



AI IN AUTOMOTIVE:

Insights and Innovations

SURVEY 2024

Table of Contents

03 OVERVIEW

04 WHAT IS AI?

06 THE GROWTH OF AI IN THE
AUTOMOTIVE INDUSTRY

07 KEY FINDINGS FROM
THE 2024 SURVEY

10 TOP CHALLENGES
FACING DEALERSHIPS

14 AI IN FIXED AND
VARIABLE OPERATIONS

18 DEALERSHIP FAMILIARITY
AND CURRENT AI USAGE

25 WHY DEALERSHIP AI
TOOLS MUST BE BUILT BY
INDUSTRY EXPERTS

27 NEXT STEPS
FOR DEALERSHIPS

Overview

Data-driven advancements are transforming software tools, with industries reaping substantial benefits from the integration of advanced technologies like artificial intelligence (AI), including machine learning (ML) and natural language processing (NLP).

68% 

of auto dealerships report that **AI has positively impacted their operations**, helping them achieve financial objectives, enhance customer satisfaction and improve internal workflows.

Our market research offers insights into how dealerships' perspectives and experiences with AI have evolved since our 2021 and 2023 AI surveys. This includes their familiarity with AI, current utilization, business benefits and the challenges AI can help address. Our goal is to provide dealerships with essential insights to guide their assessment of AI as a transformative force in automotive retail technology.



ABOUT THIS SURVEY

CDK Research surveyed 241 executives and department heads of automotive dealerships in North America.

The survey, conducted in April 2024, included a diverse mix of roles, regions, departments and sales volumes. 77% of respondents were department heads at their dealerships.

The goal of the survey was to understand how dealerships perceive artificial intelligence in the automotive retail industry and how their thoughts and experiences have evolved since our 2023 AI Survey.

What Is AI?

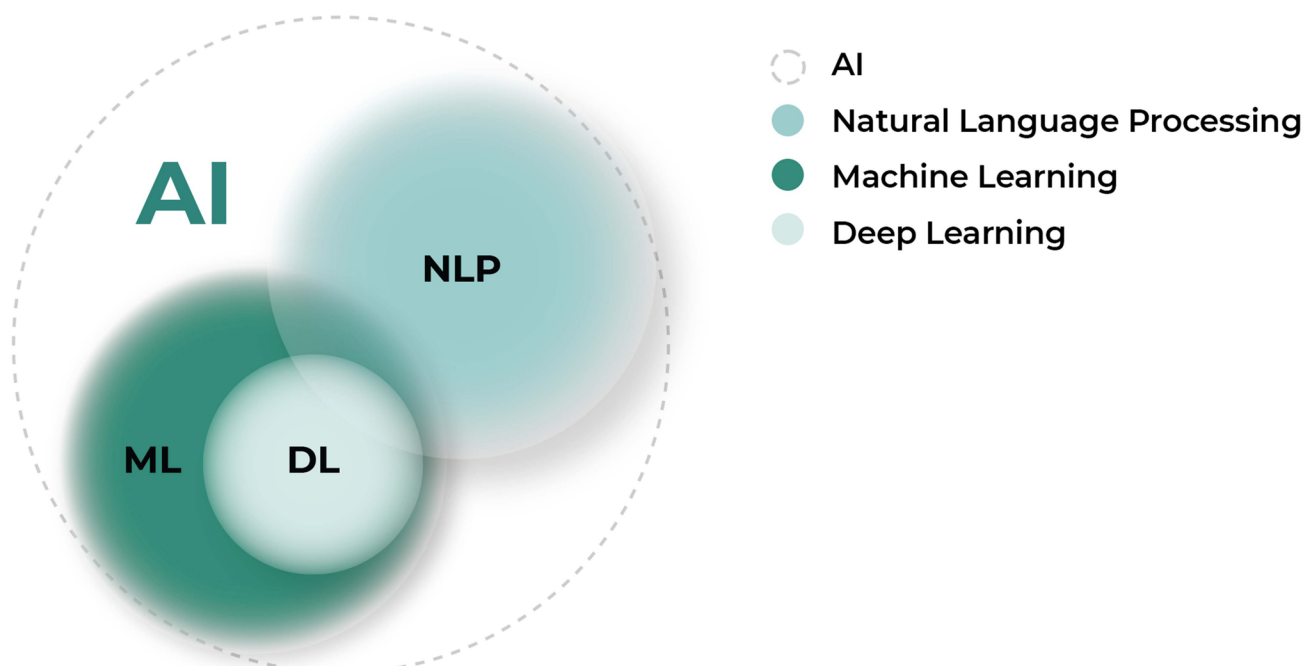
Artificial intelligence (AI) is becoming increasingly common among dealers, with 40% considering themselves very or extremely familiar with AI.

AI is a technology that enables computers to perform a variety of advanced functions, including the ability to see, understand, and translate spoken and written language, analyze data, make recommendations, and more.

Machine learning (ML) and natural language processing (NLP) are both branches of AI.

ML algorithms learn from existing data and apply this knowledge to new data to make better predictions, helping to solve problems and identify opportunities. NLP enables computers to understand text and spoken words in a way that is similar to how humans do.

AI Landscape



How AI Fuels Data Insights in Automotive Dealerships

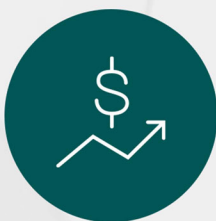


Some of the most productive areas where AI is being used in automotive retail are focused on increasing revenue, improving customer experiences and enhancing internal operations.

Service workflows are using AI to predict service failures and generate additional service revenue. They're also using AI chat assistants to seamlessly communicate with customers to schedule appointments.

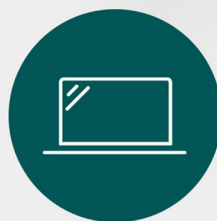
This includes improving sales and marketing efforts by converting leads, targeting customers based on their propensity to buy, predicting customer buying habits and making product recommendations based on customer search history.

In our 2024 AI Survey, dealerships reported that AI has positively impacted lead conversion and provided better customer service by delivering timely updates on service and parts.



AI

Predict Sales Forecasts



ML

Identify ASR Opportunities



NLP

Ask AI-Assistant for insights

AI Technology's Exponential Growth Rate in Automotive

Automotive AI Market Size and Growth

The global automotive AI market is projected to grow from 2.3 billion USD in 2022 to 7 billion USD by 2027.

Key factors contributing to the growing adoption of AI in the automotive market include the increased implementation of ADAS technology by OEMs and the rising demand for enhanced user experiences and convenience features.

This growth is expected at a **compound annual growth rate.**

24.1% 

Source: "Automotive Artificial Intelligence Market by Offering, Technology (Deep Learning, Machine Learning, Computer Vision, Context-aware Computing, and Natural Language Processing), Process, Application, Component and Region - Global Forecast to 2027"

Key Findings from the 2024 Survey

Key Findings from the 2024 Survey

40% of dealerships are very or extremely familiar with AI, and about one-third say they use AI in their dealership today:

63% of dealership Marketing employees said they are **extremely familiar with AI**

66% of dealerships with a sales volume of 500+ units are **extremely familiar with AI**

Dealerships are optimistic about AI:

68% of dealerships using AI have already seen **a positive impact**

65% of dealerships not using AI say they anticipate seeing **a positive impact**

Dealerships predict high AI adoption within the next three years:

28% of dealerships say they already have some AI technology in **their dealership**

52% of executives have considered incorporating **AI solutions**

27% plan to adopt AI within the **next year**

Interest spans both established and new AI features:

✓ Variable Operations features with the highest interest include Propensity to Buy and Suggested Vehicle

✓ Similar interest is found in most Fixed Operations features

✓ Popular Fixed Operations AI features are Predictive Service and Service Retention

2023 Key Findings

41% of dealerships considered themselves either very or extremely familiar with AI, **while only 10% said they were not at all familiar**

53% of dealerships believed their dealership would adopt AI **within the next three years**

76% of dealerships using AI reported that they **felt a positive impact**

Trendsetters vs. the Status Quo: AI Adoption in Dealerships

As is typical with emerging technologies, we've observed that trendsetters, or those leading the way in adopting new innovations, have a much higher AI adoption rate compared to the status quo. However, 36% of status quo dealerships, or those who adhere to traditional methods, plan to incorporate AI into their operations within the next 2-3 years.

What Is a Trendsetter?

Trendsetters are dealerships who lead the way in implementing new innovations before they become mainstream. This group includes both those who are the first to try something new and those who are among the first wave to adopt new innovations — essentially, our early adopters.



45%

of trendsetters currently
use AI solutions



42%

of Fixed Operations
professionals believe they
are trendsetters, **compared
to 40% in 2023**



16%

of status quo
dealerships currently
use AI solutions



41%

of leaders consider
themselves trendsetters,
compared to 44% in 2023



48%

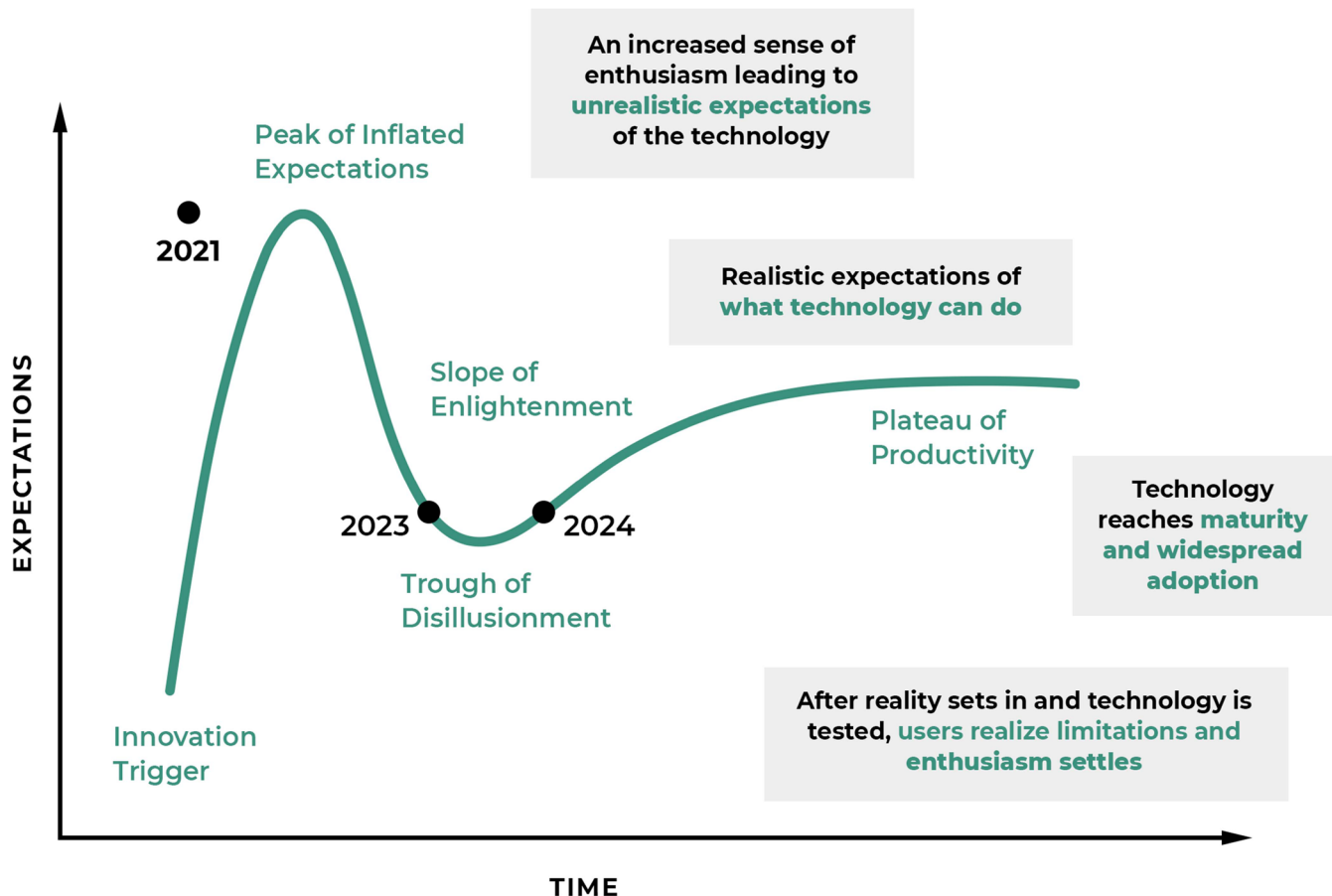
of Variable Operations
professionals believe they
are trendsetters, **compared
to 43% in 2023**

AI in Dealerships: The Gartner Hype Cycle in Action

Our third annual AI in Automotive Survey revealed an 8% decline in dealerships reporting a positive experience with AI. This could be due to several factors, including the realization of AI's limitations, insufficient training or lack of integration into dealership workflows.

This pattern mirrors the Gartner Hype Cycle, which shows how initial excitement around new technology can outpace its capabilities. As AI adoption increases, dealerships will gain a clearer understanding of AI's practical benefits and limitations. Over time, improved integration and training will likely enhance positive experiences with AI.

Gartner Hype Cycle



Source: <https://www.gartner.com/en/research/methodologies/gartner-hype-cycle>

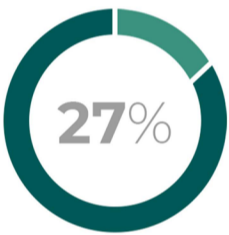
Top Challenges for Dealerships: 2024 vs 2023

We asked survey respondents to identify the challenges they find most difficult to manage. For the third year in a row, the top challenge for dealerships remains managing employees and skill shortages.

Attracting new customers and providing service and parts updates were the second and third most-cited challenges.

Attracting New Customers increased by 15% from 2023

Other Areas of Concerns Among Dealerships:



Struggle with retaining existing customers

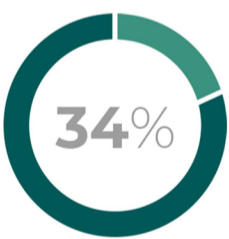


Are focused on managing employee burnout

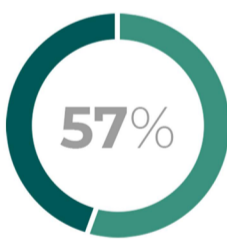


Face difficulties in converting sales leads

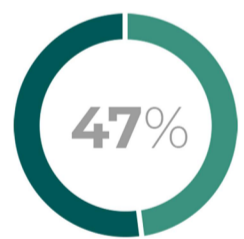
Dealership Department Segment Callouts:



of Fixed Operations personnel are concerned with retaining existing customers

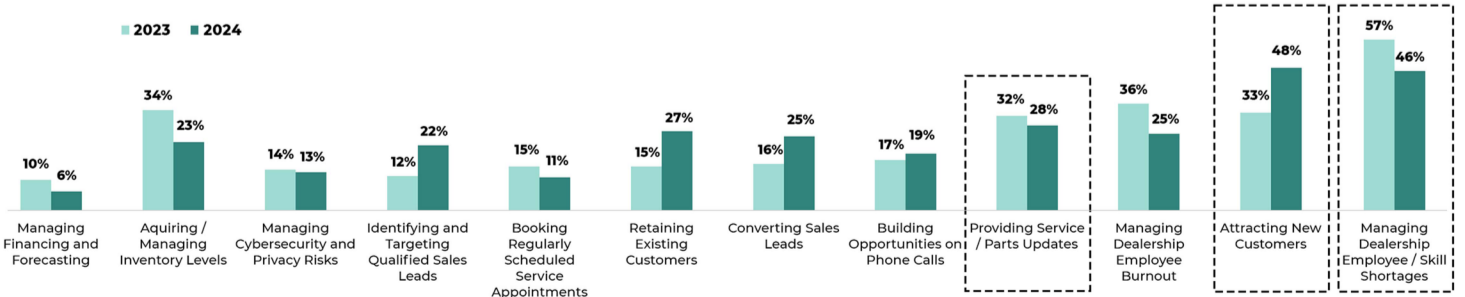


of Variable Operations personnel are concerned with attracting new customers



of Variable Operations personnel are focused on converting sales leads

Top Three Challenges Dealerships Have the Most Difficulty Managing



How AI Can Solve Top Dealership Challenges

ADDRESSING EMPLOYEE AND SKILL SHORTAGES

The automotive industry faces recruitment challenges due to rapid technological advancements, an aging workforce, and a growing demand for specialized skills. According to Manpower Group, 69% of automotive employers struggle to fill positions due to a lack of technical expertise.

AI-powered reporting tools can also provide insights into employee performance, helping dealerships identify training needs and improve job satisfaction. By adopting AI, dealerships can overcome employee and skill shortages, optimize operations and improve both Sales and Service quality.

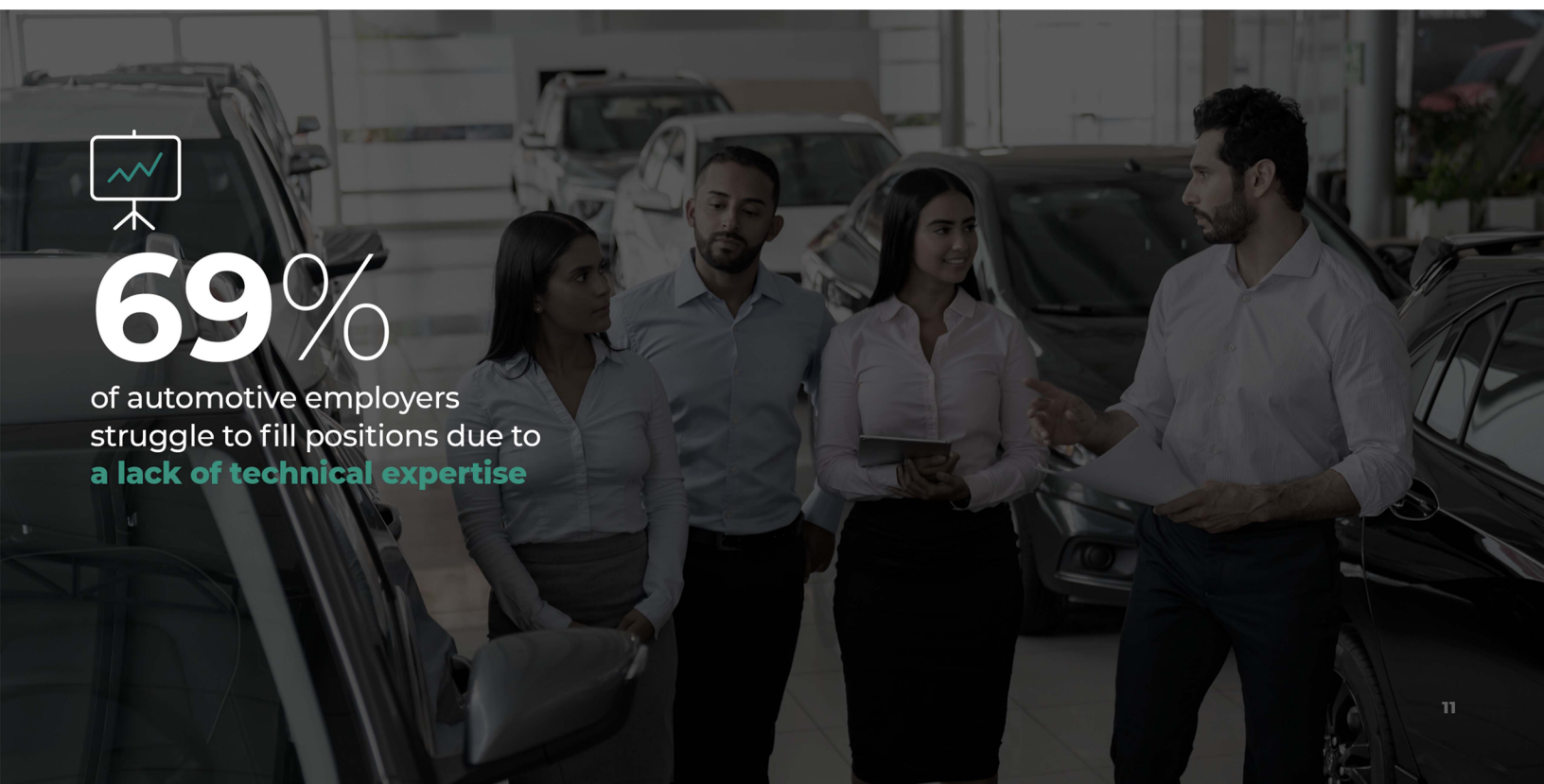
AI can help dealerships retain skilled employees by automating manual tasks, reducing the workload and increasing job satisfaction.

AI-powered chatbots and virtual assistants can manage routine inquiries, schedule appointments and provide essential information, allowing staff to focus on more complex customer interactions. In Fixed Operations, AI streamlines service reminders, scheduling and follow-ups to minimize administrative tasks for Service staff.



69%

of automotive employers struggle to fill positions due to **a lack of technical expertise**



How AI Can Solve Top Dealership Challenges

ATTRACTING NEW CUSTOMERS

Dealerships face roadblocks with evolving consumer preferences, rising competition from non-traditional dealerships, and the shift toward battery-electric vehicles. These challenges are further complicated by the diverse needs of four generational groups, each with distinct communication styles.

AI can enhance Sales, Marketing and Service strategies by analyzing customer data to deliver personalized recommendations, optimize lead scoring, and craft targeted messaging. In Fixed Operations, AI-powered predictive maintenance can identify potential vehicle issues early, enabling proactive service and increasing customer loyalty.

By leveraging AI, dealerships can create tailored experiences, improve ROI on marketing campaigns, and align Sales and Service efforts with individual preferences and demographics.



How AI Can Solve Top Dealership Challenges

TIMELY SERVICE AND PARTS UPDATES

The Service department is vital for consistent dealership income, but 78% of customers find receiving updates on their vehicle's service progress challenging*. Prioritizing the customer experience in Fixed Operations is essential, as resolving frustrations like timely updates can boost revenue, improve Customer Satisfaction Index (CSI) scores, and increase customer loyalty.

AI enhances the Service experience by providing real-time updates through mobile notifications and vehicle tracking to keep customers informed throughout the service process.

It can also optimize Parts inventory by predicting demand, ensuring the right parts are available when needed.

By adopting AI, dealerships can streamline the service process, reduce customer friction and improve loyalty, revenue and CSI scores.

Source: CDK Service Shopper 3.0, January 2024



78%

of customers find receiving updates on their vehicle's **service progress** challenging



Fixed Operations Employees Want Customer-Centric Solutions

The Service lane is a hub of activity that handles numerous cars and customers daily. In this fast-paced environment, understanding trends and customer expectations is critical. Customers often choose dealerships for their service expertise and the trust built during the vehicle purchase, making customer experience and productivity top priorities.

AI can greatly enhance this experience by offering proactive, personalized service. It can predict potential service issues, forecast Parts inventory needs and identify customers likely to return. Not only does this streamline operations, it also improves customer satisfaction by saving time, reducing costs and increasing revenue.

AI can positively influence the Fixed Operations space of a dealership at all touchpoints

By aligning AI with their service strengths and customer relationships, dealerships can create a more efficient, customer-focused experience that drives loyalty and business success.



Fixed Operations Leaders Share the Most Valuable Uses of AI

Survey respondents from Parts, Service and Executive Leadership identified the following features as the most valuable:



Predictive Service:

Recommends additional inspections based on vehicle model and condition



Parts Inventory Predictor:

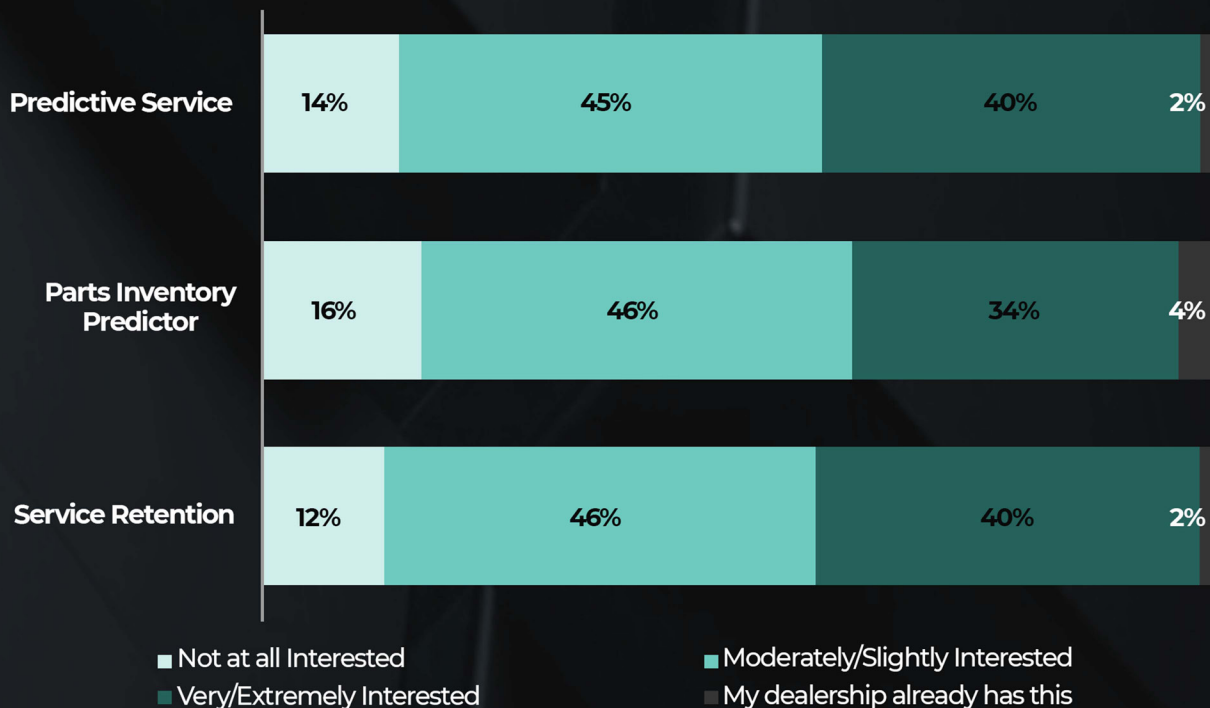
Estimates demand to recommend stocking levels for parts



Service Retention Monitor:

Identifies customers likely to return for service

Interest in Learning These Features:



Fixed Ops feature questions were asked to the following areas at the dealership: Parts, Service and Executive Leadership

Sales and F&I Employees Want Help Selling

With dealerships averaging 80 days (about two and a half months') worth of unsold inventory*, there's a growing need to streamline costs and boost revenue by balancing floor plan expenses and vehicle sales. To do this, dealerships must focus on acquiring more qualified leads and identifying opportunities for accessory and bundle sales.

AI can enhance this process by improving efficiency and optimizing inventory turnover. AI-powered lead generation tools, integrated with CRM systems, help identify and qualify leads more likely to purchase. By analyzing customer profiles, AI can also recommend specific vehicles and suggest relevant accessories or F&I bundles.

By using AI for personalized vehicle packages and lead qualification, dealerships can increase sales efficiency, align inventory with demand and drive higher revenue and customer satisfaction.

Source: "Inventory continues to grow for U.S. Auto Dealers" Digital Dealer, James Hickey, 2024

Most Valuable AI Features for Sales and F&I Departments

Survey respondents from F&I, Marketing, Sales and Executive Leadership identified these AI features as the most valuable:



Propensity to Buy: Predicts a buyer's likelihood to purchase based on their CRM profile



Accessory / F&I Bundles Recommender: Recommends accessory and F&I product bundles tailored to specific customers

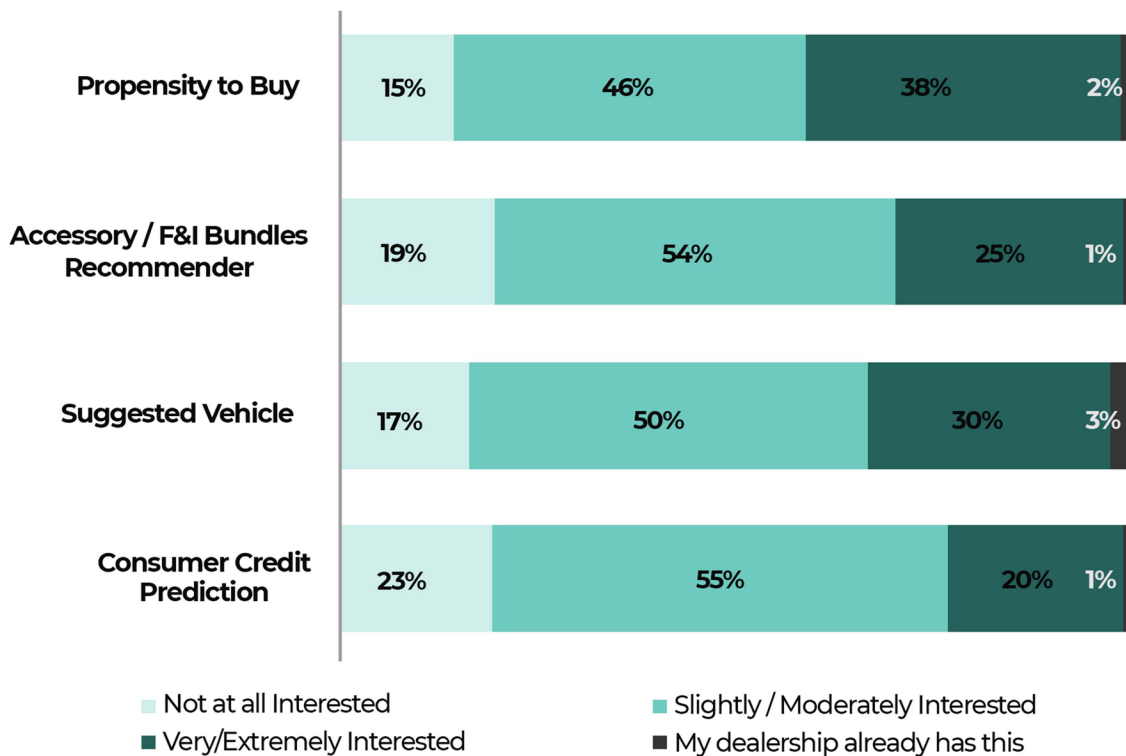


Suggested Vehicle: Suggests vehicles for qualified leads and recommends next steps to close the sale



Consumer Credit Prediction: Predicts the outcome of a credit check for potential buyers

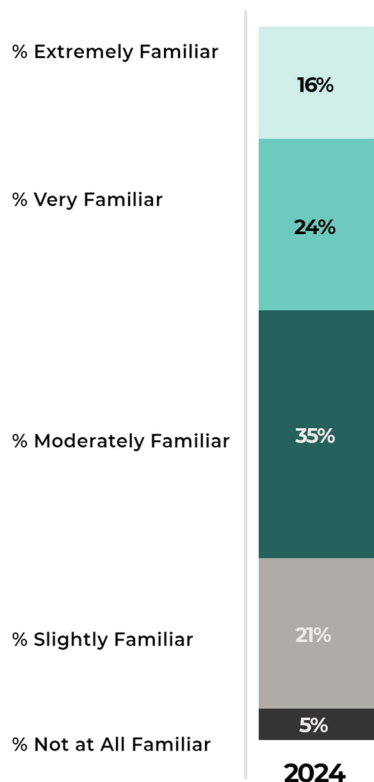
Interest in Learning These Features:



Variable Ops feature questions were asked to the following areas at the dealership: F&I, Marketing or Advertising, Sales and Executive Leadership

40% of Dealerships Are Extremely Familiar With AI

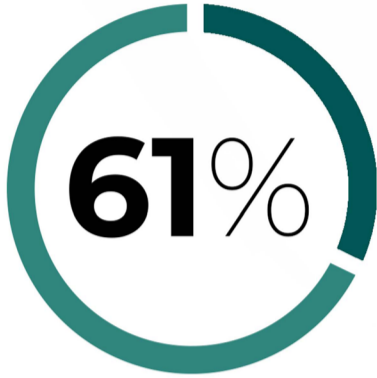
Our survey revealed that 75% of responding dealerships are moderately to extremely familiar with artificial intelligence, with 40% feeling they are either extremely or very familiar with the topic. Additionally, 30% of dealerships believe they are either slightly more or 'much more' knowledgeable about AI than their competitors.



Key Segments:

- ✓ **63%** of Marketing employees report familiarity with AI
- ✓ **50%** of Accounting employees indicate they are not familiar with AI
- ✓ **66%** of dealerships with a sales volume of 500+ units are extremely familiar with AI

Many Dealerships Are Already Using AI



Respondents have already implemented one or more AI-based applications in their dealership.

Additionally, 54% plan to do so within the next three years.

Among trendsetter respondents, 45% are currently using AI — an impressive 16% increase from 2023

Segmentation Insights:



Variable Operations:

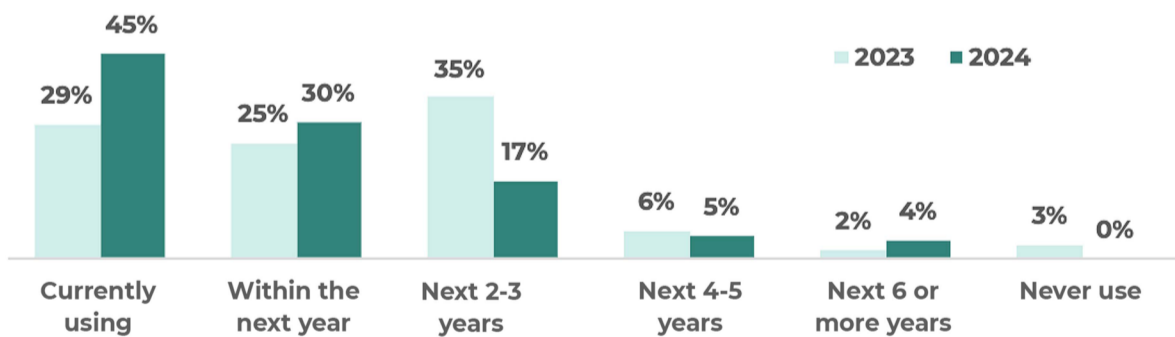
41% of employees plan to incorporate AI within the next year, with 48% considering themselves trendsetters



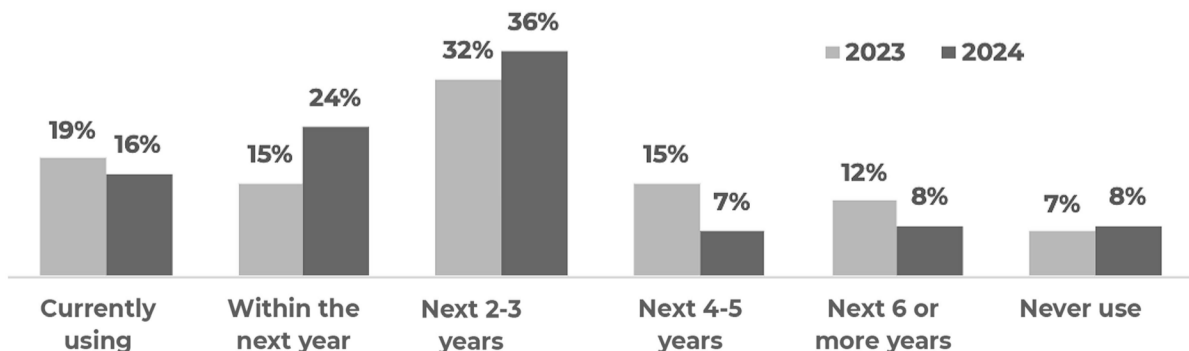
Fixed Operations:

Only 23% of employees plan to incorporate AI within the next year, with most (58%) following the status quo

When will your dealership incorporate AI solution? **By Trendsetters**



When will your dealership incorporate AI solution? **By Status Quo**



AI Will Benefit Sales the Most

Dealerships believe AI will drive the greatest impact across three key areas: Sales, Service and Marketing and Advertising.



68%

of dealerships using AI reported a **positive impact on their business.**

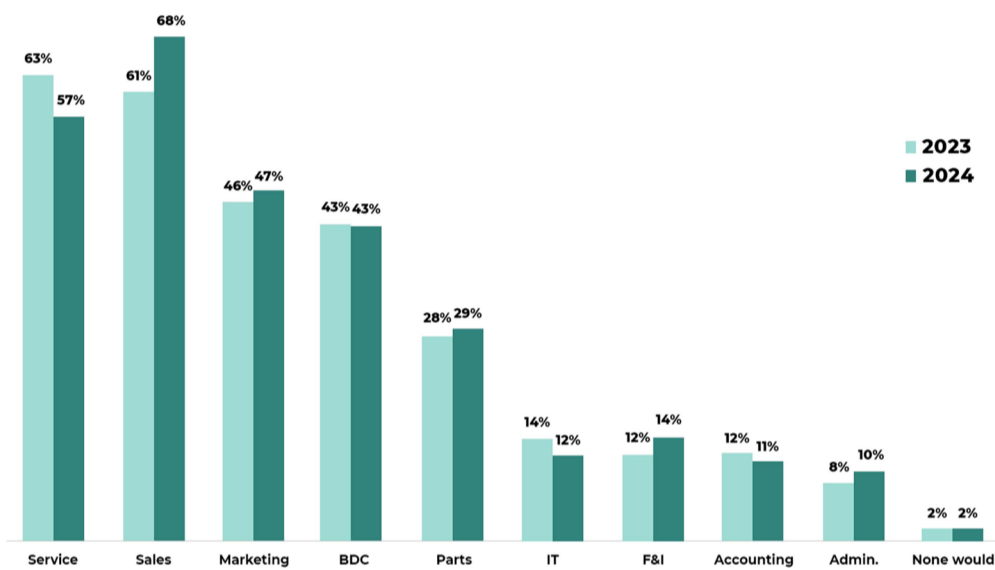


65%

of dealerships not yet using AI expect it to **positively affect their operations in the future.**

AI incorporation will help the Sales team the most

Which department(s) in the dealership do you think would benefit the most by using AI solutions?



AI's Role in Sales

AI is revolutionizing the way dealerships approach sales by automating critical tasks, identifying new opportunities and personalizing customer interactions.

Key benefits include:

- Lead Qualification:** AI helps identify leads that are most likely to convert
- Predictive Insights:** AI predicts a buyer's likelihood of purchasing a vehicle, enabling targeted sales efforts
- Vehicle Suggestions:** AI recommends vehicles based on customer behaviors and preferences
- Bundling:** AI suggests relevant accessories and F&I products for each customer, increasing upsell potential

What Departments Are Saying About the Benefits of AI:



“AI assists with getting customers in for sales appointments and helps with scheduling or confirming service appointments.”

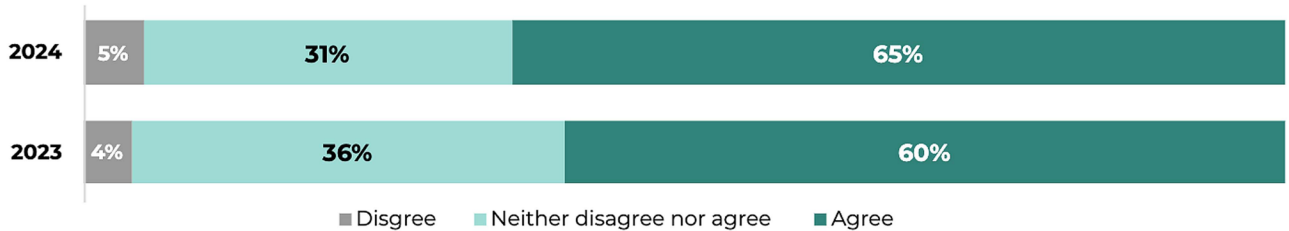


“We use AI to support call campaigns and assist in the internet follow-up process.”

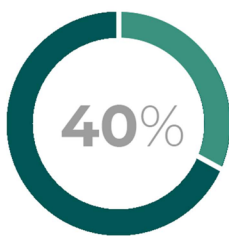
Dealerships Who Are Not Using AI Remain Optimistic About Its Impact

Despite not yet adopting AI, many dealerships are optimistic about the potential benefits it could bring to their operations.

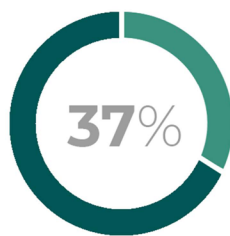
Dealerships Who Agree AI Will Have a Positive Impact:



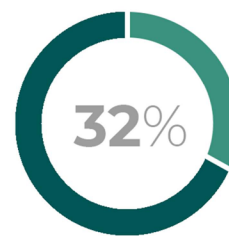
Top Benefits Identified by Dealerships Who Agree AI Will Have a Positive Impact:



Attracting new customers



Converting sales leads



Booking regularly scheduled service appointments

Segment-Specific Perceptions:



Executives not yet using AI see converting sales leads (48%) as the most impactful benefit



Fixed Operations employees believe providing service/parts updates (47%) will be the most significant improvement, directly addressing one of the dealership's top three challenges

Dealerships Yet To Deploy AI Are Excited About Its Possibilities

Although some dealerships haven't adopted AI yet, many are eager to explore how it can help streamline operations and improve customer engagement.

Here's how they plan to use AI in the near future:

31%

Identifying and targeting qualified sales leads

29%

Retaining existing customers

28%

Providing service and parts updates

21%

Acquiring and managing inventory

19%

Building opportunities from phone call data



Dealerships Are Hesitant To Trust AI Completely

Dealerships have expressed hesitations about fully adopting AI solutions due to concerns surrounding the technology's maturity and reliability.



62%

feel that AI is still too new and unproven in the market, which makes them cautious about its **effectiveness and stability**



29%

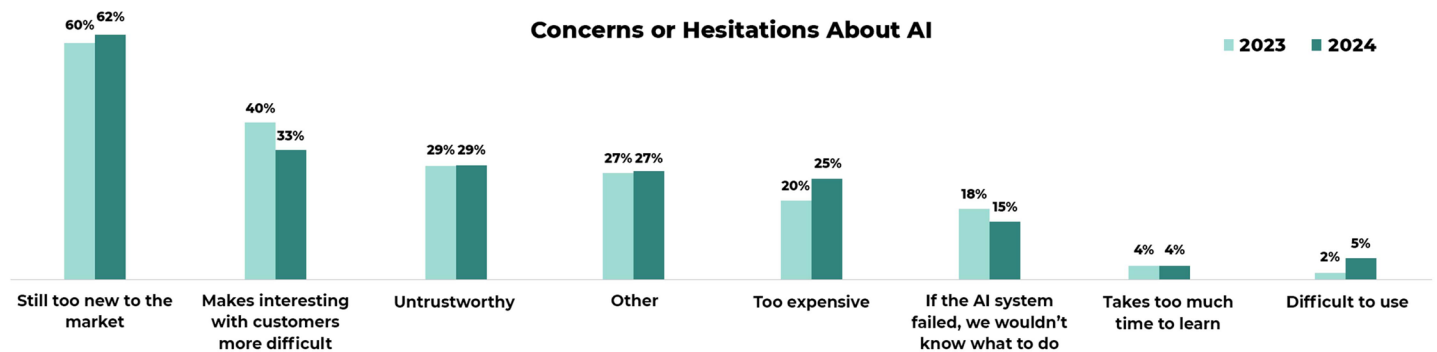
remain skeptical about the trustworthiness of AI systems, **fearing potential inaccuracies or system failures**



33%

worry that AI might complicate customer interactions instead of enhancing them, **potentially creating barriers**

These concerns illustrate the cautious approach dealerships are taking as they explore integrating AI into their operations.



AI Must Leverage Automotive Expertise and Up-to-Date Data

When it comes to adopting AI, dealerships emphasize the importance of having AI systems that are deeply embedded in their industry and supported by experts who understand automotive operations.

Key functionality features that dealers look for in AI include:

39%

want AI functionality to be embedded directly in the product.

63%

prioritize AI that uses comprehensive and up-to-date automotive industry data.

52%

prefer that AI predictive models are trained by experts with real automotive industry experience.

Segment-Specific Insights

The need for AI to be built with industry expertise is especially pronounced in leadership and operations roles:



of dealership leaders want AI to use comprehensive and up-to-date industry data



of Variable Operations professionals believe AI should be trained using the most current automotive data available

Why Dealership AI Tools Need To Be Built by Automotive Industry Experts

When introducing new technology, it's vital to choose AI tools developed by experts who understand the automotive landscape. Industry-specific expertise ensures these tools are not only advanced, but also precisely aligned with dealership operations, leading to more trustworthy, secure and effective solutions.

Key Focus Areas for Automotive AI Technology:

- ✓ **Industry-Specific Knowledge:** Automotive experts provide in-depth insights into vehicles, customer preferences and dealership workflows, ensuring AI models are customized to meet the unique needs of the industry
- ✓ **Regulatory Compliance:** Experts ensure AI models align with automotive regulations, reducing legal risks and maintaining ethical standards
- ✓ **Understanding Market Trends:** With deep knowledge of market dynamics, experts help AI predict and adapt to shifts, providing dealerships with a competitive edge
- ✓ **Real-World Applications:** Practical insights from the industry enhance the functionality of AI, making it more effective in day-to-day dealership operations
- ✓ **Enhanced Accuracy:** Industry-specific data curated by professionals boosts AI precision, leading to more reliable recommendations and decisions
- ✓ **Improved Customer Interaction:** AI systems designed with expert knowledge can significantly elevate customer engagement, leading to higher satisfaction and retention

Will the Investment of Incorporating AI Be Worth It?

Over the past three years, survey respondents in 2021, 2023 and 2024 have consistently expressed similar concerns that need to be considered before introducing AI into the dealership.

The top three concerns cited were: initial setup and training costs, achieving a good ROI and aligning AI with current processes and workflows.



“It can be used but not trusted on its own.”

> CHEVY DEALER



Initial setup and training costs



Not getting the ROI / net worth of the cost



Aligning AI with current processes and workflows

It's understandable that dealers may struggle to trust AI, as skepticism is common across various industries. However, it's important to remember that AI is not designed to run your business autonomously. Instead, its purpose is to alleviate routine tasks, offer recommendations and provide valuable data insights. AI complements human expertise rather than replaces it. The relationship between customers and skilled employees will always be the dealership's most valuable asset.

Next Steps

Step 1

Consider AI To Attract and Retain Customers

To bring in an initial positive ROI, dealers should look at AI as a tool to assist the Sales department in finding qualified opportunities, and the Service department in retaining existing customers.

Step 2

Consider AI To Address Employee and Skill Shortages

To help solve staffing challenges, dealerships should explore AI solutions that simplify resource-intensive tasks and augment employee skills. AI-driven solutions can use data and ML to help employees become experts more quickly, strengthening the health of each department.

Step 3

Leverage Data Insights

Dealers must remember that data fuels any AI initiative. Consider adopting a solution that offers the right combination of data, analytics, and AI to provide actionable insights, helping solve problems and identify new opportunities.



About This Study

CDK is dedicated to the success of its dealers through its products and a deep understanding of the broader automotive retail industry. Our Research team works continuously to uncover and explain the latest trends to help inform the industry on topics as foundational as Sales and Service and as complex as AI.



Peter Kahn

CDK Head of Research

With over 20 years of experience in researching all aspects of the automotive retail industry, Peter's work is focused mainly on how dealerships and brands can improve efficiencies and meet the changing needs of the vehicle buyer and service consumer. As the Senior Director of the CDK Research and Insights group since 2015, Peter has produced work that covers a range of topics, such as artificial intelligence in the dealership, women in automotive, the state of the automotive retail industry, job seekers in automotive retail, and many more that help inform decision-makers in our industry.



Devika Birnale

Study Lead Researcher

Devika is a Market Research Analyst at CDK, where she works on a variety of research initiatives across thought leadership and the Product Technology and Marketing teams. Her research bridges the gap between end customers, dealerships and CDK. Devika holds a master's degree in marketing intelligence from the University of San Francisco.

About CDK

CDK is a pioneer in automotive retail providing end-to-end, omnichannel retail commerce solutions to our partners in the automotive and heavy truck industries.


We are a leading provider of integrated data and open, agnostic technology to nearly 15,000 retail locations in North America. By connecting people with technology, CDK solutions integrate all parts of the dealership and customer relationship.

As part of this mission, CDK regularly conducts research across the automotive retail industry from sales to service and technology's place connecting it all.

To learn about how CDK is using AI to help our customers, visit us at cdk.com.





CONNECT WITH US  [CDK.COM](https://www.cdk.com)