Ford's Data-Driven Roadmap Towards Future Mobility

How Ford Motor Company is Using Data to Continuously Reinvent Itself

Add bookmark

Tags: Data Monetization | Artifical Intelligence | Big Data | High Performance Computing Analytics | Automotive

Elizabeth Mixson
02/18/2021

The automotive customer is changing. Younger buyers want cleaner, more fuel efficient cars with high-tech safety cars and prefer to purchase from sellers that offer digital retail experiences. Furthermore, as 2 financial crises in a 13-year period have made consumers skittish about committing to long-term investments with high upfront costs, buyers are also looking for more flexible financing options.

In order to accommodate evolving consumer tastes and pave the ways towards the future of mobility (more on that later), car manufacturers are increasingly evolving into data companies. One of the legacy manufacturers leading the way is Ford Motor Company (FMC).

READ NEXT: Tesla: Automaker or Data Company?

Founded in 1903, over the course of the next 60 years, Ford evolved into an iconic American brand imbued with optimism and ingenuity. However, since its peak in the 1960's, Ford has experienced its ups and downs over the decades.

Ford - like the other "big three" car manufacturers GM and Chrysler - barely survived the 2008 recession. In the wake of that disaster, Ford launched its first go at digital transformation in 2014. The goal of this initiative was to create a new business segment, Ford Smart Mobility, responsible for building digitally enabled cars with enhanced mobility. The fact that Ford Smart Mobility was designed to be a separate entity rather than fully integrated into the existing FMC ecosystem doomed the project to failure from the start, resulting in millions (maybe billions) of dollars lost, a significant drop in stock prices and the resignation of its CEO.

From this high profile debacle Ford learned a powerful lesson: digital transformation cannot be siloed. It must be fully embedded into a company's DNA in order for it to succeed.

Since then, FMC has reinvigorated it's historic drive to innovate and has embraced digital transformation as a key enabler of its transition from auto manufacturer to a high tech, data company. Here's a quick look at how.

Driving Forward with Big Data Analytics & AI

The proliferation of connected vehicles has resulted in a deluge of driver data. Anticipating a 1,000% increase in data volume, FMC announced that it would invest hundreds of millions of dollars into two new data centers.

Though it will probably be a generation before self-driving cars go mainstream, legacy automakers like Ford are racing against a slew of upstarts to develop the first fully autonomous vehicle. The key to winning this race is the collection and leveraging of driving data to create AI-powered self-driving applications.

With the future of mobility in mind, FMC recently announced its new strategic partnership with Google to assist the automaker with modernizing its IT systems and more effectively using data to drive revenue, enhance the customer experience and power innovation.

In addition to outfitting it's vehicles with built-in Google apps, including its map and voice technology, Ford will also deploy Google artificial intelligence technology to improve the efficiency of vehicle development, supply chain and manufacturing

"With Google Cloud, Ford will digitally transform from the front office to the car to the manufacturing plant floor," Google Cloud CEO Thomas Kurian commented during a recent press conference. "And there are a number of different applications, including modernizing product development, improving manufacturing and supply chain management, using computer vision AI for employee training, inspection of equipment on the assembly line and other applications."

According to reports, the 3 main objectives of this partnership are to:

- Improve customer experience with technology and personalized services
- Accelerate product development, manufacturing and supply chain management
- Speed up real-time customer notices for maintenance and other activity

WATCH NEXT: **Visual AI: See the Big Picture with Automated Computer Vision**

Data Monetization

One of the primary objectives of the Google/FMC alignment is the identification and cultivation of data monetization efforts. "At Ford, we've got world-class in-house data insights and analytics teams," David McClelland, Ford's VP for strategy and partnerships, commented at the press conference announcing their partnership. "We've recruited significant software expertise and we're making great progress in this area. And we're moving rapidly towards commercializing our new self-driving business."

For automakers such as FMC, data monetization can manifest itself in a number of ways. The mass amounts of driving data these companies collect can help them develop better in-car features such as Advanced Safety Systems or infotainment systems. It could also be sold to insurance companies or other companies looking to mine the data for their own strategic purposes (i.e. targeted marketing, policy development, claims optimization, etc.).

As mentioned before, the business model behind car ownership is also evolving. With increased urbanization and the rise of car sharing apps, car use and, along with it, demand has gone down.

To better understand and develop new business models for the modern customer, Ford's IT team has developed a massive data lake that, in addition to driver and vehicle health data, pulls together internal and external data from over 4,600 data sources such as dealerships, repairs, warranty services, consumer buying patterns, credit trends and so on. The hope is that data scientists and business leaders alike can mine this system to not only cultivate new business models, but identify new services and revenue streams to drive growth.

For example, Ford used this data to launch a use-based auto insurance program with OnStar Vehicle Data in late 2020. The new auto policy is aimed at tailoring insurance rates to consumers based on individual driving behavior and use of vehicle safety systems.

In addition to new business model identification, this enterprise data and advanced analytics system is already enabling innovative services such as:

- Predictive maintenance. Developed in partnership with the robotics department of the Universidad CEU Cardenal Herrera, Miniterms 4.0 is a predictive maintenance system that alerts plant workers via smartphone app when manufacturing equipment starts to slow. Since its introduction in early 2019, it has delivered savings of more than €1 million.
- Supply chain analytics to help predict and mitigate supply chain disruptions.
- Help drivers optimize EVs. Europe, Ford has developed a series of telematics apps designed to help commercial clients optimize EV batteries and get the most out of their vehicles. As earlier this month, Ford made headlines when it announced it would be investing $29 billion into EVs and autonomous vehicles through 2025, this could be a precursor for what we can expect from the consumer-facing business.