Bringing AI-driven data monetization into focus

Client story

Client
Global telecommunications provider

Sector
Media and telecommunications

Project
Data monetization proof of capability

Client challenge

Imagine that every time you drive your car, it sends data to the manufacturer—every trip, every minute, a constant stream of data. Now multiply your car by tens of millions of vehicles and you end up with billions of records, each containing valuable information that could potentially be monetized—but how? That was the challenge KPMG faced when a global telecommunications company approached us to analyze and develop insights from the connected vehicle platform-as-a-service it provides to a major U.S. automotive original equipment manufacturer (OEM). Because traditional analytics platforms are often insufficient to process the volume and complexity of connected vehicle data, KPMG knew we needed to design, test, and validate a new approach to generate powerful and actionable insights.

Benefits to client

In processing tens of thousands of vehicles worth of data across the United States, KPMG developed a proprietary approach that processes data at scale and develops insights from the Internet of Things (IoT), a network of internet-connected objects able to collect and exchange data.

The ability to synthesize billions of IoT records, incorporate tens of thousands of external signals, and apply advanced analytics and artificial intelligence, opened up a world of opportunities for our client, including:

- Targeted third-party marketing and advertising based on driving patterns
- Personalized property and casualty insurance underwriting and premiums applied to driver-specific behavior
- Manufacturing procurement and supply chain optimization through predictive analytics
- Dynamic route optimization that improves transportation and logistics
- Mobility-as-a Service (MaaS), to encompass car-sharing concepts and subscription sharing for a given vehicle or fleet.

KPMG response

With opportunities for data and analytics in the automotive sector expanding rapidly, a global telecom provider turned to KPMG to help monetize the insights that can be developed from connected vehicles. Long known for doing high-value, leading work in very large-scale data processing, artificial intelligence, and machine learning, KPMG saw the chance to broaden its client's capabilities by also working with rapidly updating dynamic telemetry.

Leveraging our big data infrastructure, over a four-week period KPMG ingested and processed billions of connected vehicle IoT observations that were updated every minute. To turn information into insights, we developed a unique approach for analyzing the data, using block groups as defined by the U.S. Census Bureau. Block by block, we characterized vehicle behavior by shape, profiling by location, speed, and acceleration measurements, along with trip-specific driving habits and patterns. What's the shape around the Monday-to-Friday commute? What are the "areas of influence" for drivers—those geographical areas most frequently visited by driver cohorts? Is there a different shape on Saturday and Sunday?

By incorporating additional demographic, geographic, and socio-economic data from the KPMG Signals Repository, we could bring these shapes to life. We could tell when drivers were grabbing a quick lunch versus stopping on their way home to pick up dinner. If their movements were repetitive over a long distance, we could distinguish between long-haul truck drivers versus one-time-only vacationers.

These insights in turn led to potential use cases. If more people were stopping at Starbucks in the morning, perhaps the nearby McDonald's could offer a coupon to entice more customers. Driver-specific behavior data could be applied to personalize property and casualty insurance underwriting and premiums. Trip-specific driving habits and patterns could improve transportation, logistics, and processes. Driver data also could better inform MaaS for car sharing and subscription sharing for a given vehicle.

Over the course of the four-week project, our data scientists moved from analyzing tens of thousands to millions of vehicles. In an actual engagement, we would add KPMG professionals with strategy experience in data commercialization and automotive specilization to focus on specific use cases, as well as specialists to determine market demand and the appropriate target operating model to operationalize a data organization.

KPMG insights

Often, additional data is needed to convert information into actionable insights.
Although we were already working with millions of driver records, merging external data from multiple sources and the KPMG Signals Repository helped us ask the right questions, drill down, and reveal specific use cases available for monetization.

Data best comes to life in a business context.
In addition to monetization opportunities, the KPMG Signals Repository provided relevant business context—enriching and augmenting connected vehicle data through external signals to fuel predictions and recommendations in the areas of manufacturing procurement and supply chain optimization, more reliable vehicle diagnostics, route optimization, predictive vehicle and equipment maintenance, consumer-based profiling, and competitive intelligence.

If you are interested in learning more about this case study, or if you are experiencing similar issues, please contact us.

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