

# CASE STUDY

Realizing the Power of Data Analytics in Minimizing Transportation Costs



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### DATA ANALYTICS AS A PROMISING TECH-ENABLED COST REDUCTION STRATEGY

In today's hyper-competitive market, every dollar counts. Traditional cost-optimization approaches are, however, yielding diminishing returns and will soon be obsolete. Subsequently, firms are increasingly turning to tech-enabled cost reduction strategies, one of which is data analytics. The global market for data analytics is projected to hit US\$132.9 billion by 2026, at a staggering CAGR of 26.4%\*.

Our client is one of Japan's largest car distributors. **They soon realized car delivery had been taking up a lot of their operational budgets.**

Furthermore, moving cars around hundreds of stores and auction spots within Japan had proven to cause disruptions to the business: cars are not delivered on time, leading to inventory management and customer services issues.

As a technology-driven company, the Client believed that the solution to their issues might be hidden deep within their massive amount of operational data. They believed that, with the assistance of FPT, data could benefit their decision-making process and improve delivery efficiency.

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\* Market Research Future - Global Data Analytics Market Research Report 2020

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## SOLUTION

FPT's data analytics team started out with pinpointing the root cause of spiking transportation costs. Using descriptive analytic algorithms on the Client's historical data, the location in which transportation costs incurred the most and the most resource-extensive routes were identified. Deeper analysis revealed that the pricing model and the routes customized by existing delivery vendor were truly undesirable: Costs were charged per trip by the vendor, resulting in transportation expenses piling up quickly. What's more, drivers' routes were not optimized, leading to time wasted on the road and inefficient spending.

First, we sought to alleviate the limitations of the delivery model.

The suggestion was entirely substituting the vendor's work with in-house effort. Optimization Algorithms were developed to test the efficiency of such an idea. After simulating the replacement scenarios over the span of 30 days, the algorithms produced the following results:

- A hybrid model – where delivery vendor work alongside in-house drivers, should be maintained.
- The optimal number of in-house drivers was 20-30 people.
- The list of dealers to which the in-house drivers should be assigned to produce the best outcome.

The next issue that the team set out to resolve was Route Optimization by combining different trips within a specific working duration. For routes that are more difficult and inconvenient, it was revealed that utilizing Transportation Vendor would yield the most efficiencies.

## VALUES

The new delivery model, which encompasses both in-house efforts and external assistance to effectively move cars around, promises to bring remarkable outcomes:

### People:

The optimized routes enabled by FPT's AI services, have been helping drivers to move around much more effectively than before, reducing wasted time and effort while maximizing the number of cars delivered to locations.

### Business:

By switching the vendor's trip-based cost to employees' effort-based wage, transportation expenses can save up to 80%. The effective cost-reduction strategy was realized thanks to data analytics – which relied on historical transactional data and AI to pinpoint the underlying issues and simulate different scenarios to find the best solution. The approach can be applied in other industries involving route optimization like aviation, logistics.



↓ **80%**  
in transportation costs



**Reducing drivers' wasted time and effort**  
thanks to the AI-driven Route Optimization

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