



Spotlight on Artificial Intelligence

The AI Advantage: Empowering Your Business with Liferay DXP

Digital technology is the backbone of the corporate world. If your business wants to remain competitive, making continuous improvements to your tech stack is a crucial component of your overall strategy.

Learning how to leverage the power of artificial intelligence (AI) is vital for these improvements, especially given AI's rapid adoption since the introduction of ChatGPT in 2022. ChatGPT marked a milestone in the public's acceptance of AI, counting 200 million monthly users¹ just one year after launch. By June 2024, a staggering 23% of Americans² had already tried out the Generative AI service.

Creating Business Value with AI

Taking stock of AI's increasing adoption and advancement, the opportunities for your business to streamline operations and build stronger connections with customers may seem limitless: AI can provide great value in creating content, automating and analyzing processes, simplifying data management, and redefining customer interactions.

Despite the potential of AI, you may, like many other companies, find AI challenging to implement practically. According to new global research from Accenture³, only 12% of companies are using AI in a way that gives them a significant competitive edge.

Here are AI's Top 5 applications⁴:

- 1. Improving and perfecting business operations (56%)**
- 2. Supporting cybersecurity and fraud management (51%)**
- 3. Powering digital personal assistants (47%)**
- 4. Managing customer relationships (46%)**
- 5. Managing inventory (40%)**

If you're still struggling with AI adoption in the face of these clear benefits, it's probably not because of system incompatibility or data issues. Instead, proper AI implementation may seem unconquerable—an intimidating mountain made of new information and changes to existing processes.

In this whitepaper, we'll show you a path up that mountain, offering insights into the field of AI and highlighting how AI's opportunities can expand even further when paired with a digital experience platform (DXP) such as Liferay DXP. We'll explain how building AI right into your DXP can help you create unique customer experiences and operate successfully in a dynamic, constantly changing digital landscape.

Or, in short: find out how AI makes it easy for your marketers, developers, and designers to work smarter and get things done faster.

1 <https://www.voroniapp.com/Technology/One-Year-After-Launch,-ChatGPT-Has-200-Million-Monthly-Users-353>

2 <https://backlinko.com/chatgpt-stats>

3 <https://www.accenture.com/us-en/insights/artificial-intelligence/ai-maturity-and-transformation>

4 <https://www.forbes.com/advisor/business/software/ai-in-business/>

Three Perspectives on Navigating AI Projects

As you think about the best way to approach your AI implementation, you may find it helpful to consider three different areas of transformation.

1. Technological Transformation

Where integration is possible, AI can impact your technology by:

-  Learning from data and evolving independently.
-  Automating a wide range of processes, from data analysis to content creation to repetitive tasks.
-  Offering personalized experiences, e.g., through recommendation engines.

These changes give employees more time to focus on higher-value work, optimizing resource efficiency and innovation.

2. Business and Value Chain Transformation

AI can transform your business and value chain in ways that would have been impossible even five years ago. With AI, you can:

-  Use precise data analysis and adaptive algorithms to tailor customer experiences, enhance service quality, and explore novel business models.
-  Add automation and/or speed up every step of the value chain, from creation to delivery of your good or service.

In these ways, AI can lead to stronger customer loyalty and a smoother value chain that minimizes bottlenecks.

3. Organizational Transformation

Integrating AI can lead to profound operational improvements:

-  More agility in working and faster responsiveness to change
-  More data-driven decision-making
-  More emphasis on continuous learning and adapting to new technology
-  More focus on innovation and the development of creative solutions to complex problems

Operational improvements will increase your efficiency and drive change at a systemic and people level.

Ultimately, strategically leveraging AI has an impact on every facet of your organization, offering major competitive advantages, supporting sustainable growth, and even providing opportunities to break into new markets.

If you're interested in learning more about AI concepts and how Machine Learning and GenAI can provide business value to enterprises, take a look at our blog post [“Demystifying AI – An Introduction for Enterprises”](#).

AI-Powered DXPs

All three levels of AI transformation—technological, business and value chain, and organizational—won't happen as efficiently or quickly without a digital experience platform like Liferay DXP.

Why? Integrating AI into your DXP enables you to create unique digital experiences on a single platform rather than working with disparate systems that don't talk to each other or function the same.

And you can reap the benefits of using AI with a DXP for both the back office and customer-facing interactions.

Using AI in the Back Office



Automate routine tasks: AI can automate repetitive and time-consuming back-office tasks, such as document processing, data entry, and workflow management. This reduces employee workload, allowing them to focus on more strategic tasks.



Improve data management: AI can help intelligently analyze, organize, and interpret large volumes of data. Using the insights from this data analysis, you can make more informed decisions and optimize business processes.



Make customer service more efficient: By using AI in the back office, you can process customer inquiries more quickly and efficiently, either through automated answers to frequently asked questions or by forwarding inquiries to the right contacts.



Generate web content: AI can speed up content creation by automatically generating relevant and engaging content tailored to the interests and needs of your target audiences. AI-generated images and graphics can also align with web content, supporting content creation.



Automate localization: The ability to automatically translate content into multiple languages greatly expands your reach. AI supports fast and accurate translation that takes cultural nuances into account, enabling truly global communication.



Utilize AI-powered sentiment analysis: AI can help automatically analyze customer feedback, such as survey results, customer reviews, or social media mentions. This allows you to identify trends, moods, and problems in order to respond quickly to customer needs and continuously improve your products and services.

Interested in an AI-enhanced digital experience platform that's flexible enough for present and future business needs? [Read more about AI and Liferay DXP.](#)

Using AI for Customer-Facing Interactions



Personalize the customer experience: AI enables you to analyze customer data and understand individual preferences to offer tailored products, services, and interactions. As a result, companies can strengthen customer loyalty and increase customer satisfaction.



Automate customer interactions: By using AI-powered chatbots and virtual assistants, you can process customer inquiries automatically and in real-time. This speeds up response times and improves the customer experience, even outside regular business hours.



Deliver semantic search functionality and product recommendations: AI optimizes search functionality and product recommendations by understanding the context of search queries to help users find what they're looking for faster. Recommendations are also personalized, which increases customer satisfaction and engagement.



Improve cross-selling and upselling opportunities: AI can analyze customer behavior and preferences to help you create targeted cross-selling and upselling offers and increase revenue per customer.

As you can see, the impact of pairing AI with a DXP offers immense opportunity for both back-office operations and customer-facing interactions—and this list is just the beginning!

Start Innovating with AI in Liferay DXP

On one unified, super flexible platform, Liferay DXP makes AI easily accessible for business users, developers, and front-end designers. Your teams can work more efficiently, personalize user experiences, and reach global markets.

Below, you'll find an overview of our platform's most important AI features:

Feature	Details
AI-Powered Content Generation	With Liferay's AI Creator Tool through native integration to tools like ChatGPT, content creators only need to define their word count, tone, and a short description to begin generating content.
AI-Powered Image Generation	Generate unique and relevant images directly within your DAM system. Powered by DALL-E, content creators can define a description, size, and quantity to automatically generate images.
AI-Powered Product Information Generation	You can also use Liferay's OpenAI integration to create product descriptions and images with a single click, improving content creation efficiency.
Auto-Tagging Assets	Automatically tag assets such as text-based documents, web content, blog entries, and images upon upload. This not only helps save your team time by organizing assets logically but also makes searching for these assets easier.
Automatic Product Recommendations	Surface product recommendations to customers based on their role, behavior, or previously purchased products.
Automatic Content Recommendations	Recommend content for users based on their interests and already-viewed content to show content that would be most helpful for their journey.

Semantic Search	Customize search results based on user intent with Semantic Search, which parses indexed content and users' natural language search phrases with a machine learning model, so that results better reflect search intent.
Sales Forecasting	Use AI-powered sales forecasts to help your sales and finance teams estimate revenue and identify potential opportunities for growth.
Auto-Translation	Enhance the global accessibility of your content using Liferay DXP's integrations with Google Cloud Translation, Amazon Translate, and Microsoft Translator. This allows you to seamlessly translate content into multiple languages, reaching a wider audience and increasing your presence in international markets.
Integration to Other AI Platforms	While Liferay DXP provides native AI capabilities, the platform's incredible flexibility and extensible architecture make it easy to integrate with other AI platforms as well. We provide an extensive set of headless APIs and batch-processing capabilities to connect to the AI technologies you need.

Get the full list of Liferay DXP's 300+ out-of-the-box capabilities [here](#).

From optimizing content management and personalization to expanding into other countries, you can build better digital experiences with Liferay DXP in a fraction of the time.

If you're interested in Liferay's current and expanding AI roadmap, [contact us](#), and we'll set up a meeting with one of our experts.

Implementation Walkthrough: Intelligent Interactions Powered by a LLM Chatbot in Liferay DXP

Managing and provisioning digital information efficiently is crucial to business success. And as the volume of content continues to increase, the need to simplify access and interaction becomes an urgent challenge.

Using AI-enhanced tools in Liferay DXP can help you address this challenge, delivering relevant assistance to users right when they need it. Here's a walkthrough of an example chatbot implementation:

The Challenge

Retrieving the right information can seem like a needle in a haystack for users faced with an overwhelming amount of web content, documents, and other digital assets. This example shows just one way to optimize information collection and data management in Liferay DXP with AI.

The Solution: Integrating a Chatbot in Liferay DXP

Integrating a Large Language Model (LLM) chatbot into Liferay DXP offers an interactive interface that allows users to ask questions as they would to a live agent and receive contextualized answers in real-time.

From searching for specific documents to requesting company data, the chatbot understands and processes requests accurately, which means it can act like an expert librarian, enabling direct interaction with all available content.

Security and Access Control

Also like a librarian, the chatbot can limit access to a “restricted section” by integrating with Liferay DXP's out-of-the-box roles and permissioning system. This guarantees a high level of data security and privacy protection since the chatbot can be set up to be subject to the same security measures configured on a platform level. Because of this integration, users only access approved content, maintaining data integrity and strict access controls at all times.

Common LLM Chatbot Use Cases

By asking the chatbot to assist with different tasks, users enjoy these benefits:



Easier document access: Pull up the latest version of a report, significantly simplifying access to the latest data.



Efficient content search: Display curated articles on a specific topic without having to manually navigate an intranet's knowledge base.



Workflow optimization: Generate a list of all open tasks for a project, simplifying project management.



Knowledge management: Receive answers on best practices for specific business processes quickly and efficiently.

Benefits and Results

Integrating an LLM chatbot into Liferay DXP offers a range of personalization options to fully align the chatbot to your specific needs and requirements, both in terms of design and functionality. This ensures seamless integration with your corporate identity and digital work environment.

Additionally, an LLM chatbot increases efficiency and improves the user experience, helping users to find information faster, speeding up processes, and simplifying interactions – all while employing robust security measures.

The implementation also offers a flexible selection of language models, including integration with OpenAI's generative pre-trained transformer GPT-4, as well as the ability to customize open-source models to meet specific customer needs.

Is AI Integration with a DXP in Your Future?

At this point, AI implementation is probably inevitable for your business—if not already begun. Successful integration that impacts your business on a deep technological and organizational level long-term, however, is only possible with the right technology.

Liferay DXP equips you to work smarter with an intuitive, user-friendly platform that can drive sustainable growth for your business and adapt as you adapt.

Integrating AI into your DXP isn't the end, however—it's a stepping stone to more ambitious goals. The future of automation presents a fascinating range of possibilities. AI agents like powerful LLMs act as advanced assistants that not only simplify complex processes but also accelerate workflows with proactive recommendations, promising to transform automation and management.

The future is yours, if you're ready to reach the next stage of digital transformation. And if you succeed at effectively harnessing the potential of AI, the next digital transformation mountains you face won't seem impossible to conquer.

Ready to discover how you can implement AI in your digital solutions?
Talk to one of our experts and find out.



Liferay helps organizations build for the future by enabling them to create, manage, and scale powerful solutions on the world's most flexible Digital Experience Platform (DXP). Trusted globally by over a thousand companies spanning multiple industries, Liferay's open-source DXP facilitates the development of marketing and commerce websites, customer portals, intranets, and more. Learn how we can use technology to change the world together at liferay.com.

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