

An executive's guide to generative AI

Finding the right use cases and crafting effective prompts

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Generative AI is a rapidly advancing field that is poised to transform businesses across every industry. This new breed of artificial intelligence can autonomously create different types of original content, including text, images, videos, code, and music. Powered by neural networks, which are algorithms loosely modeled after the human brain, generative AI learns to identify and replicate patterns in massive amounts of data. This gives it the remarkable capability to produce fresh, creative content that often appears indistinguishable from human-generated work.

The widespread adoption of generative AI in business environments can be attributed to its potential to transform operations and drive innovation. Firstly, it can significantly increase efficiency and speed by automating repetitive tasks and generating content faster than traditional methods. Secondly, it had the ability to produce variations or personalized content at scale offers a distinct advantage, particularly in customer-facing applications. This optimization of workflows and customization capabilities often leads to cost reductions for businesses. Finally, generative AI fosters innovation by introducing new problem-solving strategies and fueling creative exploration. As a consequence of this transformation potential, you should expect that generative AI will cause serious disruption to some jobs while creating entirely new categories of work centered around AI collaboration.

This document was prepared by Professor Sandra Sieber with the assistance of both ChatGPT4 and Gemini Advanced. September 2024.

IESE cases are designed to promote class discussion rather than to illustrate effective or ineffective management of a given situation.

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Table 1
Occupations most exposed to AI and large language modelling
 (Occupation marked with an * appear on both lists)

	Exposure to all AI applications	Exposure to large language modelling
1	Management consultants and business analysts*	Telephone salespersons
2	Financial managers and directors	Solicitors*
3	Chartered and certified accountants	Psychologists*
4	Psychologists*	Further education teaching professionals
5	Purchasing managers and directors	Market and street traders and assistants
6	Actuaries, economists and statisticians	Legal professionals n.e.c.*
7	Business and financial project management professionals	Credit controllers*
8	Finance and investment analysts and advisers	Human resource administration occupations*
9	Legal professionals n.e.c.*	Public relations professionals
10	Business and related associate professionals n.e.c.	Management consultant and business analysts*
11	Credit controllers*	Market research interviewers
12	Solicitors*	Local government administrative occupations
13	Civil engineers	Clergy
14	Education advisers and school inspectors*	Higher education teaching professionals
15	Human resources administrative occupations*	Collector salespersons and credit agents
16	Business, research and administrative professionals n.e.c.	Education advisers and school inspectors*
17	Financial accounts managers	Human resource managers and directors
18	Bookkeepers, payroll managers and wages clerks	National government administrative occupations*
19	National government administrative occupations*	Vocational and industrial trainers and instructors
20	Marketing associate professionals	Social and humanities scientists

Source: Department for Education, UK Government, November 2023.¹

The shift towards an AI-powered workplace presents both significant challenges and exciting opportunities. Not all industries will be impacted in the same way, and in some industries, change may still take 'a little time' – depending on the speed of evolution of different generative AI models (see **Table 2** for an example of the least exposed jobs).

¹ https://assets.publishing.service.gov.uk/media/656856b8cc1ec500138eef49/Gov.UK_Impact_of_AI_on_UK_Jobs_and_Training.pdf



Table 2
Occupations least exposed to AI and large language modelling
 (Occupation marked with an * appear on both lists)

	Exposure to all AI applications	Exposure to large language modelling
1	Sports players*	Fork-lift truck drivers*
2	Roofers, roof tilers and slaters*	Roofers, roof tilers and slaters*
3	Elementary construction occupations*	Steel erectors*
4	Plasterers*	Vehicle valeters and cleaners*
5	Steel erectors*	Elementary construction occupations*
6	Vehicle valeters and cleaners*	Plasterers*
7	Hospital porters	Metal plate workers, and riveters*
8	Cleaners and domestics	Vehicle paint technicians
9	Floorers and wall tilers*	Floorers and wall tilers*
10	Metal plate workers, and riveters	Mobile machine drivers and operatives n.e.c.
11	Launderers, dry cleaners and pressers*	Launderers, dry cleaners and pressers*
12	Window cleaners	Large goods vehicle drivers
13	Painters and decorators	Road construction operatives*
14	Fork-lift truck drivers*	Rail construction and maintenance operatives
15	Packers, bottlers, canners and fillers	Industrial cleaning process occupations
16	Gardeners and landscape gardeners	Elementary process plant occupations n.e.c.
17	Bricklayers and masons*	Sewing machinists
18	Road construction operatives*	Sports players*
19	Elementary process plant occupations n.e.c.*	Street cleaners
20	Tyre, exhaust and windscreen fitters	Bricklayers and masons*

Source: Department for Education, UK Government, November 2023.

In any case, as executives, staying ahead of this technology is not just beneficial, it's becoming essential. Learning to skillfully interact with, or 'prompt', generative AI systems unlocks a powerful toolset. With it, you can accelerate innovation, identify new business models, and gain a competitive edge.

This technical note is designed to help you understand the basics of generative AI and start developing your own prompting skills. By embracing this technology, you can reshape your role, alleviate tedious tasks, and unlock new levels of efficiency. Your goal is to become a leader who thrives in an AI-enhanced world, developing what Ethan Mollick calls "co-intelligence"². This guide aims to serve you to take initial steps in that direction.

² Ethan Mollick, (2024), Co-Intelligence: Living and Working with AI, Virgin Digital, April 2024.



I. Understanding generative AI

Before you get started using Generative AI you should acquire a certain level of understanding of how it works and what it is good for³. Generative AI excels at tasks like text generation, image creation, and certain types of problem-solving. It learns by analyzing massive datasets, so the results are only as good as the data it's been trained on. Different AI models have different areas of expertise.

Generative AI's capabilities extend across various formats, including:

1. **Text (and Voice) Generation:** Writing everything from emails and reports to creative scripts, poems, and translations. It can even summarize and answer questions based on complex bodies of information. Tools like ChatGPT (developed by OpenAI), Gemini (developed by Google) or Claude (developed by Anthropic) excel at this task.
2. **Image Creation:** Generating original artwork, illustrations, photorealistic images, or design concepts. It can modify existing images or combine visual elements based on detailed descriptions. Examples include DALL-E and Midjourney
3. **Video Creation:** AI can create short videos, animations, or even basic visual effects. Some models can generate videos that align with textual prompts or modify existing videos for different purposes. There are a wide variety of video creation tools available (see **Table 3**)
4. **Code Generation:** AI can assist with aspects of the coding process, from writing basic functions to suggesting solutions or debugging code segments. GitHub Copilot specializes in this area.
5. **Music Generation:** Composing original musical pieces, ranging from simple melodies to more complex arrangements. AI can even adjust musical styles or generate variations on existing compositions. OpenAI's Jukebox is one such tool.

As these models are pre-trained with data, you also have to be aware of their limitations. These change over time, so do make sure that you reassess frequently – we are just at the very beginning. **Table 3** offers a recollection of some of the main Generative AI models as of June 2024.

³ There are main introductions to AI and its evolution. If you're interested in understanding more rather than doing traditional search, go ahead and do some prompting on chatbot of your choice. If you prefer reading a trusted source, check out: <https://www.theguardian.com/technology/2023/feb/24/ai-artificial-intelligence-chatbots-to-deepfakes>



Table 3
Examples of popular AI platforms as of June 2024

Platform	Company	Content Format(s)
ChatGPT (Model: gpt4-o)	OpenAI	Multimodal (text, images, files, code)
Claude	Anthropic	Multimodal (text, images, files, code)
Gemini	Google	Multimodal (text, images, files, code)
Perplexity	Perplexity	Multimodal (specialized in web browsing)
Copilot	Microsoft (& OpenAI)	Multimodal (text, images, Microsoft Office suite)
Gemma 2	Google (open source)	Text
Llama 3	Meta (open source)	Text
Mistral	Mistral AI (open source)	Text
Midjourney	Independent	Images (highly artistic and creative visuals)
DALL-E 3	OpenAI	Images (artwork, illustrations, designs)
Stable Diffusion 3	Stability AI	Images
Firefly	Adobe	Images
GitHub Copilot	GitHub (Microsoft)	Code (coding assistance, snippet generation)
Codex	OpenAI	Code (programming assistance, code generation)
ElevenLabs	ElevenLabs	Voice
Suno	Suno	Music (from text prompts)
Udio	Udio	Music (from text prompts)
Jukebox	OpenAI	Music (composition, variation)
HeyGen	HeyGen	Video Avatars (including lipsync and language translation)
Synthesia	Synthesia	Video Avatars (including lipsync and language translation)
Sora	OpenAI	Video (from text prompts)
Lume	Lume	Video (from text prompts)
Runway	Runway	Video (from text, images, or other videos)
Peech	Peech	Video (focused on branding)
Wave	Wave	Video (text, stock assets, voiceovers)

Source: IESE, Learning Innovation Unit.



Some notes of caution

Before you start interacting with any of these models, be aware of their reliance on data. You need to understand that the quality of AI output is limited by the quality of data it learns from. Biased, incomplete, or outdated training datasets result in similarly flawed outputs. Hence, be aware that your judgment will play a key role to determine which model you want to use, and to assess the quality of the obtained output. Be especially vigilant about biases – AI can perpetuate biases from its training data. It's crucial to use AI responsibly and be vigilant to avoid unintended consequences.

You also have to be aware that these models lack of deep understanding: While AI can mimic language, visual styles, or coding patterns, it lacks genuine understanding. It can generate factually incorrect, illogical, or nonsensical content, especially when dealing with complex or nuanced subjects. Again, your input is critical to create, understand and make the final quality control of any output generated by the model that you use.

Finally, generative AI is still under rapid development. Capabilities improve over time, but so do potential risks. It's essential to stay updated on advancements and adjust AI implementation practices accordingly.

Remember: Generative AI is a powerful toolkit. It's most effective when used in collaboration with human expertise, allowing for oversight, creativity, and responsible application.

II. Defining your goals

Imagine setting out on a journey without a clear destination in mind. The same holds true for implementing generative AI – goals are your compass. To harness its potential for efficiency, cost savings, and innovation, it's crucial to define goals both at the organizational level and the individual level.

Generative AI offers potentially transformative power, impacting tasks for individuals and teams across the organization. It can:

- **Automate routine tasks:** Handle report generation, basic analyses, and repetitive communication, freeing up your time for higher-value work.
- **Enhance your capabilities:** Provide decision support, offer creative solutions, and augment your ability to analyze complex problems.
- **Elevate your role:** By automating the labor-intensive aspects of your job, you can focus on strategic thinking and leadership activities, potentially enhancing your career trajectory.

When defining your individual goals, consider how generative AI can streamline your workflow and help you achieve your professional objectives. Aligning these individual goals with your organization's larger objectives ensures that your work with AI directly contributes to overall success.



Questions to guide your goal-setting:

- How will generative AI directly contribute to my team's and the company's broader mission?
- Which specific areas of my work would see the most immediate benefit from this technology?
- How can generative AI help me develop new skills and take on more strategic responsibilities?

By carefully defining individual and team goals and ensuring alignment with the organization, you'll maximize the impact of generative AI on your own work and contribute to the company's overall success with this transformative technology.

III. The prompt process: your key to creative collaboration

A prompt is the essential tool you'll use to communicate with generative AI models. Consider it a set of instructions, a question, or a creative seed that you provide to initiate the AI's process. Much like providing guidance to a skilled but inexperienced assistant, the quality of your prompts directly influences the quality of the output you receive in turn.

To illustrate how prompts work, let's use an analogy. Imagine you're a chef with a very talented but untrained sous chef. To achieve the best dish, you wouldn't simply say, "make dinner." Instead, you'd provide detailed instructions (ingredients, techniques, desired style), perhaps even a sample recipe as a guide. The more specific your directions, the closer the outcome will align with your culinary vision. The same applies to your prompts provided to a generative AI model: The more detailed and evocative your instructions, the more likely the final results will satisfy your vision.

The essential ingredients of a powerful prompt

Let's dissect the components that shape an effective prompt:

1. Provide context and background

Providing relevant context and background information enables the AI to grasp the nuances of your request. This can encompass everything from competitor materials to brand voice guidelines. Continuing with the toothbrush example, you might share links to competitor websites or a document outlining your brand's core values. The more the AI knows about your specific needs, the more tailored and effective its output will be.

2. Clearly state the specific task at hand

Strive for precision in your requests. Avoid vague directives like "write a product description." Instead, be as detailed as possible. For example: "Write a product description for our new sustainable bamboo toothbrush. Target environmentally conscious consumers and emphasize the product's eco-friendly materials and compostable packaging." The more specific you are, the better the AI can understand your intended outcome.



3. Provide instructions about format, structure, style and tone

Specify the desired format and structure of the output. Do you need a short tagline, a brief social media post, a full-length blog article, or perhaps a visually appealing product image? Clearly outlining the intended format will guide the AI's output to tailor its output to suit your requirements. Also, be clear about the desired tone and style of your output. Do you seek persuasive, informative, playful, or technical language? For example: "Write a playful and humorous social media caption promoting our bamboo toothbrush" vs. "Write a technical product description for our bamboo toothbrush, suitable for our online store." This guidance helps the AI match the tone of voice that best aligns with your goals.

4. Define constraints

Remember that the technology has no values nor deep understanding. You need to set the boundaries for the task, defining any limitations and specifying requirements that must be met.

5. Iterate to refine

Treat prompting as a dynamic process. Analyze the AI's output and use your observations to refine subsequent prompts. If the results don't fully align with your expectations, consider where your instructions might have been unclear or incomplete. Did the AI miss the mark on tone? Were specific details overlooked? This feedback loop is crucial for continuous improvement.

By following these guidelines and embracing iteration, you'll transform generative AI into a powerful creative collaborator (you may use the *Quick Sheet* below to get started, then iterate). As you experiment and refine your prompts, you'll discover the full potential of this human-AI partnership, unlocking new possibilities for innovation and efficiency within your organization.



Quick sheet for prompt writing (version 1.0)

Goal and Persona

Who are you and what do you want the AI to help you achieve? (e.g., generate ideas, create an image, draft a report)

Details & Context

What specific information or background knowledge is essential for the AI to understand your request? Are there any relevant examples or references that would be helpful?

Style & Tone

What tone of voice is appropriate? (formal, playful, informative, etc.) Are there specific stylistic elements to include or avoid?

Constraints & Preferences

What are your desired outcomes or must-haves? (e.g., image resolution, text length, specific inclusions) Are there any restrictions to keep in mind?

Format & Structure

How should the AI present the output? (paragraph, list, image, etc.) Is there a specific organizational structure needed?

Additional Tips

Specificity: Be as precise as possible. The more detailed your prompt, the better the results.

Clarity: Avoid ambiguity or overly complex phrasing.

Iteration: Use feedback from the AI and your own evaluation to refine your prompts over time.

Prompting in action: a practical example

Let's apply these principles to a scenario. Imagine you're a marketing manager for a tech company launching a new productivity app. Here's an example of how your prompts might evolve through the iterative process:

- **Initial Prompt:** "I need ideas to market our new cleaning product." (Too vague)
- **Revised Prompt:** "Generate ideas on how to market our eco-friendly cleaning products to women." (Better, but could be more specific)
- **Further Refined:** "Provide me 3 marketing campaign ideas for a new line of eco-friendly cleaning products. I am targeting women that have a natural living style. I want to use social media with short promotional slogans, give me 5 ideas for slogans" (Specific and actionable)



Example Using the Template:

- **Goal:** Generate marketing ideas for a new line of eco-friendly cleaning products.
- **Details & Context:** Target audience is primarily women aged 25-45 interested in natural, sustainable living. Products are plant-based and come in refillable containers.
- **Style & Tone:** Upbeat, inspirational, emphasize environmental responsibility without being preachy.
- **Constraints & Preferences:** Ideas should focus on social media campaigns and short promotional slogans.
- **Format:** A numbered list with 3-5 campaign ideas and 5-7 slogans

Embracing the power of the prompt – iterate to improve

One of the most exciting aspects of generative AI is the diverse range of models available. Each model has been trained on different datasets and excels in different areas – think of them like specialized tools in a toolbox. Part of your prompting journey is discovering which models best suit different tasks. Don't hesitate to experiment and explore! As your prompting skills evolve, you'll continuously unlock new potential and refine your mastery of this transformative technology.

There's no single “right” way to craft a prompt. The key is adapting your approach based on the model and the task at hand. Let's embark on this journey of discovery together and explore how generative AI can be tailored to your specific needs.

IV. Using generative AI responsibly

While generative AI offers remarkable potential, it's essential to approach it with ethical considerations and a critical eye. Be mindful that AI models can sometimes perpetuate biases present in the data they've been trained on. Proactively evaluate outputs for potentially harmful stereotypes or unfair representations, especially when the content touches on sensitive subjects. When choosing to use generative AI, consider the context carefully to weigh whether its use is appropriate or if a situation demands human judgment. To ensure alignment with your standards, maintain transparency about whether content is generated by a human or an AI model.

Never assume the accuracy of AI-generated content. Fact-checking and critical human oversight are crucial. Always verify information and review outputs for potential bias before any further use or dissemination. Integrate human review as a core step within any workflow that utilizes generative AI.

V. The power of iteration: continuously improving to learn quickly

Success with generative AI requires an ongoing commitment to improvement. Use both the AI's feedback and your own evaluation to refine your prompts over time. When the AI output doesn't meet expectations, analyze the reasons why, so your prompting skills can evolve. Start with focused use cases where generative AI can provide a clear advantage, such as drafting routine communications, assisting with brainstorming, or analyzing trends. As your comfort and expertise grow, responsibly explore more diverse applications, carefully evaluating risks and potential unintended consequences for each use case.



Fostering a collaborative environment is key. Document and share successful prompt strategies, insights, and best practices across your organization. Engage with the wider generative AI community through forums and events to stay current and contribute to the development of ethical AI practices.

Conclusion

Generative AI is reshaping the business landscape. By understanding its capabilities, limitations, and the need for responsible use, you can unlock its power within your organization. Starting with thoughtful, targeted use cases, and iteratively improving your prompting techniques will help you harness AI to streamline tasks, spark innovation, and make better-informed decisions. Embrace the potential of generative AI, approach it with a critical mindset, and position yourself to thrive in an increasingly AI-enabled world.



Exhibit 1

Examples of use cases in different industries

Healthcare:

- Synthesizing medical data for research to enable new treatment discovery without compromising patient privacy.
- Generating realistic medical images for training and diagnostic purposes, improving the accuracy and speed of diagnoses.

Entertainment and Media:

- Creating realistic CGI for movies and video games, reducing production costs and time.
- Composing new music or remixing existing tracks for music streaming services, offering personalized experiences.

Advertising and Marketing:

- Producing creative content for advertising campaigns (images, videos, text) that resonates with targeted audiences.
- Personalizing content at scale for improved engagement rates and ROI.

Automotive:

- Generating design permutations for new car models or features, aiding the visualization process.
- Simulating and optimizing manufacturing processes for increased efficiency.

Finance and Insurance:

- Aiding fraud detection by creating synthetic financial transactions to train models without exposing sensitive customer data.
- Generating realistic market scenarios for stress testing and risk management.

Retail and E-Commerce:

- Enhancing customer experiences through personalized recommendations and virtual try-ons.
- Creating dynamic and targeted product descriptions.

Architecture and Real Estate:

- Generating design variations based on site conditions and client requirements, streamlining the design process.
- Creating virtual property tours or visualizing the transformation of undeveloped spaces.



Exhibit 1 (continued)

Education:

- Creating customized learning materials and assessments that adapt to students' individual needs.
- Generating realistic scenarios for simulation-based learning (medicine, law, engineering, etc.).

Customer Service:

- Powering chatbots and virtual assistants for 24/7 support and personalized interactions.
- Analyzing customer interaction data to identify areas for service improvement.
- Manufacturing:
 - Optimizing production schedules and supply chain management through predictive analytics.
 - Using generative AI models for quality control and defect detection.

Legal:

- Summarizing and analyzing complex legal documents for faster review.
- Drafting contracts and legal briefs based on case precedent.

Human Resources:

- Screening resumes and identifying top candidates based on specific criteria.
- Generating personalized onboarding materials and training content.

Logistics and Supply Chain:

- Optimizing transportation routes and delivery schedules.
- Forecasting demand and managing inventory levels more accurately.

Environmental Science:

- Analyzing satellite data to track deforestation and monitor climate patterns.
- Simulating the impact of environmental policies and interventions.

Robotics:

- Enabling robots to learn new tasks through demonstration and imitation.
- Improving object recognition and scene understanding for robot navigation.

Game Development:

- Generating landscapes, characters, and other game assets procedurally.
- Creating realistic dialogue or narratives for non-player characters (NPCs).



Exhibit 2

Use cases in business contexts (last updated: April 2024)

The most popular generative AI use cases in business contexts, along with some reasons for their popularity:

1. Content Creation

- **Marketing and Advertising:** Generating product descriptions, social media posts, ad copy, slogans, and even full blog articles or website content. Analyze sentiment, and identification of trending topics. This streamlines content production and allows for personalization at scale.
- **News and Content Writing:** Assisting anybody who needs to write with research, fact-checking, and summarizing information for articles.
- **Customer Service:** Powering chatbots and virtual assistants to provide 24/7 support and answer common customer inquiries.
- **Translation:** Translating languages for websites, marketing materials, and communication, enabling businesses to reach a global audience. Adapting content to different cultural context and languages.

2. Image and Video Generation

- **Design and Visualization:** Creating product mockups, logos, website layouts, interior design visualizations, and other visuals, aiding the creative process.
- **E-commerce:** Generating product images from different angles, with different backgrounds, or on virtual models, showcasing products effectively.
- **Entertainment:** Creating special effects, backgrounds, and other visual elements for films, video games, and other media.

3. Data Augmentation and Synthesis

- **Privacy-Preserving Data Generation:** Creating synthetic data that mimics the patterns of real data but protects sensitive information. This is highly valuable for research and model training in fields like healthcare or finance.
- **Scenario Simulation:** Generating realistic scenarios for training, testing, and risk management purposes (e.g., self-driving cars, financial stress testing).

4. Code Generation and Optimization

- **Software Development:** Assisting with coding tasks, suggesting code snippets, or debugging programs, improving developer efficiency.
- **Security:** Identifying potential code vulnerabilities and suggesting fixes.



Exhibit 2 (continued)

5. Text Analysis and Insights

- **Market Research:** Analyzing customer feedback, social media sentiment, and competitor data to understand market trends.
- **Financial Analysis:** Analyzing financial reports and market data to aid with investment decisions.
- **Document Summarization:** Summarizing contracts, research papers, or lengthy reports for quick overviews.
- **Cybersecurity:** Identifying and responding to potential threats by analyzing patterns in network activity or code.



Exhibit 3

A selection of introductory articles and explainers

Articles

- “What Generative AI Means for the C-Suite.” Harvard Business Review. Harvard Business Publishing, 2023. Available at: <https://www.hbsp.harvard.edu/product/10697-PDF-ENG>. *Provides a management-level perspective on AI's impact and challenges.*
- “Generative AI: A Practical Guide for Businesses.” McKinsey & Company, 2023. Available at: <https://www.mckinsey.com>. *Offers actionable insights and use cases across industries.*
- “Generative AI Is About to Reset Business as Usual. Are You Ready?” Forbes, 2023. Available at: <https://www.forbes.com>. *A great motivator focusing on the potential disruptions caused by AI.*
- “What Executives Need to Know About Generative AI.” MIT Sloan Management Review, 2023. Available at: <https://sloanreview.mit.edu>. *Offers a well-rounded overview, including ethical considerations.*

Online Courses

- **Coursera:** Courses such as “Generative AI for Executives and Business Leaders” or specializations on topics like “AI for Business” (Search on <https://www.coursera.org/>). These often provide a structured learning path at your own pace.
- **Udemy:** Look for courses on “Generative AI for Managers” or “AI in Business” (<https://www.udemy.com>). These may offer more niche focuses within specific industries.
- **LinkedIn Learning:** Explore their library of AI-focused courses (<https://www.linkedin.com/learning/>). Many cater to executives and business professionals and can be good refreshers on core concepts.

Additional Resources

- **Newsletters:** Subscribe to AI-focused newsletters like “The Batch” by DeepLearning.AI or industry-specific ones to stay updated on the latest developments.
- **Webinars and Workshops:** Many reputable organizations offer short webinars on generative AI applications and their business implications.