, blog writing, email newsletters, SEO optimization	Website content, social channels, email marketing, ad copy	Consistent content output without a marketing team	Brand voice, authenticity, community engagement, storytelling	Generic content, audience fatigue, algorithm dependency
Financial Management	Invoice generation, expense categorization, cash flow projection, tax prep	Bookkeeping, invoicing, financial planning, receipt management	Less time on admin, better financial visibility, tax savings	Strategic financial decisions, pricing strategy, contract negotiation	Accuracy verification, tax law nuance, misclassification
Project Delivery	Research, drafting, code generation, design mockups, data analysis	Client work, deliverables, presentations, reports, prototyping	Faster turnaround, higher quality, ability to take on more work	Quality assurance, client communication, creative judgment, expertise	Delivering AI-generated work without adding value, quality control
Operations	Scheduling, email management, contract templates, workflow automation	Calendar management, task prioritization, document management	Reclaiming hours of admin time each week	Priority setting, relationship management, strategic planning	Over-automating personal touch, tool complexity, subscription costs
Learning & Growth	Skill gap analysis, curated learning paths, practice exercises, certification prep	Professional development, new skill acquisition, industry research	Continuous upskilling at your own pace, targeted learning	Deciding what to learn, networking, applying knowledge in context	Information overload, shallow learning, credential inflation

Interview-Ready

> *“I’ve used AI tools to [specific example: streamline my content creation / automate my invoicing / speed up my research]. It taught me that AI is most powerful when you combine it with domain expertise — the tool handles the repetitive work so I can focus on strategy and client relationships.”*

7. AI in Operations & Supply Chain

This is your spotlight section — the one that connects directly to BCOR 440. Every concept you learn in this course has an AI dimension, and understanding it makes you more valuable in any role.

Ops Area	Good At	Applies Where	Creates Value	Human Still Needed	Watch Out For
Demand Forecasting	Combining historical data with external signals (weather, events, social media) for better predictions	Retail planning, production scheduling, inventory positioning, promotional planning	20–50% improvement in forecast accuracy; fewer stockouts and overstock	Judgment on new products, market shifts, and unprecedented events	Garbage in = garbage out; models fail with poor data quality
Inventory Management	Dynamic safety stock, automated reorder points, ABC analysis at scale, slow-mover identification	Warehouse management, multi-location optimization, seasonal planning	15–30% reduction in carrying costs while maintaining service levels	Strategic decisions about product mix, supplier diversification, risk tolerance	Over-optimization without safety buffers for disruptions
Quality Management	Visual defect detection, statistical process control, root cause analysis, predictive quality	Manufacturing inspection, supplier quality scoring, warranty analysis	Up to 90% defect detection rate, faster root cause identification	Process improvement design, quality culture, supplier development	High implementation costs, false positives/negatives
Supply Chain Risk	Supplier risk scoring, geopolitical monitoring, disruption prediction, scenario simulation	Supplier selection, dual-sourcing decisions, contingency planning, ESG compliance	Earlier warning of disruptions, more resilient supply networks	Relationship management, strategic diversification, ethical sourcing decisions	Can’t predict black swan events; models reflect historical patterns
Logistics & Routing	Route optimization, load planning, dynamic scheduling, last-mile optimization	Fleet management, delivery scheduling, warehouse slotting, cross-docking	10–25% reduction in transportation costs, faster delivery times	Driver management, exception handling, customer relationship, safety	Infrastructure limitations, real-time data requirements
Process Optimization	Bottleneck identification, simulation, capacity planning, lean waste detection	Production scheduling, facility layout, workflow design,	Higher throughput, less waste, better capacity utilization	Change management, worker input, creative solutions, leadership	Models oversimplify human factors; implementation challenges

Ops Area	Good At	Applies Where	Creates Value	Human Still Needed	Watch Out For
		resource allocation			
Procurement	Spend analysis, contract optimization, market intelligence, supplier matching	Strategic sourcing, RFP analysis, price benchmarking, compliance monitoring	Better pricing, reduced maverick spending, faster sourcing cycles	Supplier relationships, negotiation, ethical considerations, strategic vision	Data integration across systems, contract nuance, relationship erosion
Sustainability	Carbon footprint tracking, circular economy optimization, ESG reporting, energy management	Scope 1-3 emissions, waste reduction, sustainable sourcing, green logistics	Measurable sustainability improvements, regulatory compliance, brand value	Sustainability strategy, stakeholder engagement, ethical trade-offs	Greenwashing risk, data accuracy, evolving standards

The Operations + AI Career Advantage

Here's why this matters for you: Most business students know nothing about operations, and most operations professionals are still learning AI. If you understand both, you're in a category of one. Whether you end up in finance, marketing, or management, understanding how AI transforms the supply chain gives you a perspective that's rare and valuable.

Interview-Ready

"I understand how companies use AI-powered demand sensing to reduce stockouts — but I also know that the technology is only as good as the data and the human judgment behind it. In my operations course, we practiced making decisions with both quantitative tools and qualitative insight, which is exactly how it works in the real world."

8. Your AI Toolkit: Getting Started

Not every tool requires the same commitment. Here's a tiered approach so you can start wherever you are:

Tier 1: Use Today (Zero Learning Curve)

These tools work out of the box. Start using them this week.

Tool	What It Does	Best For
ChatGPT / Claude	General-purpose AI assistant for writing, research, brainstorming, analysis	Drafting emails, summarizing readings, brainstorming ideas, explaining concepts, study help
Microsoft Copilot	AI integrated into Word, Excel, PowerPoint, Outlook	Document drafting, spreadsheet analysis, presentation creation, email management
Grammarly	Writing assistant for grammar, tone, clarity, and style	Polishing papers, professional emails, resume writing, cover letters
Google NotebookLM	Research assistant that works with your uploaded documents	Studying textbook chapters, synthesizing research, creating study guides from class notes
Otter.ai / Zoom AI	Meeting transcription and summarization	Lecture notes, meeting notes, study group recordings

Tier 2: Learn This Semester (Moderate Investment)

These require a bit more learning but dramatically increase your capabilities.

Tool	What It Does	Best For
Midjourney / DALL-E	AI image generation from text prompts	Presentation visuals, social media graphics, mockups, concept visualization
Canva AI	Design platform with AI-powered features	Professional presentations, infographics, social media content, resumes
Perplexity AI	AI-powered research assistant with citations	Research projects, fact-checking, competitive analysis, industry research
Zapier / Make	No-code workflow automation connecting apps	Automating repetitive tasks, connecting tools, building simple business processes
Beautiful.ai / Gamma	AI-powered presentation creation	Quick pitch decks, project presentations, professional slides

Tier 3: Career Differentiators (Bigger Investment, Bigger Payoff)

These take real time to learn but set you apart in the job market.

Tool / Skill	What It Does	Best For
Python + AI Libraries	Programming for data analysis, automation, ML	Data-driven roles, operations analytics, building custom tools, advanced analysis
Prompt Engineering	Designing effective AI instructions for consistent, high-quality outputs	Any role using AI; especially valuable for creating repeatable business workflows
Power BI / Tableau + AI	Data visualization with AI-powered insights	Business analytics, dashboards, reporting, operations monitoring
Custom GPTs / AI Agents	Building specialized AI tools for specific business tasks	Entrepreneurship, process automation, creating tools for your team
SQL + AI-Assisted Analytics	Database querying enhanced by AI tools	Any data-adjacent role; finance, marketing analytics, operations analysis

Start Where You Are

You don't need to master everything. Pick 1–2 Tier 1 tools and actually use them consistently for 2 weeks. Then experiment with one Tier 2 tool. By the end of this semester, you'll have genuine AI experience to put on your resume — not just "familiar with AI tools."

9. Ethics & Responsible AI Use

AI is powerful, but power without responsibility is dangerous. Throughout this guide, you've seen "Watch Out For" columns in every table. Here's the big picture on using AI responsibly.

The Five Questions to Always Ask

1. **Is the output accurate?** AI hallucinates — it makes things up with complete confidence. Always verify facts, citations, and data before using them.
2. **Is it fair?** AI models can reflect biases in their training data. Check whether outputs might disadvantage certain groups.
3. **Is it transparent?** If you used AI in your work, say so. Transparency builds trust. Hiding AI use erodes it.
4. **Is the data safe?** Never paste confidential information, personal data, or proprietary business info into public AI tools.
5. **Am I adding value?** Using AI to generate something you submit unchanged isn't learning — and it's not professional. Your value is in what you add on top of AI output.

The AI Use Spectrum

Not all AI use is the same. Think of it as a spectrum:

Level	Description	Example	Appropriate When
Research Partner	AI helps you find and understand information faster	Using Claude to explain a concept, summarize an article, or brainstorm ideas	Almost always appropriate. You're using AI as a thinking tool.
Drafting Assistant	AI creates a first draft that you significantly revise	Generating a rough outline, then rewriting with your analysis and voice	Appropriate when you add substantial original thinking and revision.
Collaborative Tool	You and AI iterate back and forth to create something	Going through multiple rounds of feedback to refine a business analysis	Appropriate when the final product reflects your judgment and expertise.
Automation	AI handles a task with minimal human input	Auto-generating routine reports, scheduling, data cleaning	Appropriate for low-judgment tasks. Not for assessed academic work.
Substitution	AI does the thinking for you	Submitting AI output as your own without modification	Not appropriate in academic or professional contexts. This is outsourcing your learning.

Interview-Ready

> *“I believe in using AI responsibly. In my coursework, I used AI as a research partner and drafting assistant, but the analysis and judgment were always mine. I think the professionals who stand out are the ones who can use AI to be more productive while maintaining the critical thinking that machines can’t replicate.”*

10. Putting It All Together

Here's the bottom line: AI is not coming for your job. But someone who knows how to use AI effectively might.

The professionals who thrive in the next decade will be the ones who can:

- Identify where AI creates value in their specific role and industry
- Use AI tools fluently to amplify their productivity
- Apply critical judgment to AI outputs — knowing when to trust and when to verify
- Communicate about AI confidently to colleagues and leadership
- Navigate the ethical dimensions that technology alone can't solve

That's what this guide is designed to help you do. Keep it as a reference. Come back to it when you're preparing for interviews, starting new projects, or just curious about how AI fits into something you're working on.

The future belongs to the human + AI combination. You're building that skill set right now.

🚀 Your Challenge

Before the end of this week, pick one AI tool from the Tier 1 list and use it for a real task — not just playing around. Summarize a chapter. Draft a professional email. Brainstorm solutions to a case study. Then reflect: What did AI do well? Where did you need to add your own thinking? That's the skill that matters.