Ten Digital Business Models Are Being Improved by Artificial Intelligence

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As AI expands its scope and capabilities with generative AI and other innovations, its impact on digital business models is poised to grow. Digital business leaders need to look beyond the incremental use of AI by analyzing and responding to how AI will affect their business models.

Analysis

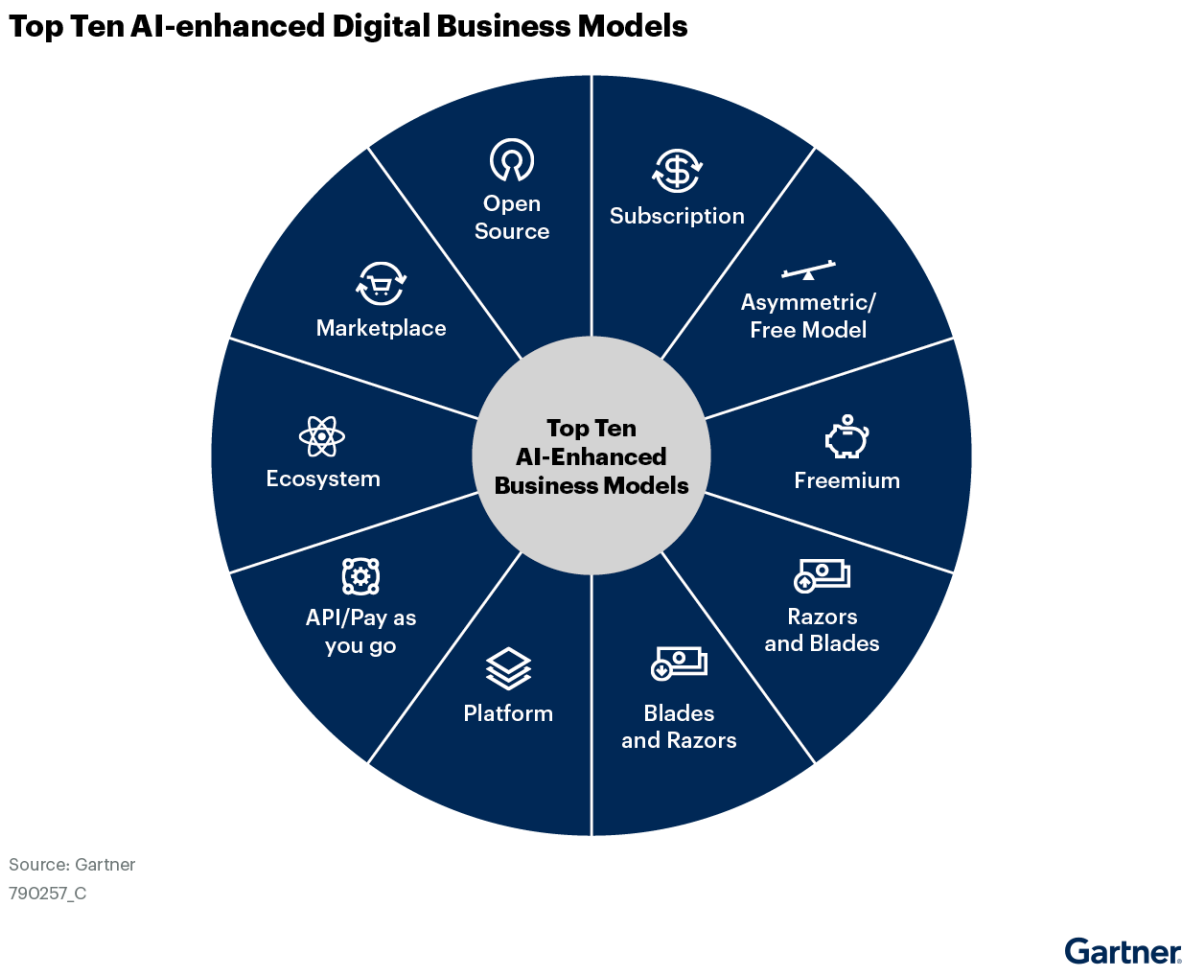
Most CEOs see artificial intelligence (AI) as transformational, rather than incremental. In the 2023 Gartner CEO and Senior Business Executives Survey (see Evidence section below), AI tops the list for the fourth time in a row. CEOs consider it the new technology that will most significantly impact their industries during the next three years. Although AI can be used for incremental improvements in today's products and processes, AI will also enable large-scale improvements and new features that were not previously feasible.

Enterprises are rushing to implement AI use cases for many areas of their organizations' business and operations. However, to achieve the transformational potential of AI, business and technology executives must take a more-holistic approach. This entails considering the use of AI in different areas, as well as uncovering the potential impact of AI on the core business model of the organization.

By itself, AI is not transformational. Much of its potential lies in how it can strengthen or enable new business models in organizations.

This research highlights how AI will affect a variety of digital business models, enabling this transformation (see Figure 1).

Figure 1: Top 10 AI-enhanced Digital Business Models



Explore the Impact of AI on Digital Business Models

Gartner's Digital Business Models Compendium summarizes many of the most prevalent digital business models. In Table 1, we describe some of the key digital business models that AI enables, as well as the specific impact that AI could have in each case. (AI can also enhance other traditional business models; however, this research focuses on digital business models.) We recommend that business and technology executives explore the different business models in Table 1 to determine whether some of them can be adopted/refactored to become more compelling, based on the impact AI is expected to cause.

Table 1: Ten AI-Enhanced Business Models and Examples

(Enlarged table in Appendix)

The table above is not comprehensive: AI can strengthen many business models. AI adoption is still in its early stages in most industries, and AI's strategic impact will deepen over time. Similarly, new-in-kind business models are likely to emerge.

As AI's capabilities increase and technologies mature, new companies are emerging with AI at the core of their business models. To remain competitive, organizations must elevate the role of AI by looking beyond incremental AI use cases and directly explore how AI can strengthen their business models or enable new ones.

Digital business leaders can use the business-model compendium in this research to create a common language to discuss and debate the potential impact of AI in their business, exploring examples of how AI is being used strategically. This will drive the AI discussion to where it needs to take place — at the center of your business strategy.

Next Steps

Digital business leaders should:

1. Elevate the role of AI in their businesses by looking beyond incremental business cases and directly finding ways to strengthen their business models.

2. Take a second look at the digital business models they aren't using to determine whether these models become more compelling with the addition of AI.

3. Monitor how competitors and new disruptors are leveraging AI to create new or improve current offerings and be prepared for strategic action.

Evidence

2023 Gartner CEO and Senior Business Executive Survey. This survey (see 2023 CEO Survey — The Pause and Pivot Year) was conducted to examine CEO and senior business executive views on current business issues, as well as areas of technology agenda impact. The survey was fielded from July 2022 through December 2022, with questions about the period from 2022 through 2024. One-quarter of the survey sample was collected in July and August 2022, and 75% was collected from October through December 2022. In total, 422 actively employed CEOs and other senior executive business leaders qualified and participated.

The research was collected via 382 online surveys and 40 telephone interviews. The sample mix by role was CEOs (n = 277); CFOs (n = 95); COOs or other C-level executives (n = 19); and chairs, presidents or board directors (n = 31). The sample mix by location was North America (n = 169), Europe (n = 105), the Asia/Pacific (APAC) region (n = 102), Latin America (n = 29), the Middle East (n = 11) and South Africa (n = 6). The sample mix by size was:

- $10 million in revenue to less than $50 million (n = 3)
- $50 million to less than $250 million (n = 51)
- $250 million to less than $1 billion (n = 102)

- $1 billion to less than $10 billion (n = 190)
- $10 billion or more (n = 76)

Disclaimer: The results of this survey do not represent global findings or the market as a whole; rather, they reflect the sentiments of the respondents and companies surveyed.

Recommended by the Authors

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Digital Business Models Compendium

Artificial Intelligence in Digital Business: Key Take-Aways for the Board

How to Convince Your CEO to Use AI to Augment, Not Replace, Workers

Tool: AI Strategy Document

Table 1: Ten AI-Enhanced Business Models and Examples

Business Model	*Definition*	*Impact on This Business Model*
Subscription Model	Build a repeat customer base by charging a subscription fee for continued access to a product or service.	Organizations can add a new, high-margin-revenue AI product to their existing business models. For example, ZF group, an auto parts manufacturer, has created an AI-based fleet management subscription service. [1] Similarly, Tesla offers a subscription to its AI autopilot capabilities. [2] AI can also bring personalization into subscription services for physical products. For example, Stitch Fix, an online personal styling service, uses AI to improve the recommendation engine behind its clothing subscription service. [3] Finally, AI can also enable net new subscription revenue. Subscription models predominate in diverse applications of AI. For example, in AI-powered software-as-a-service (SaaS) applications, such as visual design, customer relationship management (CRM), and cybersecurity.
Asymmetric Business Models/"Free" Models	A company identifies and commoditizes a complement in a different industry, bundling with its core product where profits are generated. Users and customers are different entities, which allows	Free products can gather a larger user base than paid ones. AI can be used to create new offerings that attract users or increase the quality of current offerings to make the products more attractive.

Business Model	Definition	Impact on This Business Model
	users to receive the product for “free” or at a high discount. Asymmetric models can be hard for incumbents to defend against.	Having more users is particularly important for AI-driven products, because their performance depends on having enough training data. Free models can supply the needed training data, driving a network effect as the value of the offering increases with additional users and their data. (See Network Effects Are Rocket Fuel for Driving Adoption and Growth for B2B Products and Services.) However, no product is truly free. Instead, the revenue typically comes not from the user, but from a third party (which is what makes the model asymmetric). Advertising models, in particular, have enabled the use of AI for “free.” For example, social media and online search companies invest heavily in AI models to personalize results for users at no cost, while capturing revenue from advertisers. Asymmetric models are not limited to advertising. Credit card companies might be able to subsidize card offerings to emerging customer segments, while relying on the larger, established customer bases for recurring revenue.

Business Model	*Definition*	*Impact on This Business Model*
"Freemium"	Provide the basic version of the product or service for free, but charge users for advanced features.	Freemium is likely to be an important business model for AI-enabled products. The availability of a free tier can help broaden the user base to collect the data required for AI development, whereas the paid tier can provide the revenue required to subsidize the free tier. A B2B example is Cloudflare, which has a free tier for website protection, driving wider adoption and data collection to create a better service for free and paid customers. [4] A B2C example is ChatGPT Plus, a monthly subscription service that offers additional features on top of the free-to-use ChatGPT service. [5]
Razor and Blades	Sell the base product at low cost, while selling add-on or complementary components at a higher margin. A classic example is how video game consoles are often sold at cost to sell high-margin video games.	AI services can be the higher-margin "blades" that are built on top of "razor" products sold at cost. An example is the way that some financial technology (FinTech) payment companies can keep their payment transaction rates low, then add valuable services based on analyzing the underlying data. For example, some payment companies offer AI-driven fraud prevention services on top of their regular transaction rate. Equipment manufacturers can also sell equipment at a lower cost, then offer AI-driven predictive maintenance services at a higher margin.

Business Model ↓	*Definition* ↓	*Impact on This Business Model* ↓
Blades and Razors	This is the inverse of “razor and blades.” Here, you give away the complements to incentivize customers to buy the higher-margin core product. An example is how free and low-cost apps are a selling point for high-cost smartphones.	Companies might offer AI products or services for free or at-cost (“razors”) as an incentive for customers to buy high-price (“blades”) assets. This model is particularly relevant for models that depend on selling high-priced products, such as in asset-heavy industries. For example, John Deere, the farming equipment manufacturer, offers AI-enabled services that help farmers improve their yields and increase productivity, making its products more compelling. [6]

Business Model ↓	*Definition* ↓	*Impact on This Business Model* ↓
Platform Model	A business model that creates value by facilitating exchanges between two or more interdependent groups.	There are different types of platforms and opportunities for AI platforms. AI foundation models (e.g., large language models) have an opportunity to become a new type of platform on which AI products are built. A clear example is the large numbers of applications being built on top of large-language-model APIs. Platforms can exist at different parts of the AI stack. For example, a financial-services-specific foundation model, such as BloombergGPT, can potentially serve many in the financial services industry. [7] Beyond technology service providers, there could also be an opportunity for organizations to offer a platform for AI apps, particularly if they have privileged access to customer data or valuable internal data from their operations. An example might be a farming equipment company with access to key data that can connect customers with different AI apps to better leverage its value.

Business Model	*Definition*	*Impact on This Business Model*
API Model (Pay as You Go)	Accessing services on a per-use basis, rather than on a subscription. Users generally pay per volume and type of API call.	The API model is already the predominant way to access AI foundation models, such as large language models (e.g., GPT-4 and PaLM 2). There is, however, a potential for more-specialized AI capabilities to be offered via APIs, particularly in cases in which organizations have proprietary data that can be used to train domain-specific AI models. One example is Wakam, an insurance organization that has built an API-driven business model (using AI as part of this model). It is now processing nearly 20 million API calls per month (see Case Study: An Insurance API-Driven Digital Ecosystem Transformation). APIs give greater flexibility for developers to access AI capabilities and embed them as building blocks into their applications and workflows. For instance, OpenTable integrated with ChatGPT via a plug-in to its API that makes restaurant reservation information available for consumers through the ChatGPT interface. [8]

Business Model ↓	*Definition* ↓	*Impact on This Business Model* ↓
Ecosystem Model	Sell an interconnected and interdependent suite of products and services that increases in value as more are purchased.	There is an opportunity to create ecosystems around AI, bringing together different, but interdependent AI solutions. A tightly integrated ecosystem model creates a strong network effect that puts external AI solutions at a disadvantage (even if these solutions perform better on a stand-alone basis). One example is Ant Group, a large financial services organization that provides a diverse set of services to customers by leveraging its centralized data and AI-based capabilities. [9] Large software organizations can also build or bring in an ecosystem of AI apps that works well with the platform, making it less appealing to procure these solutions from another provider.
Marketplace Model	Bring buyers and sellers together in return for a transaction fee or commission.	The AI marketplace is already a viable business model in which organizations can sell pretrained AI models and procure external models or data. AI marketplaces are prevalent in large cloud providers: Amazon Web Services (AWS) Marketplace, Microsoft Azure Marketplace, Google Cloud Marketplace and Modzy. AI also enables tech marketplaces, such as ride-sharing, which require prediction and optimization, at scale. This is only possible with AI.

Business Model	*Definition*	*Impact on This Business Model*
Open-Source Business Models	Organizations offering open-source software, but monetizing through additional services, hosting, marketplaces and other revenue sources. This can be seen as a special version of the freemium model.	Open source is an important part of the current AI software stack, with diverse organizations participating in the open-source ecosystem. For instance, Capital One, a financial services company, has released different open-source libraries for machine learning (ML). [10] Similarly, Pixar, the animation studio, created the universal scene description (USD) open-source software, which is now a widely adopted standard in 3D simulation. [11] Open-source efforts can also create cutting-edge AI models. Stability AI created fully open-source image-generation models (Stable Diffusion) that are now widely used by developers and researchers, driving adoption and refinement. This makes the underlying AI models more useful. Open-source software can be monetized by offering additional services on top of the openly available software. For example, HuggingFace hosts and offers many open-source AI models and libraries that organizations can use as a starting point for AI projects. They separately sell additional services to users, such as hosting options, enterprise solutions and the ability to “auto-train” some models.

Business Model	Definition	Impact on This Business Model
[1] Scalar: Orchestrating Road Transport		
[2] Full Self-Driving Capability Subscriptions		
[3] The Future Of Work Now: AI-Assisted Clothing Stylists At Stitch Fix		
[4] Cloudflare: Our Plans		
[5] Introducing ChatGPT Plus		
[6] John Deere: Services		
[7] Introducing BloombergGPT		
[8] ChatGPT x OpenTable		
[9] Competing in the Age of AI		
[10] Yes, we're open source!		
[11] Universal Scene Description		

Source: Gartner (June 2023)