

## **Voice-ordering Technology: A Case of McDonald's AI Drive-thru**



Source: Pexels (2021)

### **Background**

In the modern digital landscape, restaurants are actively searching for ways to drive down labour costs by introducing artificial intelligence. According to the National Restaurant Association, 16% of restaurant owners plan to invest in AI, including voice recognition (CNBC, 2024). However, the following case study regarding McDonald's withdrawal from its AI drive-thru ordering investment suggests that voice-ordering technology still has years to go.

McDonald's investment in the technology began in 2019 with the acquisition of AI speech company Apprento (Business Insider, 2019). Hoping to provide "faster, simpler, and more accurate order taking," the fast food giant began developing automated drive-thru systems under a new research unit called "McD Tech Labs," using Apprento's AI voice-based conversational system (Business Insider, 2019). After experimenting at 10 restaurants in Chicago, the company reported "substantial benefits" but acknowledged the long road ahead, citing an 85% accuracy rate and requiring human intervention for 20% of orders due to issues with accent and dialect interpretation (Engadget, 2021).

Two years later, seeking to explore voice ordering more broadly, McDonald's announced a global partnership with leading tech firm IBM (CNBC, 2024). As part of the agreement, McDonald's would receive help from IBM with its development of automated order-taking technology, while IBM would acquire McDonald's research unit, McD Tech Labs (IBM, 2021). With IBM's expertise in AI customer solutions and natural language processing, McDonald's was able to tackle integrations including additional languages, accents, dialects, and menu variations (IBM, 2021). The partnership also enabled a larger-scale experiment at roughly 100 restaurants across the US (CNBC, 2024).

### **Challenges**

Unfortunately, McDonald's venture with automated drive-thru did not prevail, as videos of frustrated customers with inaccurate orders went viral on the Internet. It became evident that

accuracy remains a serious challenge, with customers receiving piles of butter and ketchup packets along with their ice cream orders (CBS News, 2024). Furthermore, integration with existing point-of-sale systems proved problematic, as customers found orders from other people being added to their bills (BBC, 2024). In light of overwhelming criticism, McDonald's shut down all AI drive-thru operations nationwide, ending its three-year partnership with IBM (New York Times, 2024).

However, this does not entirely mean the end of AI drive-thru or voice ordering for McDonald's. In a public statement, the company said it remains confident that a voice ordering solution for drive-thru will be part of the restaurant's future (BBC, 2024). In the meantime, McDonald's will continue to evaluate future development plans for automated drive-thru and potential providers of voice ordering solutions (The Register, 2024).

### **Discussion Questions**

1. What motivated McDonald's to invest in AI-powered drive-thru ordering systems?
2. What role do customer experiences and feedback play in the development and implementation of AI technologies in the restaurant industry?
3. Do you support McDonald's decision to continue pursuing voice-ordering technology in the future? Why or why not?
4. What steps should McDonald's take before reintroducing AI-powered drive-thru ordering in the future?

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### **Keywords**

- Food and Beverage
- Drive-thru
- Point-of-Sale Integration
- Automation
- Artificial Intelligence (AI)
- Voice-ordering