

AI in The Beverage Alcohol Marketplace – Simply the Basics



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Editor's Note:

While Artificial Intelligence (AI) is becoming widespread, it is still an evolving technology that will greatly impact society. One renowned Stanford AI scientist, Andrew Ng, has said, "AI is the new electricity." This statement highlights the transformative potential of artificial intelligence, to how electricity revolutionized industries and daily life 100 years ago. AI is bringing an equally significant transformation, reshaping the way we live and most definitely how we work.

This AI basics article sets the foundation for what organizations need to understand about AI. NABCA's Margaret Barchine connected with Brown-Forman's Amit Parulekar for a question & answer (Q & A) session about AI in the beverage alcohol space. Brown-Forman (B-F) has embraced responsible AI into its business, setting a benchmark that has earned it the prestigious [Global Recognition for Outstanding Organization from the Responsible AI Institute \(RAI\)](#).

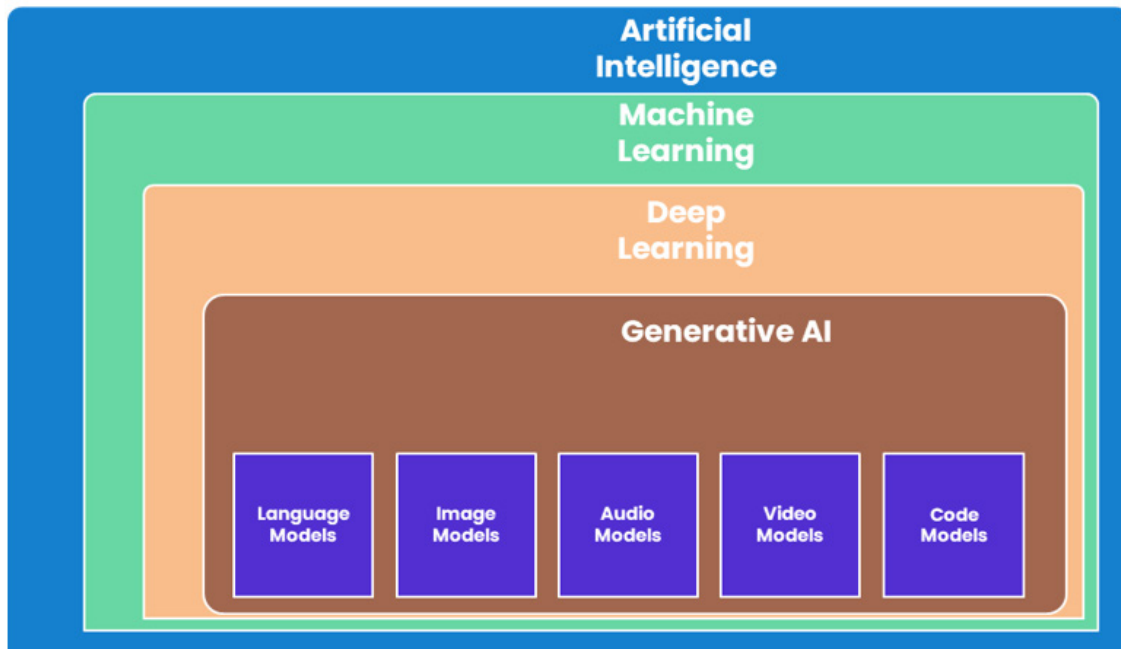
NABCA: In plain language, describe Artificial intelligence as it relates to beverage alcohol.

B-F: John McCarthy and other scientists coined the term "Artificial Intelligence" (AI) in 1956 during The Dartmouth Summer Research Project on Artificial Intelligence, which birthed AI as an academic field. Close to seven decades later, it is hard to pinpoint one specific meaning of AI as definitions have shifted based on the goals that are trying to be achieved with an AI system. In our modern world, the definition of AI is still evolving, adapting to the ever-changing landscape of technology and the cultural contexts of today and tomorrow.

The Encyclopedia Britannica defines AI as “the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings.” In its simplest form, artificial intelligence refers to the ability of a machine or computer system to perform tasks or mimic decisions that typically require human-like intelligence.

AI is not one specific thing, but a combination of various fields coming together to perform tasks that include problem-solving, decision-making, language understanding, visual perception, and learning. As articulated by the Ada Lovelace Institute, a prominent British research organization, "We acknowledge that the terminology in this field is a matter of debate. Given the rapid pace of development, we anticipate that terminology will continue to evolve."

Within AI the major fields are:



***Fig 1. Artificial intelligence and its sub-fields**

- **Machine learning** (coined in 1959) is a discipline of AI (coined in 1955). In machine learning, computers make predictions and other decisions based on sets of data and do so without any explicit instructions.
- **Deep Learning** (coined in 1986) is a subset of machine learning, which involves using complex artificial neural networks that are even more effective at solving problems provided by a human.
- **Generative AI** is a subset of deep learning that can create new content based on a user's prompt. It can include and is not limited to language, image, audio, video, or code.

Here is an example related to the beverage alcohol industry:

- Machine Learning: To forecast demand and optimize production schedules.
- Machine Learning: For quality control to monitor and ensure consistency during the distillation process.
- Deep Learning: For flavor profiling to analyze and categorize flavor profiles for creating unique spirits.
- Generative AI: For recipe development to create innovative spirit recipes by experimenting with ingredient combinations. Generate engaging marketing materials using generative AI to attract and keep customers.

These AI technologies play a significant role in enhancing various aspects of the beverage alcohol industry, from production to marketing and customer engagement.

NABCA: What would be AI's value in the beverage alcohol industry?

B-F: AI has applications in practically every area of the spirits industry, from grain to glass.

Two significant areas where AI could benefit the industry are to: **1) create entirely new products** and **2) transform operations to become more efficient and effective.**

In the first category, AI can be a catalyst for innovation, enabling the creation of entirely new products and experiences. By leveraging AI-driven insights, companies could explore uncharted territories, such as developing unique flavor profiles, personalized recommendations, or even novel consumption experiences.

In the second category, AI could transform operations to enhance efficiency and effectiveness. From optimizing supply chain and logistics to predicting consumer preferences and fine-tuning production processes, AI-driven solutions could help empower beverage alcohol to streamline operations, reduce costs, and deliver high-quality products while staying aligned with their core strategies.

In this dual role of innovation and operational enhancement, a combination of several AI tools mentioned before could offer beverage alcohol companies a potent toolkit for success. With an infusion

of the right AI technology, this industry can make operations more efficient, and improve employee experience and productivity, thus making beverage alcohol companies more agile and staying competitive.

NABCA: Which businesses operating in the beverage alcohol landscape could benefit from embracing AI?

B-F: AI applies to every business operating in this space, from how farmers produce crops to the way the finished product arrives to consumers.

Across the beverage alcohol landscape, businesses of all sizes have begun using AI gaining some competitive edge. Wineries and farmers have been using AI to analyze environmental factors and optimize production, ensuring consistent quality and predicting harvest yields. Distilleries are using AI for real-time process monitoring and control, also optimizing their sales routes, and predicting demand fluctuations.

Retailers are enhancing customer experiences with AI-powered chatbots that offer personalized recommendations, and brand marketers can use AI to analyze market trends and create targeted marketing campaigns and recipes. From optimizing logistics and predicting future demand to developing innovative new products and creating interactive customer experiences, AI is already offering a wealth of opportunities for the beverage alcohol industry to thrive in an increasingly complex market. It is not a question of whether AI could benefit the beverage alcohol industry, because it is already happening. AI technologies are revolutionizing various aspects of the beverage alcohol industry, helping producers and distributors to retailers and customers alike.

NABCA: What are other potential areas of use for AI in the beverage alcohol industry?

B-F: The urgency to maximize profit margin, sustainability, and resilience in the supply chain will accelerate AI adoption across the value chain of beverage alcohol companies. Also, the growing maturity of the AI technology landscape is accelerating its adoption in media, communications, health-care, and other industries. AI can potentially revolutionize beverage alcohol in many ways, offering significant benefits to businesses and consumers alike.

Here are some current key areas for AI use:



***Fig 2. Sample collection of AI use cases**

NABCA: What are the possibilities for growth areas for AI in the beverage alcohol marketplace?

B-F: Beverage alcohol companies along with other large and small companies need to reimagine their value chain to the customer. Price margin erosion, margin compression, increased competition, and supply chain challenges are just a few of the many contributing factors. Although traditional AI techniques such as prediction and forecasting have been around for decades and are more mature, the new breed of AI, namely generative AI, is a rapidly growing field with a wide range of applications across various industry sectors and business areas. (Fig 1.)

An example of combining traditional AI with generative AI is happening in our industry. Traditional AI can forecast sales trends based on historical data, while generative AI can add nuances by creating detailed reports and visualizations that explain the variances and insights. For instance, if a forecast predicts a spike in sales for a particular product, generative AI can deliver content that explains the reasons behind this trend, such as seasonal demand, marketing campaigns, or emerging consumer preferences. This combination of various types of AI can provide business users with a deeper understanding of their market dynamics.

With a rapid pace of development and high innovation, we can safely assume that we are currently seeing only the beginning, but it is worth a more comprehensive look at the archetypes of emerging use cases. As the industry continues to evolve, leveraging AI will be crucial for beverage alcohol companies to stay competitive and meet the ever-changing demands of their customers. By embracing these technologies, companies can not only improve operational efficiency but also create more value for their customers, ultimately driving growth and success in a challenging market landscape.

Technological revolutions of this magnitude occur infrequently. Change is coming. With change comes opportunity. Companies that are intentional here will be the benefactors of this tectonic shift, allowing themselves to create separation from the masses. Those that do not are leaving their future to chance.

NABCA: Where would AI be challenged to implement in the beverage alcohol industry?

B-F: One of the critical ingredients for the AI initiative to succeed is cross-collaboration between different areas of the business. The beverage alcohol industry is a legacy industry with a rich history, tradition, processes, and people with long tenure, and focused relationships. AI is evolving and to harness its power, people at every level need to upskill, and companies need to invest in the tools and technology needed for the developing landscape.

Effective change management is crucial to integrate AI into the beverage alcohol industry as it requires new skill sets that companies are traditionally less accustomed to. This involves training employees to use these technologies, fostering a culture of innovation and adaptability, and ensuring change management for smooth and successful adoption.

Compared to other industries or peers within the consumer-packaged goods (CPG) sector, beverage alcohol companies face a distinct challenge sometimes due to scarcity of rich data. One challenge that is not unique to the beverage alcohol industry, but is common across all industries, is the rigor in data management practices. For AI to make accurate predictions, it needs rich data sets.

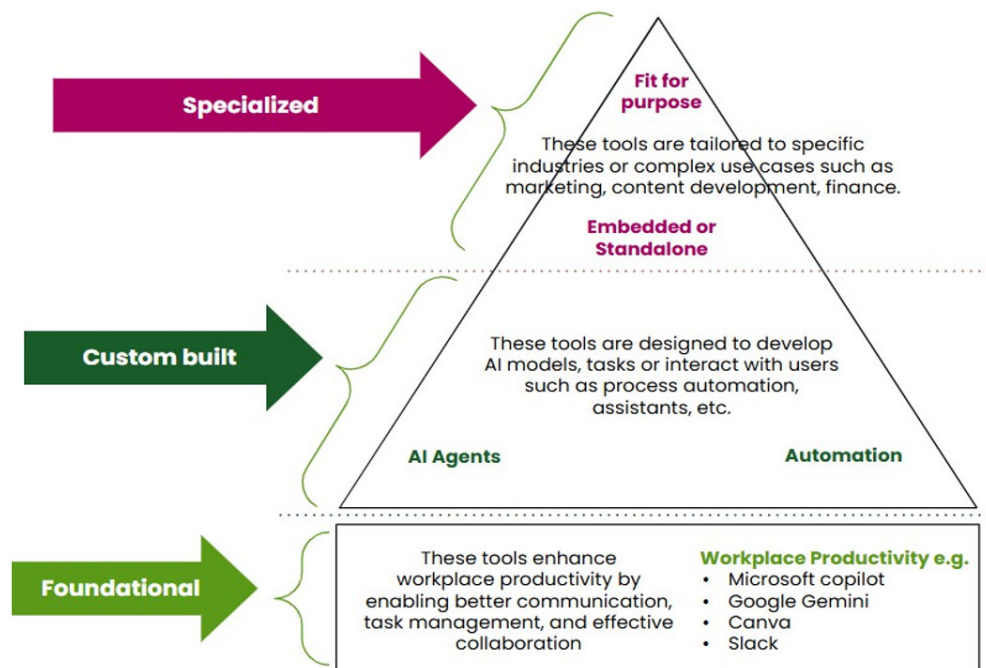
Barriers resulting in slower and less democratized AI in the beverage alcohol industry include data fragmentation, regulatory compliance, legacy systems, and scalability challenges due to legacy infrastructure and processes.

Effective management is crucial to integrate AI into the beverage alcohol industry as it requires new skill sets that companies are traditionally less accustomed to. This involves training employees in using these technologies, fostering a culture of innovation and adaptability, ensuring modernization of legacy technology platforms, and effective change management to ensure smooth and successful adoption of AI.

NABCA: What AI tools do you recommend beverage alcohol companies use as a start in this endeavor?

B-F: With a plethora of generative AI tools available, there is no standardized approach for businesses to categorize or identify good starting points. When evaluating AI tools to maximize returns for your business, it is crucial to start by naming the specific pain points you want to address, rather than thinking of a tool first. Begin by thoroughly understanding the challenges or inefficiencies within your operations. Once you have a clear picture of these challenges, you can then seek out AI tools from the toolkit (refer to Fig 1.) to solve specific business challenges.

To simplify, think of AI tools as a pyramid with levels:



***Fig 3. Artificial Intelligence Tools Pyramid**

Level 0: Foundational tools are such because they provide essential building blocks for employees to enhance their productivity and efficiency. These tools are low-cost, typically lack specialized domain or industry knowledge, and focus on supporting specific use cases such as meeting notes taking, checking content quality, and researching an idea. Examples of tools in this category include Microsoft Copilot, Google Gemini, Adobe Firefly, etc.

Level 1: Custom-built AI tools are designed by organizations to address their set use cases and operational requirements. They excel in tasks requiring nuanced understanding and training on organization-specific data and processes, enabling varied use cases such as process automation or assistants. An example of a custom-built AI tool is an AI agent.

Level 2: Specialized tools are fit-for-purpose tools that organizations may buy, and each tool serves a niche use case. These tools are generally high cost but come with pre-trained domain knowledge, such as marketing content generation and supply chain, and serve a sophisticated array of use cases.

Organizations can start at Level 0 with foundational tools to create awareness and democratize AI. However, moving from Level 0 to higher levels requires substantial investment, robust process changes, and organizational growth and maturity to fully reap the benefits of the investments.

NABCA: Who should be on your AI implementation team, regardless of industry?

B-F: Organizations typically focus on technical skills when thinking about an AI implementation team. However, successful AI implementation requires the engagement of individuals from a variety of specialized backgrounds.

Some organizations set up an AI Center of Excellence (AI COE) or AI Advisory Council or Board that includes representatives from functional areas such as IT, Legal, Privacy, Infrastructure and Engineering, Data Science, and Business Stakeholders including Communications. Once you have assembled and operationalized the implementation team, the crucial piece is to consistently communicate the value proposition and benefits of AI across the organization and share success stories to keep the momentum going.

Ensuring you have a diverse group will identify and prioritize the right use cases, mitigate potential risks from the onset, and develop thoughtful solutions required to successfully implement the change and scale AI. Responding to the new challenges posed by modern innovation often requires creative solutions, which happens when individuals representing different areas of expertise come together and bring their unique perspectives to the table to solve new-age problems.

NABCA: What general tips would you recommend for businesses to fully embrace AI?

B-F: Recognizing that every organization starts from a different point in their AI journey and tailoring strategies accordingly are keys to the successful and responsible integration of AI within your organization.

- 1. Focus on business - problem:** It is crucial to understand that AI is not a substitute for a business strategy; rather, it is a powerful tool that can enhance and streamline strategic decision-making. Don't do AI for the sake of AI, start with use cases or business challenges that are meaningful for your organizations. To fully embrace AI, organizations need to create a harmonized and balanced approach between humans and technology.
- 2. Technical:** Data is a key factor for unlocking value from AI, and beverage alcohol companies need to know the potential limitations and challenges of AI. So, the companies in this industry who are just beginning their AI journey need to be patient, upgrade their data infrastructure, and build a data management and governance framework to reap the full benefits of AI. Given the pivotal role of AI, setting up a solid data foundation is not merely a prerequisite, but it should be a strategic imperative. It can be a multi-year journey to get and build the data foundation the right way for it to be easily consumable by the AI systems.
- 3. Human:** Create awareness to increase AI quotient or AI fluency in your organization. Building skillsets and increasing awareness are vital steps in demystifying AI and dispelling the fear that often surrounds it. Effective change management is essential as AI requires new skill sets that beverage alcohol companies are traditionally less accustomed to. Nurturing the necessary skills and creating a shared understanding of AI through AI awareness initiatives may help foster an environment to discover and assess new use cases. To create awareness and excitement, start with a small group to pilot and test the AI implementations. Once that is successful, the pilot group can serve as champions for the AI initiative, sharing their experiences and success stories with the rest of the organization.

Becoming AI-ready is a journey. Companies that have fully embraced AI and have passed the test-and-learn stage and are seeing early successes are taking a systematic approach across their value chain.

Acknowledgements:

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*Figures 1, 2 and 3 provided by Amit Parulekar

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