Customer example: GoJek

1. Google Cloud Big Data and Machine Learning Fundamental

<https://www.cloudskillsboost.google/course_templates/3/video/467830>

A group of cars in different colors

Description automatically generated

Traffic congestion is a fact of life for most Indonesian residents. To minimize delays, many rely heavily on motorcycles, including motorcycle taxis, known as Ojeks, to travel to and from work or personal engagements.

Founded in 2010 and headquartered in Jakarta, a company called Gojek started as a call center for ojek bookings. The organization has leveraged demand for the service to become one of the few "unicorns" in Southeast Asia. A “unicorn” is a privately held startup business valued at over US$1 billion.

A screenshot of a video game

Description automatically generated

Since its inception, Gojek has collected data to understand customer behavior, and in 2015 launched a mobile application that bundled ride-hailing, food delivery, and grocery shopping. They hit hypergrowth very quickly.

A screenshot of a phone application

Description automatically generated

A screenshot of a phone

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According to the Q2 2021 Gojek fact sheet the Gojek app has been downloaded over 190 million times, and they have 2 million driver partners and about 900,000 merchant partners.

The business has relied heavily on the skills and expertise of its technology team and on selecting the right technologies to grow and to expand into new markets.

A screen shot of a phone

Description automatically generated

Gojek chose to run its applications and data in Google Cloud.

Gojek’s goal is to match the right driver with the right request as quickly as possible.

A screenshot of a phone

Description automatically generated

In the early days of the app, a driver would be pinged every 10 seconds, which meant 6

million pings per minute, which turned out to be 8 billion pings per day across their driver partners. They generated around five terabytes of data each day.

A screenshot of a phone

Description automatically generated

Leveraging information from this data was vital to meeting their company goals. But Gojek faced challenges along the way. Let’s explore two of them to see how Google Cloud was able to solve them.

* The first challenge was data latency.
  + When they wanted to scale their big data platform, they found that most reports were produced one day later, so they couldn’t identify problems immediately.
  + To help solve this, Gojek migrated their data pipelines to Google Cloud.
  + The team started using Dataflow for streaming data processing and BigQuery for real-time business insights.
* Another challenge was quickly determining which location had too many, or too few, drivers to meet demand.
  + Gojek was able to use Dataflow to build a streaming event data pipeline.

A screenshot of a computer

Description automatically generated

This let driver locations ping Pub/Sub every 30 seconds, and Dataflow would process the data. The pipeline would aggregate the supply pings from the drivers against the booking requests. This would connect to Gojek’s notification system to alert drivers where they should go.

This process required a system that was able to scale up to handle times of high throughput and then back down again.

A screenshot of a phone

Description automatically generated

Dataflow was able to automatically manage the number of workers processing the pipeline to meet demand. The Gojek team was also able to visualize and identify supply and demand issues.

A white background with black text

Description automatically generated

They discovered that the areas with the highest discrepancy between supply and demand came from train stations. Often there were far more booking requests than there were available drivers. Since using Google Cloud’s big data and machine learning products, the Gojek team has been able actively monitor requests to ensure that drivers are in the areas with the highest demand.

This brings faster bookings for riders and more work for the drivers.

A computer and a motorcycle

Description automatically generated with medium confidence

A screenshot of a cloud service

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