

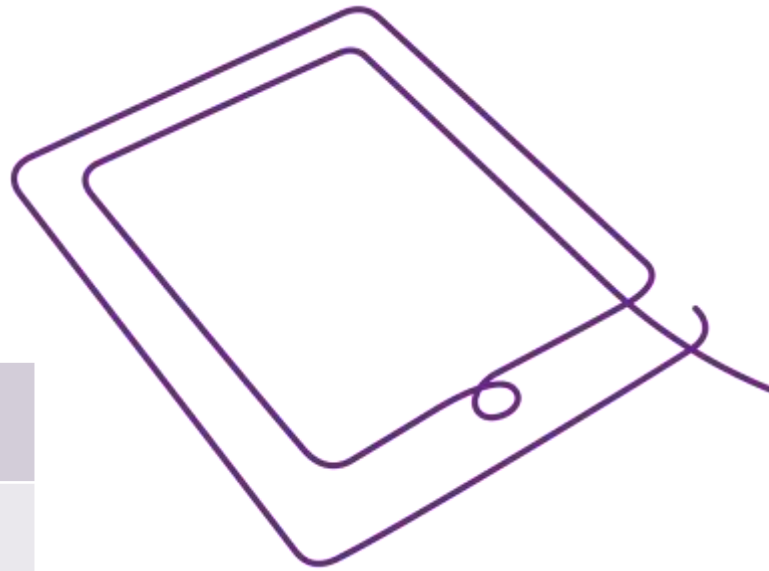
Big Data Analytics in Telecom Business

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Agenda



Introduction

What is Big Data Analytics?

Why we need Big Data Analytics?

Where is Big Data in telecom business?

Big Data Analytics use cases in telecom

Who am I?

- 2006 Computer Engineering graduate from Qafqaz University.
- Professional software developer with 7+ years experience
- Information Services Unit Head @ Azercell Telecom
- Part time teacher @ Qafqaz University since 2011
- Trainer, mentor, speaker...

Big Data & Analytics



Why we need Big Data Analytics?

Big data is a term applied to data sets whose size(terabytes to zettabytes) or type(structured, unstructured) is beyond the ability of traditional relational databases to capture, manage, and process the data with low-latency.

Big data analytics is the use of **advanced analytic techniques** to **uncover hidden patterns, unknown correlations**, market trends, customer preferences and other useful business information.

The analytical findings can lead to **more effective marketing, new revenue opportunities, better customer service, improved operational efficiency, competitive advantages** and other business benefits.



Traditional Analytics vs. Big Data Analytics

	Traditional	BDA
Storage cost	High	Low
Analytics	Offline	Real-time
Data loading speed	Low	High
Data loading time	Long	Avg.50% faster
Data variety	Structured	Unstructured
Volume	GB/TB	PB/EB/ZB
Query response time	Hours/days	Minutes
Data compression	Not mature	Avg 40-60% more compression
Support cost	High	Low



Telecom big data lakes

Billing
systems

Usage
Data

Service
logs

Network
logs

Marketing
&CRM

Other
sources

Top challenges

Big Data scale

Handling new data types (unstructured, semi structured)

Real time/streaming data acquisition and processing

Real time analysis and actions

Integration with existing DWH systems



Top challenges

Availability of advanced analytics capabilities

Visualization of large data sets

Availability of technical staff with deep telecom knowledge and technical skills

Organizational challenges and readiness of business units

Regulatory challenges





Big Data
Analytics
use cases

A photograph of a call center environment. In the foreground, a woman with long blonde hair, wearing a headset and a purple top, is smiling and looking towards the right. Behind her, two other agents, a woman and a man, are also wearing headsets and working at their desks. They are surrounded by computer monitors and keyboards. The background is slightly blurred, showing a purple curtain on the left and a bright, well-lit office space.

Customer Experience Management

Network planning & congestion control



Use Cases

- Customer experience management
- Customer profitability analysis
- Revenue assurance and fraud detection & prevention
- Dynamic profiling & customer segmentation
- Targeted offer and campaign management
- Churn prediction(score, rotational) and prevention
- Multi SIM prediction

Use Cases

- LBS and personalized advertising
- Clickstream analysis
- Package design for specific 3rd party services
- Using payment data for increasing sales
- Intelligent network planning
- Dynamic network congestion control
- Cell-site optimization
- Innovative business models

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