

The 3 Key Components of Observability

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Observability is More Than Just Metrics

Observability includes more than just the analysis of metrics. It directly helps the organization understand the relationships between telemetry data, technology goals, and business key performance indicators (KPIs). Tracking these relationships constitutes the contextual foundation for turning raw telemetry data into actionable insights visible through alerts, proactive recommendations, and user-specific dashboards.

The 3 Core Elements of Observability

Observability platforms help app developers, DevOps engineers, platform engineers, SREs, security engineers, and other relevant roles prioritize, streamline, and automate their daily tasks based on the current business context. This makes observability critical for implementing data-driven decision-making across the entire organization. To achieve this goal, observability platforms typically consist of three central components:

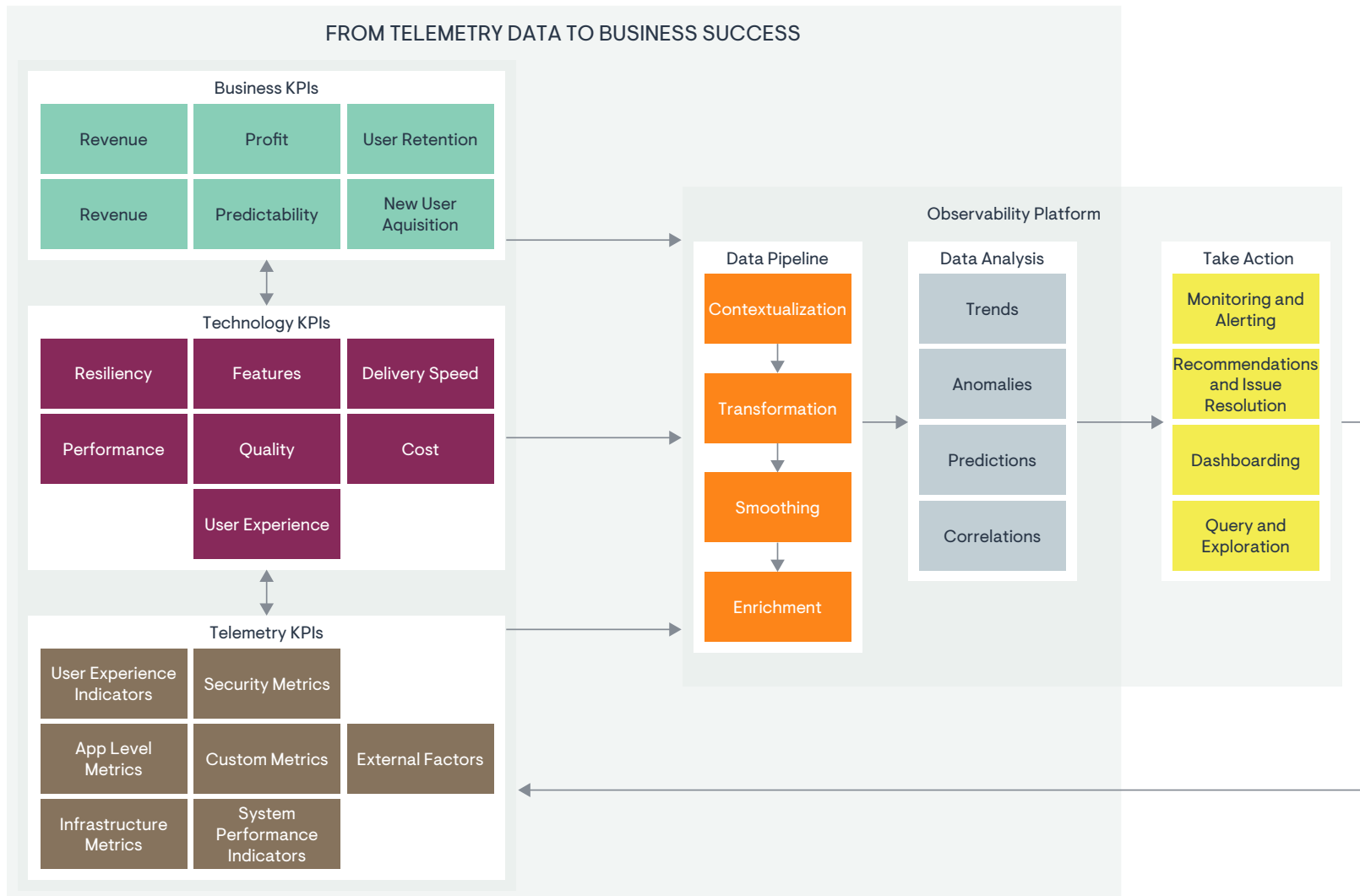
1. **Data pipeline** – Continuously deliver telemetry data within its relevant context and at the right granularity to the data analytics service.
2. **Data analytics** – Continuously analyze incoming pipeline data within the context of historical data to identify relevant trends, anomalies, and correlations as the basis for optimal decision-making.
3. **Actionable insights** – Provide and continuously optimize user-specific dashboards, alerts, recommendations, issue resolutions, and queries, and provide pointers for explorative analysis.

EMA Perspective

Observability is the critical link between each piece of data collected from highly fragmented logs, traces, metrics, and events, originating from a plethora of different clouds, tools, and business KPIs. Add a side of machine learning and AI and the organization gets close to optimally understanding how to squeeze maximum business value out of every dollar invested in technology resources and staff.

“I used to think observability was all about gathering logs and metrics. But it’s not just what data you collect, it’s what you do with it that really matters.” - Platform Engineer, Global Financial Institution

The chart shows the role of an observability platform in continuously correlating telemetry data, technology KPIs, and business KPIs. Based on this correlation, the platform can take action.



Observability Requires Collaboration

To maximize the business impact of observability across teams and business units, we need to regard an observability platform as a central collaboration hub that allows all relevant enterprise personas to seamlessly consume and contribute observability data, processes, and services based on their skills and areas of responsibility. For example, app developers receive real-time metrics on application performance, error rates, security incidents, and cost-efficiency, while at the same time providing performance and reliability data by diligently instrumenting their code. Security engineers use the observability platform to monitor for threats and vulnerabilities, define security policies directly within the platform, and provide cost-risk assessments for potential security measures. Observability platforms need to provide the basis for friction-free collaboration to enable each relevant persona to efficiently contribute to continuously managing and optimizing applications.

EMA Perspective

Observability is about active data usage. A robust data pipeline that everyone can tap into enables organizations to make informed decisions that align with business objectives. This could mean autoscaling resources, triggering failover procedures, or even coordinating security protocols. By focusing on these core areas and facilitating cross-team collaboration, organizations align their tech investments more closely with business needs.

This not only addresses the challenges of today's complex systems, but also fosters a proactive, rather than reactive, approach to problem-solving.

“In the past, each team had its own set of tools and data, creating silos. Unified observability broke down those walls, fostering a culture of open communication and shared responsibility.” - Senior Platform Engineer, Automotive Manufacturer

OBSERVABILITY AS COLLABORATION PLATFORM				
Personas	Performance	Resiliency	Security	Cost
App Developers	Real-time Metrics to Optimize Code	Monitor Error Rates	Track Unauthorized Access Attempts	Identify Inefficient Code
DevOps Engineers	Monitor System Health	Set Up Alerts for System Failures	Monitor Network Traffic for Anomalies	Optimize Resource Allocation
Platform Engineers	Ensure Platform Compatibility	Monitor and Improve Container Orchestration	Enforce Security Policies at the Platform Level	Rightsize Platform Services
SRE	Analyze Long-term Performance Trends	Analyze Long-term Performance Trends	Monitor Compliance with SLAs/SLOs	Analyze Cost vs. Performance Tradeoffs
Security Engineer	Monitor for Security Threats	Implement Security Measures That Support Resiliency	Real-time Security Monitoring	Evaluate Cost vs. Risk of Security Measures

The chart shows the importance of an observability platform to allow different staff roles to directly contribute, while at the same time receiving significant value from the overall observability platform.



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