



# Transform your business with data-driven insights

Forecasting and anomaly detection powered by machine learning

**Chris King**

**Sr. AI Services Specialist Solution  
Architect, AWS**

# Business data – expectation vs reality



## Does this sound familiar?

More data than ever before, but not enough insights

You have more visibility, but struggle with data management

Far too many reporting tools and dashboards

Your analysis is based on the historical data, but what about predicting the future?

# What have we learned from our experience at **amazon**



Customer data is unique



Generating actionable results is critical



Dynamically adapting to changing business cycles is important



Building accurate and effective business metrics analysis models require ML experts

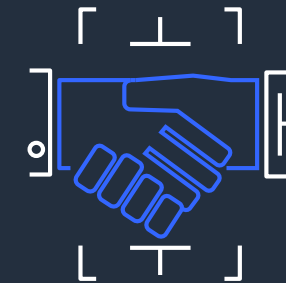
# Barriers to implementing machine learning



**Lack of in-house expertise**



**Silo'd data footprints**



**Need expert guidance**

# Solve the biggest challenges of analyzing business data with AWS AI services

## Business Forecasting



### Amazon Forecast

Accurately forecast common business metrics

## Anomaly Detection



### Amazon Lookout For Metrics

Detect anomalies and identify the root cause for operational excellence



# Amazon Forecast



**Reduced waste by 30%, reduced stocking cost by 3%**

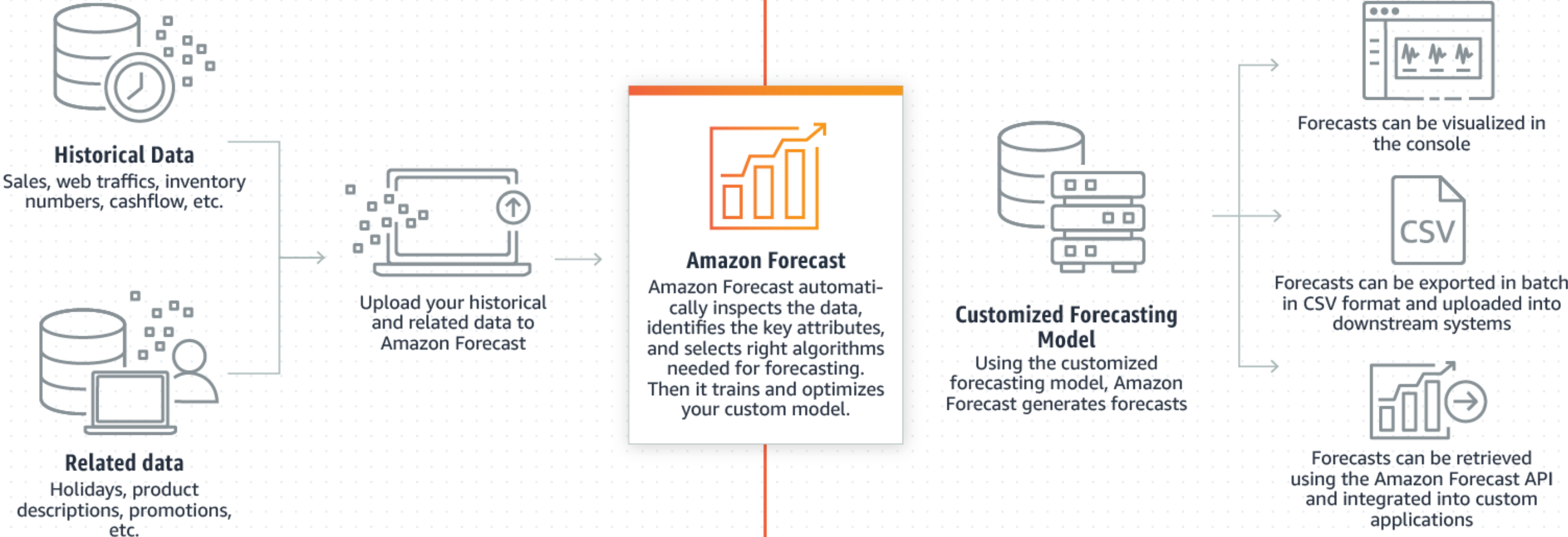
“Using Amazon Forecast, we have been able to increase our forecasting accuracy from 27% to 76% reducing wastage by 30% for the fresh produce category. Amazon Forecast provides a distribution of forecasts which helped us optimize our under and over forecasting costs leading to stock-outs at 3% and improved gross margins. This makes it easier for our store managers to place more accurate purchases orders by looking at the daily forecasts..”



**Predictive forecasting and agile scenario planning**

“With the integration of Amazon Forecast into our platform, our customers across finance, supply chain, sales, and HR can leverage further intelligence through embedded machine learning to create nimble, reliable forecasts. We are proud to deliver Anaplan PlanIQ with Amazon Forecast to help our customers forecast with increased accuracy for intelligence-driven decision-making that gives them a competitive edge.”

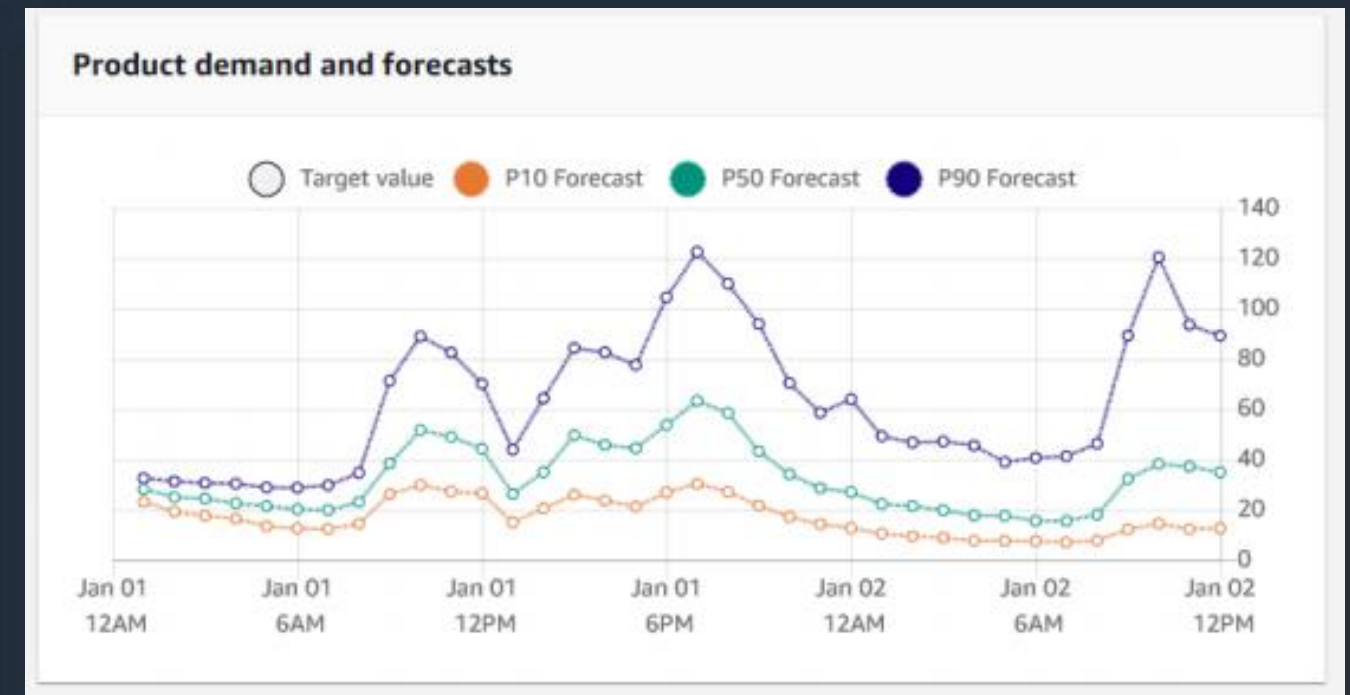
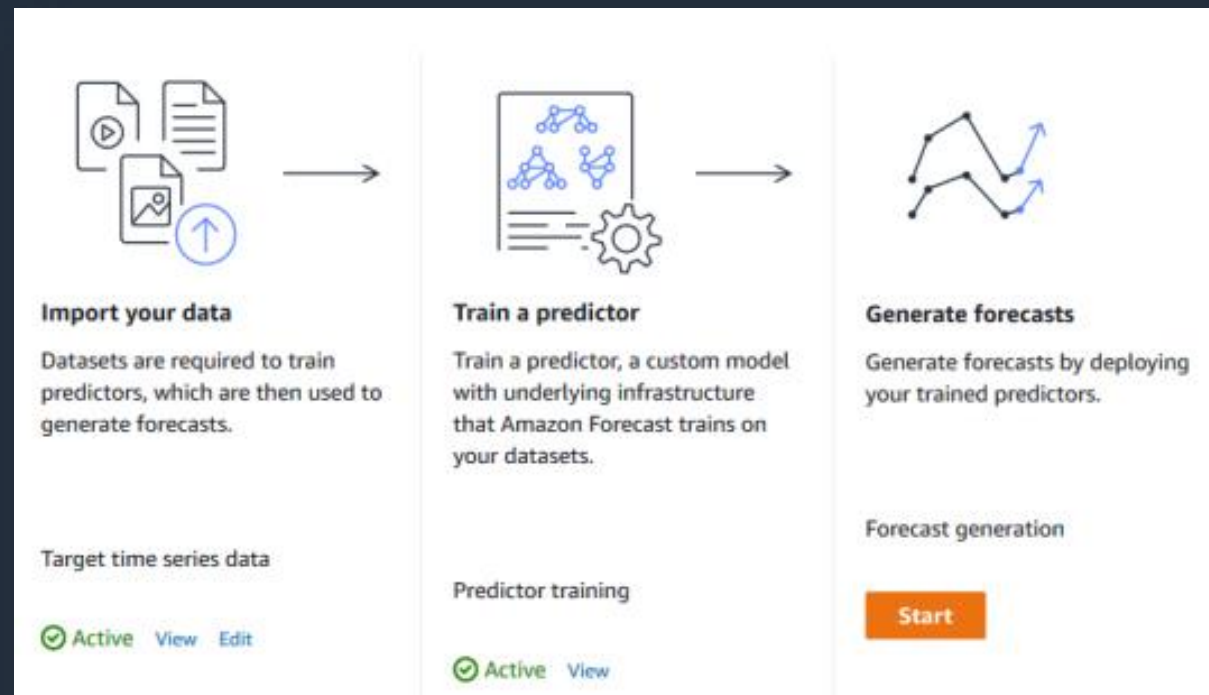
# Highly accurate, end to end forecasting





# Amazon Forecast

Highly accurate forecasts for various business and operational metrics, at scale



Reduce waste and markdowns

Improve in-stock rates and inventory turns

Minimize inventory carrying costs

Optimize staffing, hiring, and training

Meet demand from pricing & promotions

Minimize rush fulfillment





# Amazon Lookout for Metrics

**playrix**

**Saved hours of manual investigation**

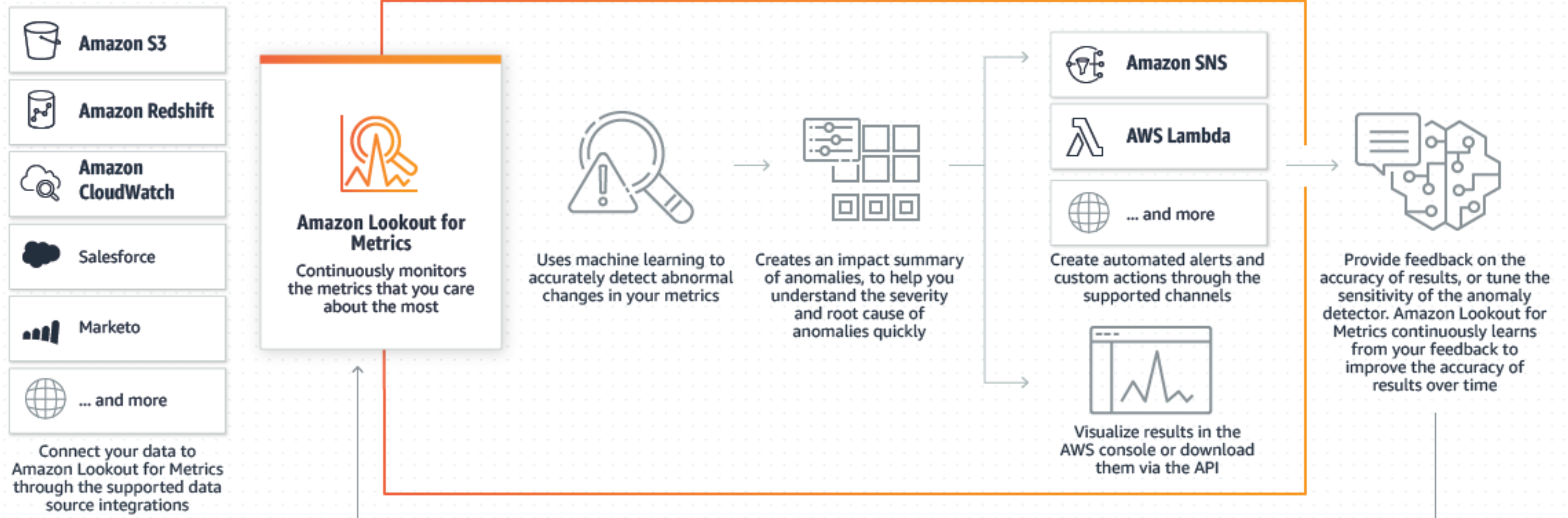
“Lookout for Metrics has saved our team many hours of manual investigation and now notifications are viewed as actionable rather than noise, allowing our teams to easily focus on strategic priorities with less technical overhead.”

**digitata**

**Detected issue within minutes to avoid a 7.5% drop in revenue**

“We were able to discover an issue that was negatively impacting pricing for a Mobile Network Operator customer within minutes. We were able to instantly **identify the culprit and roll out a fix within 2 hours**. Without Lookout for Metrics, it would have taken us approximately a day to identify and triage the issue, and would have led to a 7.5% drop in customer revenue.”

# Detect anomalies and identify root cause





# Amazon Lookout for metrics

Detect anomalies and identify their root cause in virtually any business and operational

The screenshot displays the Amazon Lookout for metrics interface. On the left, a line chart shows revenue over time from 3/2 to 3/9. A significant dip is visible on 3/7, with a tooltip indicating a revenue of 1,800K at 7:10 AM PST. Below the chart, a table lists dimensions: OS (iOS), Device type (Phone), Product type (Grocery), and Version (0.4). A 'Severity threshold' slider is set to 75, with a 'Number of anomalies: 20 detected' displayed below it. On the right, a 'Revenue: Impact Analysis' section shows a horizontal bar chart of dimension contributions to the anomaly. The top 5 contributors are highlighted: OS (Android 55%), Device type (Phone 45%), Country (USA 33%), Product type (Grocery 30%), and Version (0.4 22%). A tooltip for the Country dimension shows France contributing 8%.

Dimension	Value (sum of dimension values equals 100%)
OS	Android (55%)
Device type	Phone (45%)
Country	USA (33%)
Product type	Grocery (30%)
Version	0.4 (22%)

- Sales - revenue, purchases, order rate, shopping cart metrics
- Marketing - downloads, installs, page views, churn rate
- Customer engagement - clicks, impressions, conversions, installs
- Operation - latency, CPU utilization, error rates, throughput



# Let's see Amazon Lookout for Metrics in action....

# Key benefits of using AWS AI services



**Amazon Forecast**



**Amazon Lookout for metrics**



**Track, monitor, and analyze various business metrics with high accuracy**

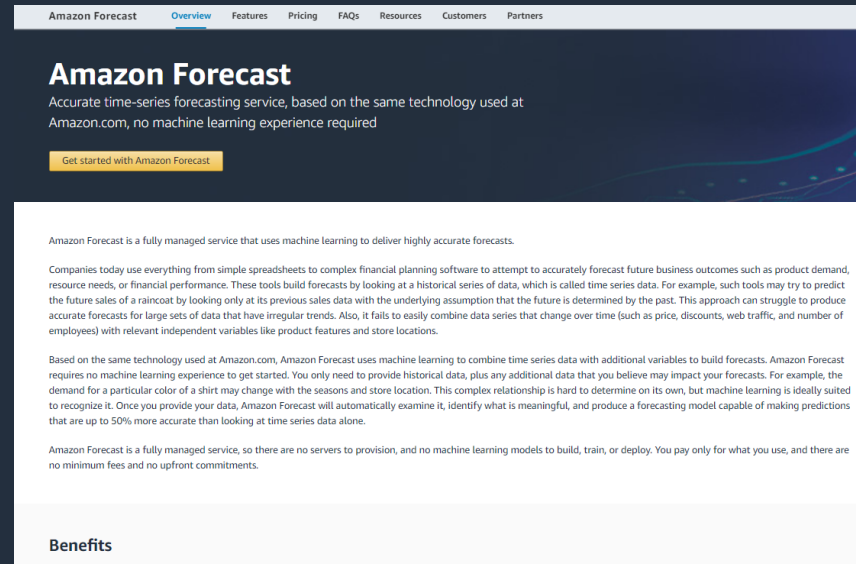


**Leverage Amazon experience to enrich your business**



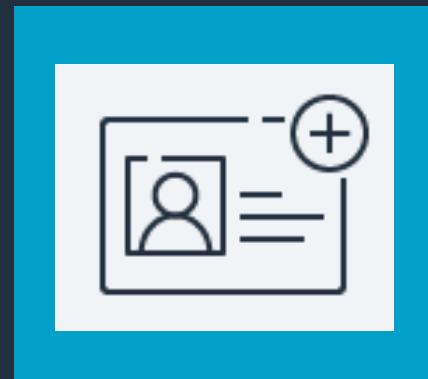
**Save time, reduce cost, and improve productivity**

# How can you get started?

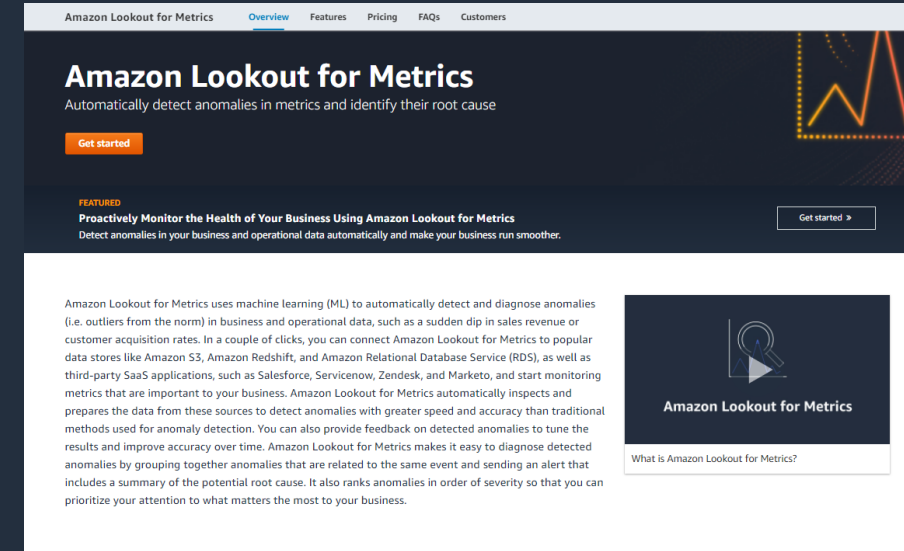


The screenshot shows the Amazon Forecast website. At the top, there is a navigation bar with links for Amazon Forecast, Overview, Features, Pricing, FAQs, Resources, Customers, and Partners. The main heading is "Amazon Forecast" with a sub-heading "Accurate time-series forecasting service, based on the same technology used at Amazon.com, no machine learning experience required". Below this is a "Get started with Amazon Forecast" button. The main content area contains several paragraphs of text explaining the service, its benefits, and how it works. At the bottom, there is a "Benefits" section.

## Amazon Forecast

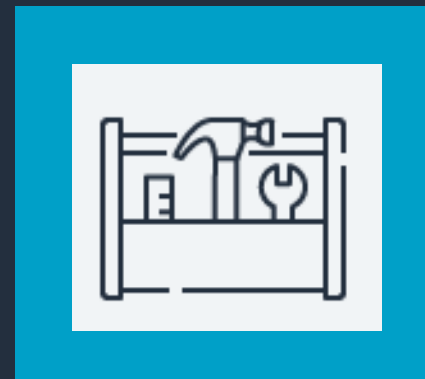


[Sign up for a free account](#)



The screenshot shows the Amazon Lookout for Metrics website. At the top, there is a navigation bar with links for Amazon Lookout for Metrics, Overview, Features, Pricing, FAQs, and Customers. The main heading is "Amazon Lookout for Metrics" with a sub-heading "Automatically detect anomalies in metrics and identify their root cause". Below this is a "Get started" button. The main content area contains a "FEATURED" section with the heading "Proactively Monitor the Health of Your Business Using Amazon Lookout for Metrics" and a sub-heading "Detect anomalies in your business and operational data automatically and make your business run smoother." Below this is a "Get started >" button. The main content area also contains several paragraphs of text explaining the service, its benefits, and how it works. At the bottom, there is a "What is Amazon Lookout for Metrics?" section.

## Amazon Lookout for Metrics



[Start building in the console](#)

# Q&A