Unilever increases business agility with Cloud-based Big Data Analytics platform

Reduces lead time for business insight generation from 20 days to 10 hours

Client Overview
Unilever is one of the world’s largest Consumer Packaged Goods (CPG) companies with revenues of over 50 billion euros in 2016. With a business scale of 1 million+ outlets spread across 35+ product categories, 400+ brands and 1100+ products, its products are available across 190 countries around the globe.

The Challenge
Unilever needed to improve its on-shelf availability and product assortments in order to meet its ambitious growth targets for India and South Asia markets. This required an understanding of changing buying patterns based on market insights and analytics, and undertaking course corrections in the shortest possible time.

Unilever’s existing Decision Support System (DSS) comprised an on-premise Analytics platform based on machine learning and advanced predictive analytics. The platform churned nearly 500 million recommendations every month, computing around a billion records amounting to 6-8 TB of data. In order to drive competitive advantage, the client needed to significantly increase the performance of its DSS.

Yet another challenge was the high lead time required for generating Key Performance Indicators (KPIs) and building statistical models. As a result, Unilever was unable to leverage the latest market information for business insights. The existing platform was also not able to scale up to accommodate new age data sources for generating deeper insights.

Unilever needed a DSS based on a comprehensive data lake—with data from both traditional and new age sources—to answer ad-hoc business questions, accurately. Not only this, the DSS would also have to perform significantly better to drive competitive advantage.

Mindtree’s Solution
As a first step, Mindtree started the process of identifying opportunities to increase the performance of the DSS. We decided to move the workload to AWS to utilize the power of cloud and distributed computing.

Mindtree developed a cloud-based Big Data Analytics platform leveraging on-demand scalability and massive parallel processing capabilities. This involved re-platforming and re-designing the entire process from data gathering to analytics and insights generation. To achieve this, Mindtree built an entirely new architecture using Big data, AWS, AWS Redshift and Spark technologies with Machine Learning capabilities.

To provide Unilever with efficient performance and value for money, we opted for an AWS Trusted Advisor. This helped us stand by our promise of providing the best resource at optimised costs. Not only this, Mindtree could now focus on performance including providing fault-tolerant information.

Executive summary
Unilever needed to improve its on-shelf availability and product assortments in order to meet its ambitious growth targets for India and South Asia markets. Mindtree migrated Unilever’s existing on-premise Decision Support System to AWS Cloud. As a result, Unilever was able to reduce the lead time required for business insight generation from 20 days to less than 10 hours for 4-6 TB of data, thereby significantly increasing business agility.
On the security front, Mindtree was able to ensure security of resources using the access provided by the AWS Trusted Advisor. This included access to specific ports having unrestricted data, IAM User data, MFA on Root Account and service limits.

The entire security setup is inside a Virtual Private Network with limited and need-based ingress and egress to ensure high security. Firewall rules and more realistic server environment have also been setup. AWS Key Management Service (KMS) is used for encryption of data in EMR and Redshift. This makes creating, controlling and managing encrypted keys, easy. Data encryption has been done for data at rest as well.

The platform includes Cloudwatch which helps collect metrics and log files. It also enables tracking of the collected metrics, setting alarms and making changes whenever required. The Cloud trail has helped administrate and control AWS account. As a result, Mindtree has been able to further log, monitor and retrospect activities across the client’s infrastructure.

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**Business Benefits**

- **Increased business agility:** The new platform offers insight generation at increased frequencies. As a result, Unilever has been able to achieve greater business agility in terms of reacting quickly to changing buying patterns and competition scenario.

- **Reduction in lead time for generating insights:** The solution has significantly reduced lead time required from data processing and analysis to insight generation from a month to less than 10 hours for 4-6 TB of data.

- **Improved predictive capability:** The new platform provides improved predictive capability as it seamlessly integrates traditional data sources with new age data sources for deeper insights.

- **Improved prediction accuracy:** It ensures improved accuracy of prediction because of the platform’s ability to use up-to-date market data for generating insights.

- **Better economies of scale:** It has resulted in better economies of scale because of the platform’s ability to perform on-demand analytics which was not possible earlier.

- **Increased Cost Savings:** By moving to Cloud, the company has achieved 30% cost savings on Data churn as compared to traditional Data Center.

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