

Building AI-Powered Products

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Chapter 1. The Role of AI Product Managers

The first AI team I ever worked for was designing something special: smart home-assistant devices that could understand a wide variety of accents, and even recognize who was talking and what they were instructing the assistant to do. It was the early days of voice assistants and smart homes. I had always been interested in the conjunction of language and tech, and I knew many voice systems didn't really "get" different ways of speaking. The Speech team's goal was to make an AI that did.

That was a really complicated task. We wrangled enormous datasets, refined algorithms, and spent months trying to figure out how to embed this technology into user-facing products. Speech technologies, and more specifically, [speech recognition](#), enables machines to transcribe what humans are saying. Similarly, [text-to-speech synthesis](#) gives computers the ability to "speak," given written words as an input.

I didn't realize at first that I had found myself at the heart of AI and innovation. This experience showed me the exciting world of AI product management.

The field of AI has existed for many decades. It [originated back in the 1950s](#), when scientists attempted to develop computers that would emulate the way human brains work, and in particular when Alan Turing suggested that machines can also be taught to reason, just like humans.

AI is a field of computer science that gives computers intelligence. It enables machines to perform nontrivial cognitive tasks comparable to tasks humans can perform, such as reasoning, sensing, speech processing, visual perception, problem-solving, and most importantly, as [Oracle notes](#), learning from data and adapting. While [AI is not new](#), hardware limitations had obscured its potential until recently. The industry is only now starting to unlock the vast potential of AI, a breakthrough made possible by leaps in chip technology, unprecedented computational power, and an abundance of data. These advancements, coupled with sophisticated algorithms and cutting-edge machine learning (ML) techniques, are setting the stage for AI to reach capabilities that were previously unimaginable.

Organizations with vast amounts of data are in a unique position to embrace AI and ML. They stand to gain a significant competitive advantage, both in their operations (e.g., predictions that inform planning, such as for restocking inventories or identifying the right price point) and in their offerings (unique, smart solutions that offer personalization, recommendations, automation, content generation, and more). Now more than ever, those organizations need

professionals who can understand AI and its potential, leverage it, and “serve” it to customers.

Today, AI is ubiquitous. It drives increasingly complex and consequential decisions, such as college admissions and medical diagnoses. I write this in 2024, and in the past year alone, AI has advanced tremendously with the emergence of *generative AI*, a subtype of AI that produces content, sometimes abbreviated as “GenAI.”

This chapter introduces the business role of the AI product manager (AI PM). I’ll discuss what distinguishes this role from regular product management and what skill sets it requires. We’ll also explore the diverse landscape of AI, including how AI products leverage different AI technologies, to give you a comprehensive view of both the day-to-day work lives of AI PMs and the broader context in which they operate.

The Stages of AI Evolution

GenAI is often conflated with traditional AI, but in reality, it’s just one subset of a larger, more complex AI landscape. This distinction is crucial to understanding AI’s full potential, yet it’s a misconception I encounter daily. While GenAI has become a hot topic and the technology has made remarkable strides recently, it is by no means a replacement for traditional AI.

When we talk about “AI,” it’s important to clarify that this term encompasses a range of technologies and approaches, each with its own specific set of use cases. To assume that “AI” just refers to GenAI oversimplifies a vast, multifaceted field. Modern-day AI is classified into four groups: traditional, generative, general intelligence, and superintelligence.

[Figure 1-1](#) highlights how these four types of AI vary in scope and capability, illustrating an evolving landscape where AI ranges from specialized tasks to broader, potentially transformative applications. The diagram emphasizes the layered complexity of AI, showing how each category contributes uniquely to our understanding and advancement of intelligent systems.

THE LANDSCAPE OF AI AND ITS USE CASES

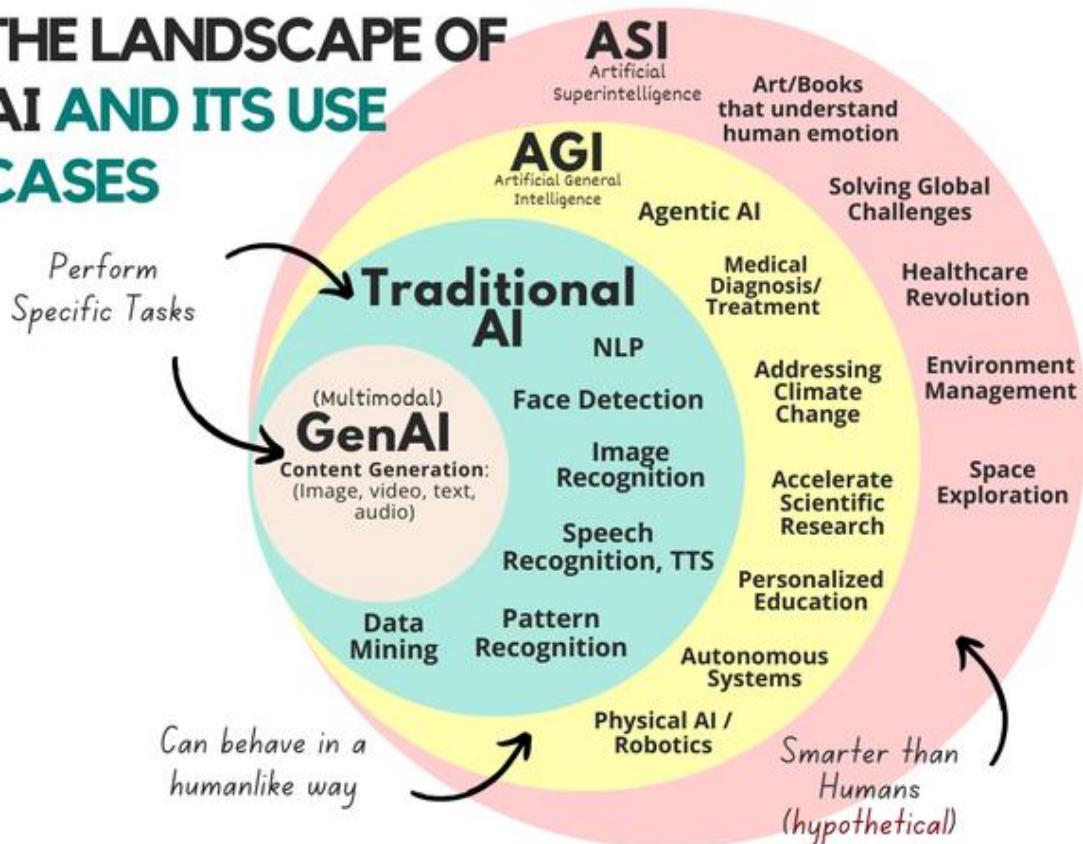


Figure 1-1. The four types of AI (source: Dr. Marily Nika)

Traditional AI (1950s–Present)

Traditional AI has a long history that began in the 1950s and represents AI's foundational technologies. These systems are designed to perform specific tasks through rule-based or pattern recognition systems. Traditional AI includes some of the most essential applications we interact with on a daily basis:

Vision

Traditional AI has made strides in computer vision tasks such as image recognition, object detection, and face recognition. These technologies enable systems to interpret and analyze visual inputs, forming the basis for everything from photo tagging on social media platforms to advanced medical imaging technologies that help doctors diagnose diseases.

Speech

Speech recognition and speech-to-text technologies, such as those used in voice assistants like Siri and Alexa, have been in development for decades. These technologies convert spoken language into text, enabling machines to respond to voice commands. Text-to-speech (TTS) systems, which do the reverse, give computers the ability to speak in a humanlike manner.

Natural language processing (NLP)

NLP tasks such as language translation, sentiment analysis, and other tasks using chatbots have brought significant breakthroughs. Think of Google Translate or chatbots used in

customer service; these rely on AI to understand human language in a more sophisticated way than simple keyword recognition.

Robotics

Traditional AI in robotics has led to the development of industrial robots, autonomous vehicles, and drones. These robots can perform complex tasks such as assembly in manufacturing plants or navigating streets autonomously.

Data analysis

Traditional AI excels in predictive analytics, data mining, and pattern recognition. It can analyze vast datasets and uncover hidden patterns, allowing organizations to make data-driven decisions and automate processes that once required human intuition.

Generative AI (Late 2010s–Present)

GenAI represents the more recent wave of AI innovation and has captivated the public's attention with its ability to create content. This content can be text, images, video, or even music, but GenAI does not replace the tasks handled by traditional AI. Instead, it opens up new dimensions:

Content creation

The ability to generate media such as images, video, and text from a given prompt is one of GenAI's core strengths. Applications range from creative arts (helping artists design graphics or write music) to business (automatically generating product descriptions for ecommerce websites).

Deepfakes

GenAI can also be used to create synthetic media, sometimes known as *deepfakes*, which can convincingly mimic real people's voices or appearances. While this technology raises ethical concerns, it also has legitimate applications in entertainment and simulation environments.

Personalized media

GenAI is being used to tailor content experiences to individuals. Platforms such as Netflix and Spotify are using AI to suggest shows and music that align with user preferences. This trend is reshaping media consumption, making it more personalized than ever before.

Design and art

AI tools such as [DALL-E](#) and [Adobe Firefly](#) assist artists in generating concepts or mockups. These tools reduce the time to produce creative work, empowering artists to focus on refining their ideas.

Game development

GenAI is making games more interactive and dynamic by allowing game developers to create procedurally generated worlds, characters, and environments, making each player's experience unique.

Artificial General Intelligence (2030s?)

Artificial general intelligence (AGI) is the next frontier in AI research, and while we are not there yet, it holds the promise of machines capable of understanding, learning, and applying knowledge across a wide range of tasks—essentially mimicking human cognitive functions:

Problem-solving

AGI will be able to tackle complex, multidomain problems. Imagine AI systems capable of medical diagnosis one moment and strategic business planning the next.

Research and development

In R&D, AGI could dramatically accelerate scientific discovery by generating hypotheses, running simulations, and performing experiments much faster than humans can.

Personal assistants

AGI could evolve today's virtual assistants into highly capable systems that can manage vast areas of daily life, from personal schedules to creative problem-solving.

Healthcare

AGI will likely make huge strides in healthcare, offering personalized medicine, diagnosing complex conditions, and even proposing novel treatments.

Artificial Superintelligence (~2040s?)

Artificial superintelligence (ASI), while currently hypothetical, would surpass human intelligence, providing solutions to problems that are not even within our conceptual grasp today:

Solving global challenges

If ASI becomes a reality, it could provide revolutionary solutions to large-scale problems such as climate change, world hunger, and geopolitical conflicts. ASI could offer new strategies to solve humanity's most pressing problems.

Reliable foresight

Many of the decisions people make today are data driven. For example, weather forecasts are made based on thousands of historical data points. With ASI, future forecasts, whether they're for predicting weather or predicting changes in market pricing, will be more accurate.

Advanced space exploration

Space missions and, potentially, interstellar colonization could be powered by the analytical and creative capabilities of ASI, solving complex problems of propulsion, life support, and resource management.

Now that we've explored the theoretical potential of AGI and ASI, it's essential to understand how AI is currently leveraged in real-world products. AI is already transforming industries in profound ways, and as an AI PM, your role is central to making these technologies practical and valuable to users. Let's take a look at some examples of groundbreaking AI-powered products and how AI PMs play a crucial part in their development.

How Products Leverage AI

As an AI PM, you have the potential to transform your industry by helping your organization strategically “infuse” its products with AI to create value. To highlight the diversity of what AI PMs can work on, let’s look at a few examples of real-world transformative, groundbreaking AI products—and the role of AI PMs in their creation.

Google Photos is an application that organizes and stores users’ photos and videos: “a home for all your photos and videos, organized and brought to life,” as [Google describes it](#). That value proposition was almost certainly conceived by the team’s AI PMs. What’s more, its [search functionality](#) makes it easy for you to search your content using basic keywords (e.g., “dog”), without the need to pretrain the model. Simply enter the keyword, and Google Photos searches across all your photos and brings up those that contain that keyword. This feature uses multiple AI-based smart technologies, including face recognition, object detection, and scene detection, to identify and search for specific people (“Steve”), objects (“cars”), and locations or situations (e.g., “forest” or “wedding”).

AI PMs have also had an impact on the development of self-driving cars. [Tesla’s Full Self-Driving \(FSD\) beta](#), for example, can navigate streets, change lanes safely, and even park on its own. It uses technologies such as [reinforcement learning](#), an ML technique in which a machine uses its own experiences to learn by trial and error, and [computer vision](#), which enables computers to derive meaningful information from images, videos, and other visual input.

Another team I worked on, Google’s augmented reality (AR)/virtual reality (VR) team, is developing [Google Lens](#). This technology helps users understand the world around them. It analyzes everything their camera is pointing to and enables actions—for example, live translation on-screen, personalized shopping recommendations, live reviews of a restaurant, and so on. The technologies it uses include computer vision and NLP, an AI tool that helps computers understand words (in speech or written text) in similar ways to humans.

From launching AI-powered photo organization tools to self-driving cars and augmented reality apps, AI PMs are at the forefront of some of the most exciting developments in tech. But what makes these technologies truly innovative goes beyond just the applications: they are built on the unique characteristics of AI itself. Understanding these foundational features is key to unlocking the full potential of AI-driven products.

Now, let’s dive into what makes AI so distinct. Whether it’s the way AI models learn, adapt, or handle uncertainty, these unique features shape how you approach product development, decision making, and UX design. Let’s explore these features and how they impact your role as an AI PM.

Unique Features of AI

AI has several distinctive characteristics that set it apart from traditional software and other technological tools. Understanding these unique features is crucial as you navigate your role as an AI PM. These features not only shape how AI systems function, but also impact your decision making, prioritization, and the user experiences you design. Let’s explore these features in depth, and I’ll explain what each means for you and how they influence the products you create.

Probabilistic Nature

AI models operate based on probabilities rather than certainties. Unlike traditional software, which executes predefined commands and follows deterministic rules, AI makes predictions based on patterns it has learned from data. For example, an AI system might predict with 80% certainty that an image contains a dog, but there's still a 20% chance it could be something else entirely.

You need to embrace and manage uncertainty. You'll never have 100% certainty with AI predictions, so part of your role will be to set the right expectations with stakeholders and users. Understanding the trade-offs between accuracy and other product factors such as speed or cost is key. In applications such as self-driving cars, healthcare diagnostics, and financial trading, even small errors can have major consequences, so continuously improving model accuracy becomes a critical part of your road map. We dive deep into trade-offs in [Chapter 3](#).

What helps me manage this uncertainty is setting up feedback loops to consistently monitor model performance and make adjustments, and to make sure the team has strategies for model retraining, testing, and refinement. More importantly, I make sure to define interfaces that reflect the probabilistic nature of AI in smart ways; for example, with confidence scores, or with warnings when the system isn't certain.

Dependency on Data

AI systems thrive on data. The more relevant, high-quality data you have, the better your model will perform. However, not all data is created equal. Bias, noise, and irrelevance in your datasets can result in skewed or flawed AI outputs.

As an AI PM, your success depends heavily on the quality and quantity of the data your AI model is trained on. Data sourcing, cleansing, and validation need to be key parts of your workflow. Without good data, even the best algorithms will fail to deliver meaningful results. You'll also need to balance data privacy concerns with the desire to collect as much data as possible.

I de-risk this dependency by working closely with the research and data scientists to ensure that data pipelines are set up correctly and that datasets are continuously cleaned and updated. When working on AI products such as personalized recommendations or predictive analytics, you'll need to have a strategy for acquiring both historical and real-time data. Additionally, implementing privacy-preserving techniques such as differential privacy can help you collect data while protecting user anonymity.

Model Drift

Unlike traditional software that remains static unless manually updated, AI models learn and improve over time. This ability to continuously learn is one of AI's biggest advantages.

However, it also introduces challenges, particularly around managing updates and ensuring that learning doesn't introduce new biases or errors. You'll need to think of your AI product not as a "one-and-done" release, but as a continuously evolving system.

Each new dataset or user interaction offers the opportunity for your model to learn and improve. But this also means you need to plan for long-term maintenance, model retraining, and continuous delivery of updates. It helps to implement processes that allow for ongoing

learning and improvement, such as regular model retraining schedules or active learning frameworks where the model can query for more information in cases of uncertainty. When designing user experiences, ensure that you provide a feedback mechanism so that users can correct the AI or provide additional context to improve future outcomes. Think of tools such as Google Maps, which asks users to confirm whether suggested locations are accurate and then feeds that feedback directly into the model for better predictions in the future.

The Need for Model Interpretability and Explainability

AI models, especially complex ones such as [neural networks](#) and [deep learning models](#), can be *opaque*, meaning they make predictions or decisions in ways that are difficult for humans to understand. This “black-box” nature of AI can create challenges, particularly when transparency and accountability are critical (such as in healthcare, finance, or legal contexts). You’ll have to balance model performance with interpretability. While the most accurate models might be highly complex, they may not be explainable, which could be a problem in industries where users or regulators demand clarity on how decisions are made. The lack of transparency can also erode user trust, especially if users don’t understand how or why an AI system reached a particular conclusion.

I invest in interpretable AI models where possible, or I use techniques such as [SHAP](#) and [LIME](#) to explain predictions from more complex models. For example, in a credit scoring AI, you might need to be able to explain why a particular loan was denied based on key factors, even if the underlying model is a black box. As an AI PM, you’ll also want to ensure that your user interfaces provide clear, digestible explanations for users about how AI decisions are made.

Automated Decision Making

One of AI’s most powerful features is its ability to make decisions autonomously, without human intervention. This capability is transforming industries—whether it’s automating customer support with chatbots, optimizing supply chains, or navigating autonomous vehicles.

While automation offers massive efficiency gains, it also shifts responsibility. As an AI product manager, you need to carefully think about where to draw the line between human and machine decision making. When do you hand over full control to the AI, and when is human oversight necessary? This can vary depending on the context; automated marketing recommendations might not need human review, but medical diagnoses or legal decisions probably will.

You may want to design systems that allow for human oversight where necessary. For instance, you might implement a “human-in-the-loop” approach, where AI makes recommendations but a human user makes the final decision. Additionally, always include fail-safes and escalation protocols, especially in high-stakes environments such as healthcare and finance, where errors can have significant consequences. We will take a deeper dive into this content in [Chapter 3](#).

Scalability

One of AI’s key strengths is its ability to scale rapidly. Once an AI model is trained, it can make thousands of decisions per second, far exceeding human capabilities. However,

scalability brings its own set of challenges, especially when it comes to infrastructure, performance optimization, and data handling. You need to think about infrastructure from the very beginning. As your AI product grows, so too will its data processing and computational needs. AI models are resource intensive, so ensuring that you have the right cloud infrastructure or on-premises hardware to scale efficiently is critical. At the same time, scalability isn't just about infrastructure. It's about maintaining performance as your model handles larger volumes of data or more diverse user inputs.

Plan for scalability from day one. Choose cloud platforms that can scale with your AI's needs, and ensure that your pipelines and data architecture can handle both current and future demands. You'll also want to prioritize model optimization techniques that allow your AI to maintain its performance without requiring exponential increases in resources.

How These Unique Features Can Impact User Experience

Now that you've explored AI's unique features, you'll notice that all of these factors ultimately feed into the user experience. AI, when implemented correctly, can create highly personalized, adaptive, and seamless interactions that would be impossible with traditional software. However, understanding these unique characteristics will help you navigate the complexities and challenges they introduce, including the following:

Managing user expectations

AI's probabilistic nature means you need to be transparent with users about how AI works. For example, displaying confidence scores or providing explanations for recommendations can help build trust.

Building for adaptability

Because AI models learn and evolve, your product should also evolve. This creates a user experience that adapts to individual preferences over time, delivering more relevant and personalized interactions.

Prioritizing transparency

In certain sectors, users need to trust that AI is making decisions fairly and accurately. Clear communication about how decisions are made can enhance user experience by fostering trust and accountability.

Optimizing for efficiency

Automation allows for faster, more efficient user experiences. Whether it's a chatbot resolving customer queries or an AI suggesting personalized shopping recommendations, automation enhances user experience by reducing friction and increasing satisfaction.

Superpowers of AI and GenAI

AI has evolved into a suite of superpowers that empower products and services in ways previously unimaginable. From understanding and predicting user needs to automating workflows and generating new content, AI and GenAI open doors to experiences that are more personalized, creative, and efficient. Together, these technologies transform how users interact with products, offering unprecedented value and innovation. I've compiled a list of seven superpowers that AI products currently offer users. These are unique product features that directly impact how users interact with their environment.

Superpower 1: Learning from Massive Data and Content

One of AI's core strengths lies in its ability to learn from data. AI systems analyze vast amounts of user-generated content and past interactions to derive insights and make predictions. Whether it's recommending a new song on Spotify or predicting traffic patterns on Google Maps, AI's power to process large datasets enables businesses to provide users with relevant, timely information.

GenAI takes this even further by learning from massive amounts of user-generated content, digesting and synthesizing this data to generate new insights or outputs. For instance, it can predict user preferences based on previous behavior and even generate new suggestions or forecasts. In streaming services, this capability allows for ultra-personalized recommendations that reflect a user's tastes in real time, adjusting as their preferences evolve.

Superpower 2: Personalization at Scale

AI's capacity to deliver tailored experiences to vast numbers of individuals is crucial for providing personalized services at scale. This technology enables recommendation platforms to offer each user a unique, customized experience. The power of AI extends beyond static recommendations by dynamically adapting to users' evolving preferences and behaviors in real time. For instance, Pinterest leverages this technology to craft design suggestions that align with an individual's changing aesthetic preferences.

What makes this scalable personalization especially impressive is the algorithm's ability to understand and categorize vast groups of people. By analyzing patterns and trends within large datasets, AI algorithms can discern common preferences and behaviors among groups, then fine-tune their recommendations for individual users based on how they relate to these larger segments. This dual understanding of both group dynamics and individual preferences allows AI to offer highly relevant, continually adaptive experiences at scale.

Superpower 3: Automating and Optimizing Workflows

AI has long been valued for its ability to automate workflows and routine tasks. Whether it's organizing schedules, managing emails, or tracking project progress, AI systems can offload tedious manual work, allowing users to focus on what truly matters.

GenAI takes workflow automation to the next level by not just automating tasks but also optimizing them based on real-time data. Imagine a GenAI assistant that schedules meetings while also analyzing team availability and project deadlines to optimize productivity. This level of automation allows businesses to offer smarter, more efficient tools that evolve alongside user needs.

Superpower 4: Generating New Content and Experiences

Traditionally, AI has been instrumental in automating workflows and optimizing processes. For example, task management systems such as Trello use AI to automate scheduling, track deadlines, and assist with project management. These AI capabilities help users focus on more meaningful tasks by automating routine activities.

However, *content generation* is where GenAI shines. With its capability to create text, images, and even video content, GenAI is revolutionizing creative industries. Tools such as ChatGPT and DALL-E allow businesses to generate written reports, visuals, and designs

at scale, offering users new ways to interact with AI-generated content. A platform such as Adobe's generative design tool can produce graphics based on a user's brief, offering a level of creativity and flexibility that traditional automation tools can't match.

Superpower 5: Prediction and Forecasting

AI's predictive capabilities have long been a superpower for industries that rely on forecasting trends, inventory, or market behaviors. AI systems use historical data and user behavior to make informed predictions. Whether it's predicting future sales or anticipating market shifts, these capabilities allow businesses to stay ahead of the curve.

With GenAI, *predictive analytics* becomes even more powerful. GenAI systems can understand trends at a deeper level by processing vast and complex datasets. This capability enables more accurate predictions and, importantly, actionable insights that can directly influence decision making. For example, an AI-powered stock forecasting tool can predict market behavior while simultaneously generating strategies for action, enabling more intelligent decision making for users in real time.

Superpower 6: Real-Time Adaptation

AI has enabled real-time interactions, especially in voice and text interfaces such as Siri, Alexa, and customer service chatbots. These systems can process inputs instantly and offer users a level of immediacy in responses, which improves accessibility and convenience.

A fascinating superpower is GenAI's ability to *adapt on the fly*. GenAI can understand user inputs and deliver refined outputs in real time, allowing for dynamic, conversational interactions. For instance, an AI agent can provide real-time responses, adapting to the flow of a conversation and improving its relevance and accuracy as it gathers more context from the user's responses.

Superpower 7: Unlocking New Types of User Experiences with New Form Factors

AI and GenAI are not only transforming digital environments, but also unlocking new possibilities through hardware advancements and emerging form factors. Devices such as smart glasses, VR headsets, and wearable technology are reshaping how users interact with AI-powered systems. These new form factors blend the physical and digital worlds, creating immersive, seamless experiences that were previously unimaginable.

The AI PM's Role

AI product management is a relatively new and very popular discipline that's all about turning AI research into real-world features and products. It's a rewarding job role that requires a diverse skill set. AI PMs bring AI expertise to the product strategy table and leverage one or many of the superpowers previously discussed to create innovative, strategic AI product road maps.

You're probably already familiar with the role of a product manager—let's refer to this as a "generalist PM." A generalist PM helps their team and company build and launch the right product by identifying user needs and aligning them with business goals. Think of an AI PM as a supercharged version of this role. An AI PM doesn't just ensure that the team is solving the right problem for the right user; they do so with a proactive, data-driven approach that leverages AI's unique capabilities to create personalized, intelligent experiences.

As an AI PM, you won't be expected to write code or train models. Your core focus will still be on designing world-class solutions to complex user problems. However, what sets you apart is your AI expertise, enabling you to identify where AI can add the most value, navigate its limitations and make strategic decisions regarding its trade-offs, and align AI capabilities with user needs in ways a generalist PM might not.

[Figure 1-2](#) depicts where a generalist PM sits in most enterprises: at the intersection of business, research and development, and engineering. Generalist PMs are as much a part of the engineering team as the other teams are. Their job is to identify what users need, translate those needs into technical requirements, and help the engineers build and ship the product to users.

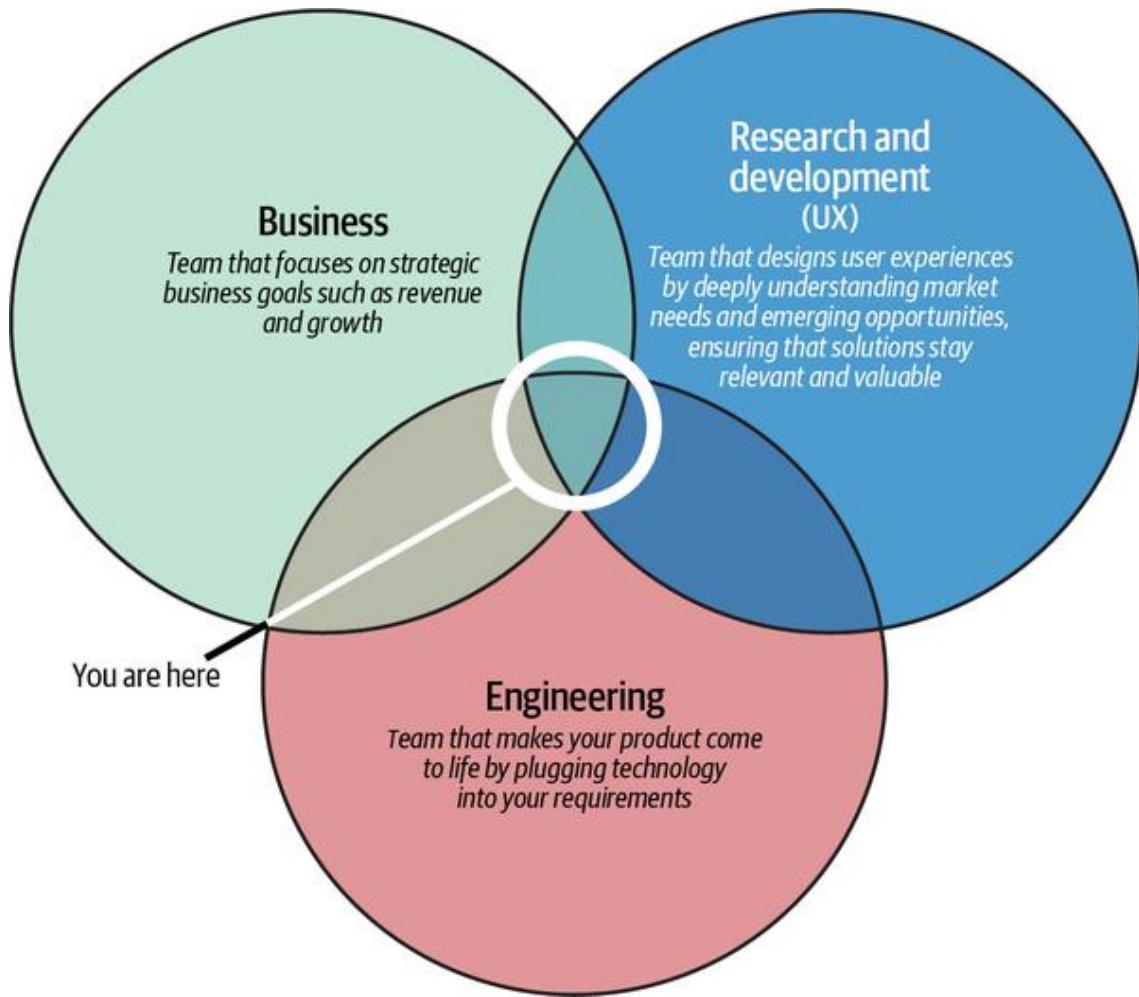


Figure 1-2. A generalist PM's place in the enterprise

AI PMs sit in that same intersection of departments, as [Figure 1-3](#) shows. However, AI PMs can either be AI experiences PMs who enhance existing products with AI capabilities or AI builder PMs who work with the core technology first in order to explore entirely new solutions where users aren't yet defined. Both types of AI PMs must navigate the intricate landscape of AI technologies to discover and validate product-market fit, whether improving current user experiences or creating innovative features for potential future users.

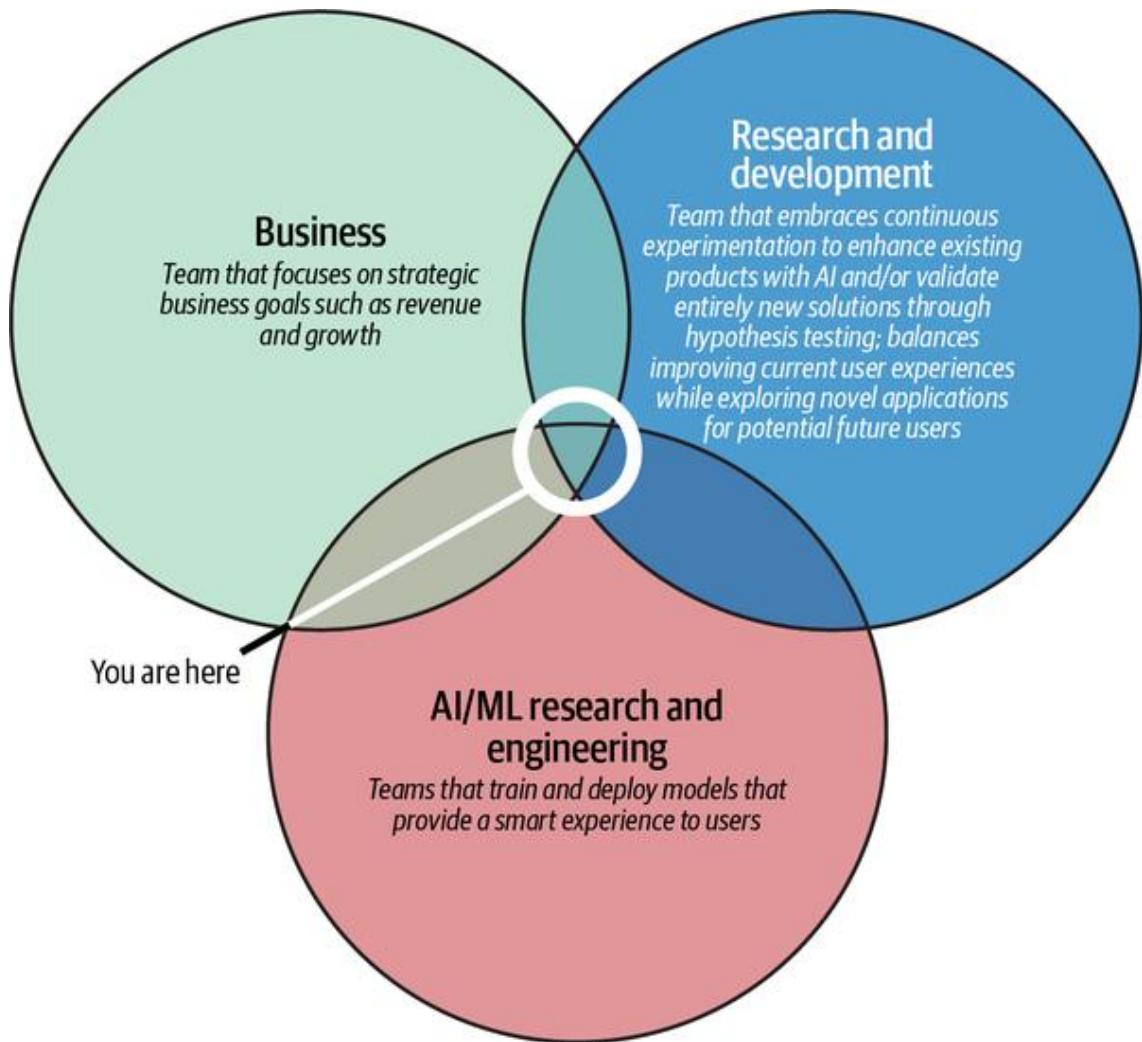


Figure 1-3. An AI PM's place in the enterprise

The AI PM's Skill Set

If business roles had recipes, the ingredient list for an AI PM would look like the combination in [Figure 1-4](#): core product management craft and practices, engineering foundations for PMs, essential leadership and collaboration skills, and AI lifecycle and operational awareness.

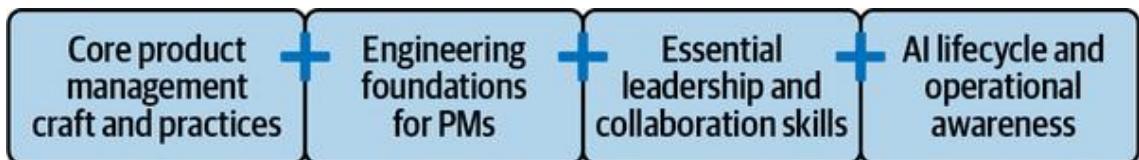


Figure 1-4. The different buckets of the AI PM skill set

Let's look at each one in turn:

Core product management craft and practices

This is the foundation every PM needs, regardless of their industry or product type. It includes understanding users' needs, setting a vision for a product, prioritizing features, and

more. It's about the why and what of a product. Throughout this book, we'll dive deeper into what makes this general knowledge crucial for an AI PM.

Engineering foundations for PMs

Generalist PMs aren't usually required to have technical skills to get hired, although such skills are appreciated—some companies even have a technical interview loop as part of their hiring process. For AI PMs, however, some AI knowledge is usually required. While you might not be coding the product, understanding its technical aspects, including software development practices and tools, is invaluable. This knowledge bridges the gap between an AI PM and their technical team, ensures smoother communication, and helps set realistic expectations.

Essential leadership and collaboration skills

Often overlooked but immensely vital, these skills include effective communication, leadership, empathy, and creativity. These skills are instrumental in navigating challenges, fostering teamwork, and ensuring that the products you build will resonate with users. While they might sound intuitive, mastering them requires conscious effort. This book will offer guidance on honing these essential skills.

AI lifecycle and operational awareness

Perhaps most uniquely, an AI PM needs to grasp the nuances of AI, from ML algorithms to the intricacies of model training. This lets you:

- Understand what is and isn't possible with AI
- Identify and solve the right user problems
- Earn respect by communicating effectively with engineers and data scientists
- Be confident in making informed, strategic decisions, such as assessing the trade-offs of different algorithms or evaluating metrics to decide whether a product is ready to launch
- Assess the quality of your own features, and troubleshoot to catch and resolve bugs

Subsequent chapters will unpack each of these components in detail, ensuring that you're well equipped with a complete AI PM toolkit. [Figure 1-5](#) gives you an idea of the many hats AI PMs wear.



Life of an AI PM

Figure 1-5. The different hats of an AI PM

Organizational Structures

An AI PM's place in the organizational and reporting structure varies significantly from company to company. The role is so new that many enterprises are still figuring out how best to align it with their overall business, product strategies, and goals. The factors that affect this decision include the company's size and stage (e.g., a Series A startup versus an organization with 1,000 employees), its long-term strategic goals for AI, its industry, its employees' level of technical expertise, and how well it is set up for cross-functional collaboration.

If the company does not have in-house technical expertise, the AI PM may report to a third-party agency. If AI is used widely across the company, however, there might be a centralized

AI product management team. In earlier-stage startups, there's usually just one AI PM, often reporting directly to the CEO or chief technology officer (CTO). In more mature companies, AI PMs are more likely to report to a business-oriented leader, such as the vice president of product management.

Why Become an AI PM?

No child grows up wanting to be a product manager. Most of us don't discover that it's an option until we go to university or enter the workforce. People "stumble upon it" from all paths of life, and fall in love with its high-responsibility, high-reward nature.

Although AI PMs are a diverse group, if you're reading this, chances are good that you belong to one of three basic groups.

The first group is people who want to get into AI product management from a related field. You might already be very senior and leading product teams, and it might be time for your team to start leveraging AI. You might be a technical person who doesn't have much product management experience, or a generalist PM who wants to move into AI. This book will help you develop your skills and establish a career trajectory. You might worry that you're "too technical to be in Product" or "not technical enough for AI." Instead, your mindset should be: "I understand enough about AI. Users are my focus, and leveraging AI will allow me to ship great products for them."

The second group is AI enthusiasts who want to get into AI product management, such as recent graduates and professionals in entirely different fields. You can become an AI PM, and you're in the right place: this book will equip you with information you will find invaluable as you navigate the world of AI-powered products. The book discusses the intricacies of AI product management, demystifying complex concepts and making them accessible for everyone.

The third group is people looking to recruit, hire, and manage AI PMs. Perhaps you're creating an AI pillar in your company. This book will help you get into the mindset of an AI PM and understand the motivations and challenges of the role, as well as the skill sets you should be looking for.

What's Great About Being an AI PM

Just like an architect designs buildings from scratch, being an AI PM means you have a vision of what your product will look like.

You get to set the direction and inspire your team to work together to bring that vision to life. Imagine you've spent months building a product from scratch. Now the work is finished, and users will be able to experience what you've built. The adrenaline of hitting "launch" and seeing your product come to life is like nothing else.

Also, you will never get bored. As an AI PM, you never stop learning—whether it's about new technologies, large language models (LLMs), or the nuances of mental models. You can't really stay ahead of the curve, because new curves are created all the time.

Most importantly, anyone is welcome in this profession, regardless of their background. There is no formal education or training required to get into AI and product management. AI involves knowledge and skills that you can acquire.

Subtypes of AI Product Management Roles

This profession encompasses a wide array of specialized roles, each focused on different aspects of building, scaling, and managing AI-powered products. Depending on the organization, the specific responsibilities of these roles may vary, but the descriptions in the following sections will provide a solid starting point for understanding the diverse roles within the field. Additionally, we'll dive into the concepts of "0-to-1" product management (building new products from the ground up based on an AI technology) versus "1-to-n" product management (enhancing existing products with AI) because this distinction heavily influences the AI Product Development Lifecycle, as you will see in [Chapter 2](#).

There are three main categories of AI product managers: AI builder PMs, AI experiences PMs, and AI-enhanced PMs. *AI builder PMs* focus on developing foundational AI technologies and models, working closely with technical teams to ensure robust system creation. *AI experiences PMs* emphasize crafting engaging and innovative user experiences powered by AI's capabilities. In contrast, *AI-enhanced PMs* leverage AI tools into their own existing workflows, enhancing their productivity. While AI builder PMs and AI experiences PMs often follow a more sequential approach, AI-enhanced PMs span the entire product lifecycle. This book covers all three categories, providing a [comprehensive guide to excelling in these dynamic roles](#).

AI experiences PMs concentrate on building AI-driven features that directly enhance user interactions in consumer-facing and enterprise applications. Their work often includes crafting novel features like voice-activated commands in smart home devices, designing AI-generated playlists in music apps, or adding advanced capabilities to wearable tech such as the Oura Ring or Meta's Ray-Ban AI glasses. This role can be more accessible to those without deep technical expertise, as it emphasizes creativity, user empathy, and a high-level understanding of AI's capabilities. Beyond simply knowing how AI works, these PMs excel by weaving AI seamlessly into a cohesive and delightful user journey—balancing automation with user control and ensuring new features truly solve user problems.

Within this category, *ranking PMs* oversee sorting mechanisms for content or products (e.g., search results or social media feeds), grappling with issues like relevance, fairness, and diversity. *Recommendations PMs* build recommendation engines that personalize content, addressing challenges such as the "cold start" problem for new users and the need to prevent content bubbles. *Responsible AI PMs* focus on ethical considerations—ensuring fairness, transparency, and compliance with regulations—while *AI personalization PMs* zero in on individualized user experiences, from personalized learning paths to customized news feeds. An *AI analytics PM* might work on dashboards that use predictive algorithms to deliver actionable insights in real time, whereas a *conversational AI PM* manages chatbots, voice assistants, or other NLP-driven experiences, ensuring smooth, context-aware interactions.

Some real-world job titles in this AI experiences space include:

- Meta: product manager, AI solutions and automation (ASA), GenAI
- Microsoft: product manager, AI
- Anthropic: head of product engineering (not product per se, but engineering manager lead for experiences)

- Intuit: principal product manager, applied AI innovation
- Roblox: senior product manager, creator generative AI and content understanding

To be considered for an AI experiences PM role, it helps to develop a solid awareness of what AI can (and cannot) do, highlighting any domain expertise you already possess. If you come from healthcare and want to lead an AI fitness product, for example, emphasize relevant healthcare insights while demonstrating a well-rounded understanding of AI's limits and ethical implications.

On the other hand, AI builder PMs focus on foundational AI technologies and model-centric work. They often interact closely with researchers and data scientists to develop, train, evaluate, and deploy machine learning models. This function can require more technical depth—especially if you're building or maintaining the entire AI infrastructure. *AI infrastructure/platform PMs* oversee model-training pipelines, data storage solutions, and MLOps tools, ensuring these systems are scalable, performant, and cost-efficient for multiple teams. *Generative AI PMs* work with models like GPT-4 or diffusion models to produce text, images, or other media, tackling issues of content quality, efficiency, and ethical use. *Computer vision PMs* manage products that process visual data, from face recognition and AR applications to large-scale image-based searches. *AI security PMs* build or oversee AI solutions aimed at detecting fraud or threats, where real-time response and minimizing false positives/negatives is critical.

Some AI builder PMs operate at the research or “0-to-1” frontier, translating groundbreaking lab discoveries into new commercial products. They set bold visions and guide early-stage, experimental projects—often navigating uncharted territory in AI. If you aspire to a builder role, the best approach is to gain hands-on experience with AI: experiment with open-source models, understand the basics of data pipelines, and learn how to deploy a proof-of-concept. Starting within your current company is often the most direct path, as it lets you build trust with engineering teams while deepening your technical expertise.

Some real-world job titles in this AI experiences space include:

- Roblox: principal product manager, foundation AI
- Scale AI: staff AI product manager, generative AI
- Adobe: principal product manager, generative AI models, Firefly

Finally, AI-enhanced PMs use AI within their own product workflows to be more efficient and data-driven, although their product may not necessarily be AI-centric. They might adopt tools to automate competitive analyses, expedite data exploration, or improve user research—adding an AI “boost” to standard product management tasks throughout the product lifecycle. [Chapter 7](#) expands on recommended AI tools you might want to try out.

Regardless of which category you fall into, the future of product management increasingly involves tapping into AI's potential to deliver unique customer value, create more personalized experiences, and streamline development processes. By learning the right technical basics, staying curious about new AI breakthroughs, and championing an ethical approach to product design, PMs can excel in these fast-evolving roles.

Book Road Map

In the upcoming chapters, we'll walk through the steps of building an AI product from conception to completion. The book will provide frameworks to guide you through the different phases of product development as well as share some of my experiences working with AI products at Meta and Google.

While the product development work is a PM's priority and responsibility, understanding your relationship with different teams working together to bring the product to life, along with the risks and concerns other stakeholders care about, are aspects of the job a PM must not neglect. I want this book to be a road map that guides you through success as you navigate your career in product management. I will share my thoughts and point you to resources and tools that will help you achieve your professional goals. Once we feel comfortable with the responsibilities of an AI PM, we'll switch gears and cover how PMs measure the success of an AI product and how we will mold the AI experience for our end users.

Conclusion

This chapter introduced you to the exciting world of AI product management. It outlined the unique role of an AI PM, where this role fits into enterprises, and why you might want to pursue this field. An AI PM's work is about more than technology; it's about bridging that technology to solve real-world problems for real people.