Big Data Project Management

Managing Big Data Project

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Agenda

- Introduction to Big Data
- Big Data Discovery Worksheet
- Big Data Project Life Cycle
- Big Data Team Structure
- Key Activities, People and Deliverables
- Key Success Factors
- Summary

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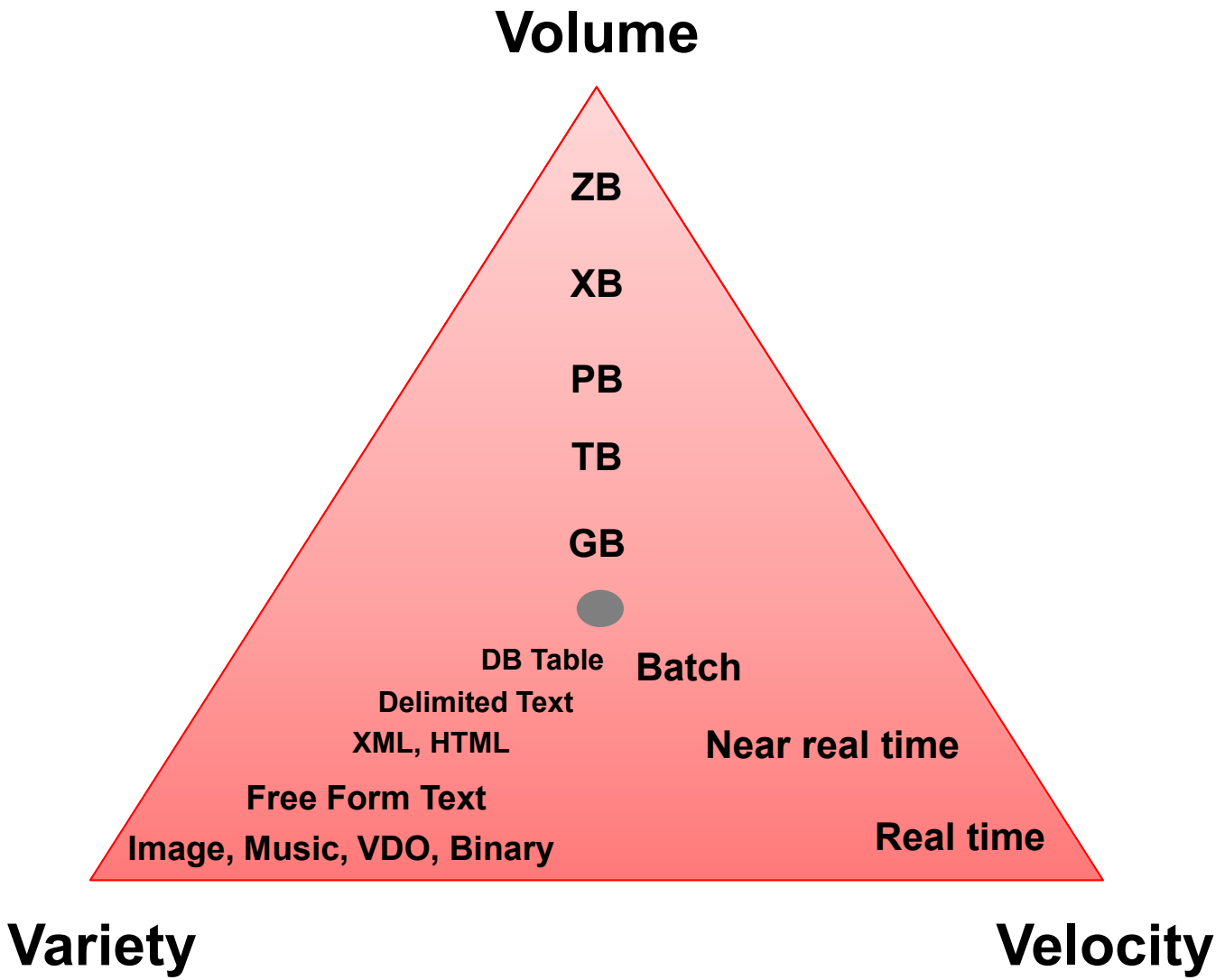
Big Data Introduction



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Big Data Project Goals Worksheet

Sample

#	Domain	Increasing of Value or Revenue	Resource Optimization	Reduce Risk
1	Finance	Increase Revenue	Create Services Portfolio	Compliance with laws regulations
2	Customer	New Products, Service, Promotion Innovation	Reuse Business Channels	Service Continuity and Availability, Customer Complaint Management
3	Internal	Create New Business Process	Eliminate Production Cost	Standardize Change Control
4	Learning and Growth	Seek more Talent People	Standardize Skill Required	Enterprise Knowledge Repository

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Big Data Project Life Cycle

- Identify Targeted Users
- Identify Target Opportunities
- Identify Team Structure
- Identify Data Sources/Types
- Identify Data Capturing Approaches
- Identify Data Processing and Visualization Planning
- Identify Big Data Platform
- Identify Security
- Identify Governance and Change Control for Operation
- Identify Phasing, Budget and Cost

- Develop Use Cases
- Develop Requirements Definition
- Develop Big Data Solution Framework
- Develop the Development and Test Environment
- Develop Data Capture
- Develop Analytics
- Integrate Visualization
- Manage Assets and Configurations

- Monitor Big Data Platform Availability, Utilization and Capacity Planning
- Manage Operation Tasks (Admin. Scripts, Commands), Data Capturing System, Upgrading or Patching
- Manage Service Requests and Incidents
- System admin. Training
- Helpdesk Training
- End-User Training (Analytic Results)

- Adoption Rates for each analytics results
- No. of Missing Analytic Results
- No. of Missing Data
- Lost hours per month
- Avg. of each Analytic Result Response Time
- No. of Technology System Failure per month
- Evaluate Activity Conformance with Policies

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Big Data Discovery Worksheet

Identify Big Data Opportunity - Sample Customer Complaint

Who	What	Why	When	Data Sources
CEO	แนวโน้มจำนวนเรื่องร้องเรียน และแนวทางการตอบสนองความต้องการของลูกค้า	รักษาภาพลักษณ์ที่ดีขององค์กร ผู้ใช้บริการมี Loyalty รายได้เติบโต	Monthly/Ad-hoc	Call Center GIS/Map Pantip.com Products/Services Master Data Billing System – Revenue/Month
COO	ประเภทของการร้องเรียน และความถี่ของเรื่องร้องเรียน	พัฒนาบริการให้ดีขึ้น เรื่องร้องเรียนลดลง	Monthly/Ad-hoc	Call Center GIS/Map Pantip.com Products/Services Master Data
CIO	ประเภท จำนวน และแนวโน้มของการร้องเรียน	เพิ่มสื่อ และช่องทางการให้ข้อมูลระดับการตัดสินใจแก่ผู้บริหารระดับสูง และทีมงานด้านธุรกิจที่เกี่ยวข้อง	Monthly/Ad-hoc	Call Center GIS/Map Pantip.com Products/Services Master Data
CMO	วิเคราะห์ประเภทและความรุนแรงความถี่ของเรื่องร้องเรียน	ปรับปรุงบริการในเขตความรับผิดชอบให้มีประสิทธิภาพสูง	Monthly/Ad-hoc	Call Center GIS/Map Products/Services Master Data
Business Line Manager	วิเคราะห์ประเภทและความรุนแรงความถี่ของเรื่องร้องเรียน	เพื่อส่งต่อข้อมูลร้องเรียนให้กับหน่วยงานที่เกี่ยวข้อง และติดตามปัญหาจนสิ้นสุด	Monthly/Daily	Call Center GIS/Map Products/Services Master Data

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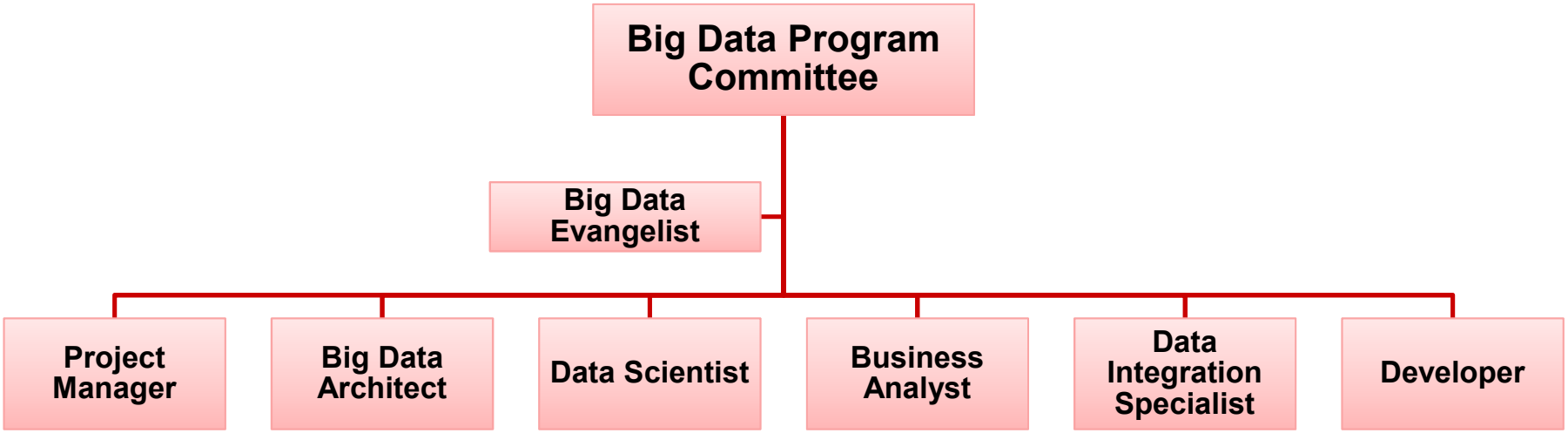
Big Data People and Team Structure



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Big Data Team Structure

No.	Roles	Description
1	**Big Data Program Committee**	The Team to develop Big Data initiative and deliver solution results
2	**Big Data Evangelist**	The business evangelist must have a combination of good communication and presentation skills and deep contextual business knowledge, as well as a clear understanding of technology in general and big data techniques.
3	**Project Manager**	The project manager “owns” the development schedule and is expected to ensure that the right architects, designers, and developers are brought into the project at the right times.
4	**Big Data Architect**	The person who has background in parallel and distributed computing architecture. This person is knowledgeable about fundamental performance “gotchas” that will impede the speed, scalability, and extensibility of any application requiring massive data volumes.

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Big Data Team Structure

No.	Roles	Description
5	**Data Scientist**	The data scientist combines knowledge of computer science, the use of high-performance applications, and statistics, economics, mathematics, and probabilistic analysis skills.
6	**Business Analyst**	The person who engages with the business process owners and solicits their needs and expectations. Business analysts who are able to effectively translate business expectations into specific data analysis results.
7	**Data Integration Specialist**	The person who has experience in data extraction, transformation, loading, and data transformations in preparation for cleansing and delivery to target systems. Seek people with experience with data federation and virtualization, data quality, and metadata analysis.
8	**Application Developer**	The technical resources with the right set of skills for programming and testing parallel and distributed applications.

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Key Activities, People and Deliverables

No.	Phases	Activities	People	Deliverables
1	Planning	Identify Targeted Users	Big Data Program Committee	Big Data Discovery Worksheet
2	Planning	Identify Target Opportunities	Big Data Program Committee	Big Data Discovery Worksheet
3	Planning	Identify Team Structure	Big Data Program Committee	Team Organization Chart
4	Planning	Identify Data Sources/Types	Big Data Architect, Data Scientist, Data Integration Specialist	Data Sources Types Information
5	Planning	Identify Data Capturing Approaches	Data Integration Specialist, Data Scientist	Data Capturing Information
6	Planning	Identify Data Processing and Visualization Planning	Business Analyst, Big Data Architect, Data Scientist, Developer	Data Processing Framework and User Interface Summary
7	Planning	Identify Big Data Platform	Big Data Architect, Project Manager	Big Data Platform Summary
8	Planning	Identify Security	Corporate Information Security, Big Data Architect, Project Manager	Security Scope Summary
9	Planning	Identify Governance and Change Control for Operation	Internal Control Team, Corporate Information Security, Big Data Architect, Project Manager	Governance, RACI, Change Procedures Summary
10	Planning	Identify Phasing Budget and Cost	CIO, CFO, Project Manager, Business Analyst	Project Investment Summary

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Key Activities, People and Deliverables

No.	Phases	Activities	People	Deliverables
1	Development	Develop Use Cases	Business Users, Business Analyst, Big Data Architect, Big Data Evangelist	Use Cases Summary
2	Development	Develop Requirements Definition	Business Users, Business Analyst, Big Data Architect	Requirements Summary
3	Development	Develop Big Data Solution Framework	Big Data Architect	Solution Component Diagram
4	Development	Develop the Development and Test Environment	Big Data Architect, Data Integration Specialist, Developer	Development and Test Environment
5	Development	Develop Data Capture	Data Integration Specialist, Developer	Data Capturing Module
6	Development	Develop Analytics	Data Integration Specialist, Developer	Data Analytic Module
7	Development	Integrate Visualization	Data Integration Specialist, Developer	User Interface and Visualization Results
8	Development	Manage Assets and Configurations	Project Manager, Big Data Architect, Corporate Information Security, Head of IT Operation	Assets Inventory and Configurations Change Procedure

Agile Methodology may apply in Big Data Development Phase.

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Key Activities, People and Deliverables

No.	Phases	Activities	People	Deliverables
1	Operation and Support	Monitor Big Data Platform Availability, Utilization and Capacity Planning	IT Operation Team	Availability, Utilization and Capacity Planning Report
2	Operation and Support	Manage Operation Tasks (Admin. Scripts, Commands), Data Capturing System, Upgrading or Patching	IT Operation Team, Big Data Architect	Schedule or Ad-Hoc Operation Activities
3	Operation and Support	Manage Service Requests and Incidents	IT Operation Team	Service Requests and Incidents Procedures
4	Operation and Support	System Administration Training	Big Data Architect, Data Integration Specialist, Developer, IT Administration, IT Operation	System Administration and Operation Training Activity
5	Operation and Support	Helpdesk Training	IT Administration, IT Operation, IT Helpdesk	Helpdesk Training Activity
6	Operation and Support	End-User Training (Analytic Results)	Business Analyst, Business Users	End-User Training Activity

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Key Activities, People and Deliverables

No.	Phases	Activities	People	Deliverables
1	Evaluation	Create Adoption Rates for each analytics Results	IT Operation	Percent of user adoption
2	Evaluation	Create No. of Missing Analytic Results	Big Data Program Committee	No. of Missing Analytics Report
3	Evaluation	Create No. of Missing Data Results	Big Data Program Committee	No. of Missing Data Report
4	Evaluation	Create Lost hours per month Results	Big Data Architect, Data Scientist, Data Integration Specialist	Lost hours per month Report
5	Evaluation	Create Avg. of each Analytic Processing and Response Time Results	Data Integration Specialist, Data Scientist	Analytic Processing and Response Time Report
6	Evaluation	Create No. of Technology System Failure per month Results	Business Analyst, Big Data Architect, Data Scientist, Developer	Technology System Failure per month Report
7	Evaluation	Evaluate Activity Conformance with Policies	Big Data Architect, Project Manager	Change Control Log Report

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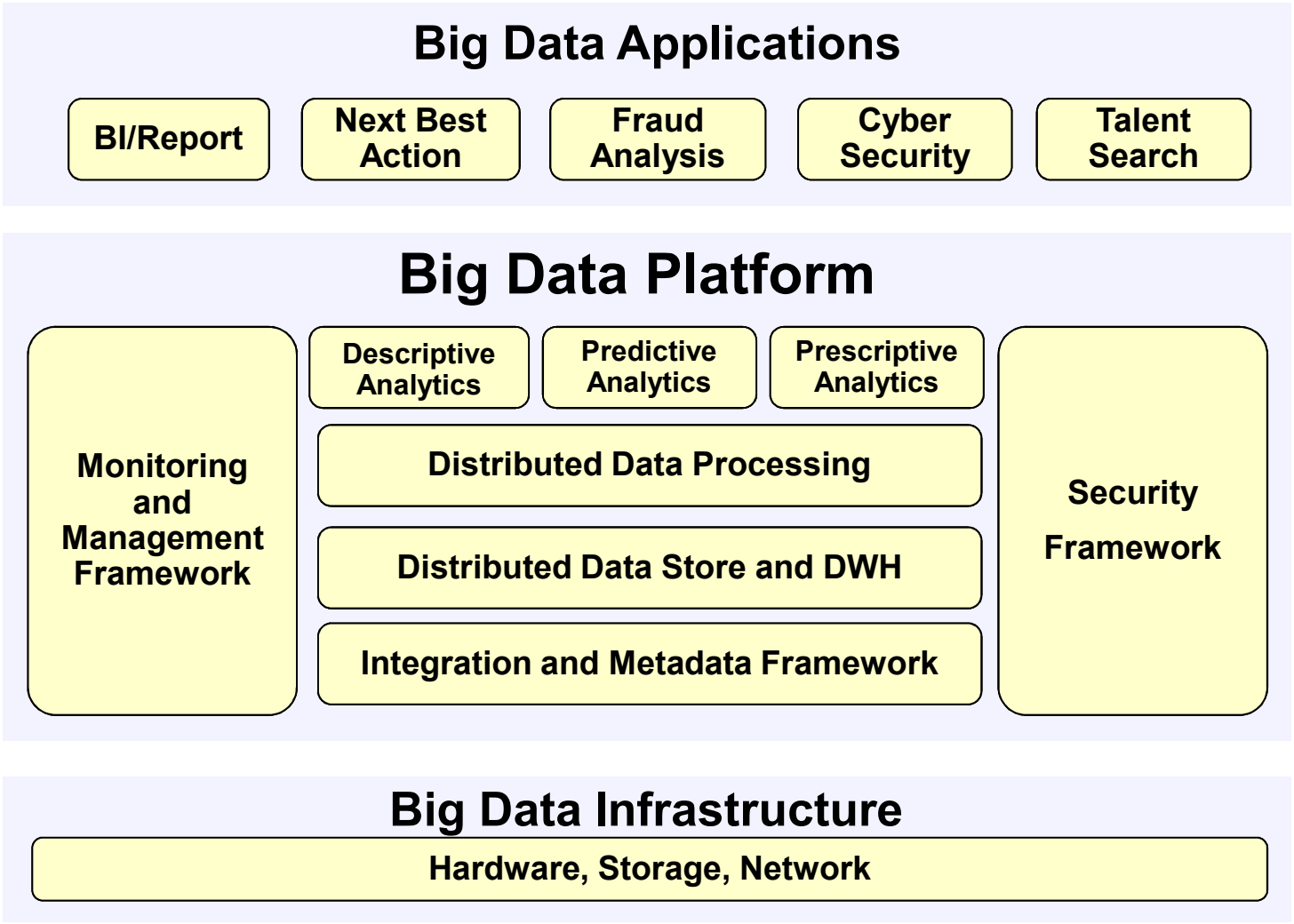
Key Activities, People and Deliverables

Big Data Platform



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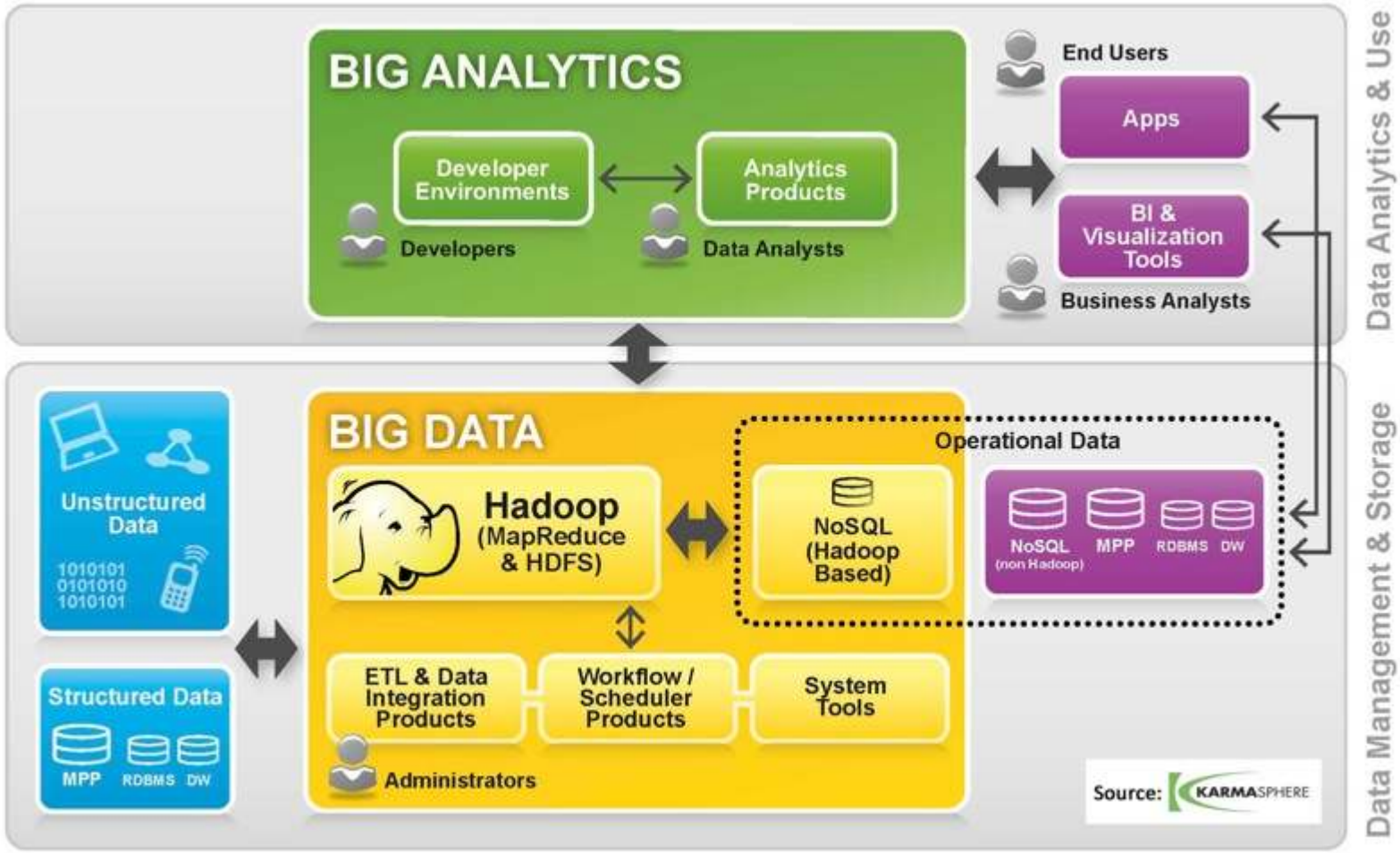
Big Data Platform & Big Data Analytics

Hadoop Technology



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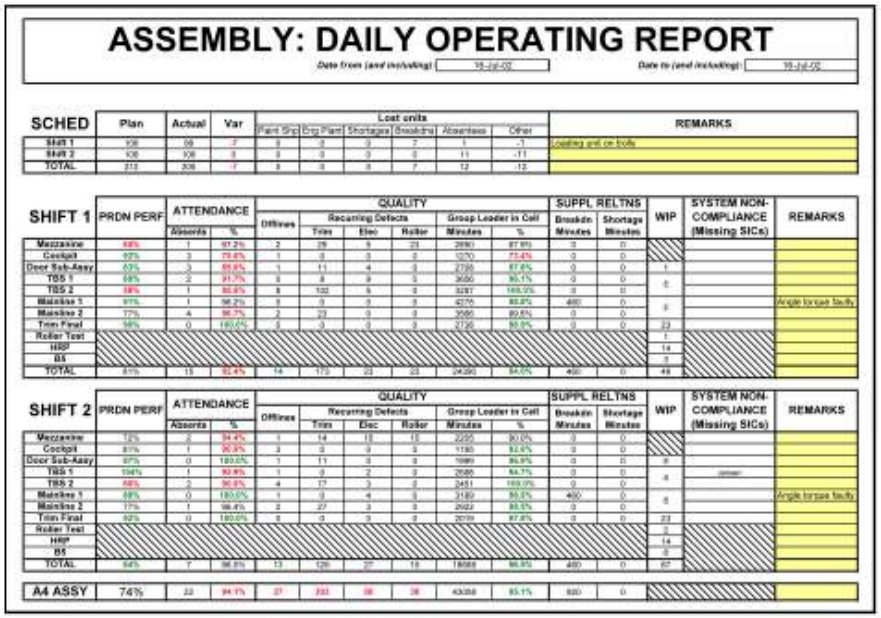
Key Activities, People and Deliverables

Analytic Types

Descriptive analytics answers the question, "What happened in the business?" It looks at data and information to describe the current business situation in a way that trends, patterns and exceptions become apparent. This takes the form of reports, dashboards, MIS, etc.



ASSEMBLY: DAILY OPERATING REPORT

SCHED	Plan	Actual	Var	Lost units	REMARKS
Shift 1					
Shift 2					
TOTAL					

SHIFT 1	PRDN PERF	ATTENDANCE		QUALITY					SUPPL RELTNS		WIP	SYSTEM NON-COMPLIANCE (Missing SICs)	REMARKS
		Absents	%	Offlines	Recurring Defects: Trim	Recurring Defects: Elec	Recurring Defects: Roller	Group Leader in Call: Minutes	Breakdn Minutes	Shortage Minutes			
Mezzanine													
Cockpit													
Door Sub-Assy													
TBS 1													
TBS 2													
Mainline 1													Angle torque faulty
Mainline 2													
Trim Final													
Roller Test													
HWP													
BS													
TOTAL													

SHIFT 2	PRDN PERF	ATTENDANCE		QUALITY					SUPPL RELTNS		WIP	SYSTEM NON-COMPLIANCE (Missing SICs)	REMARKS
		Absents	%	Offlines	Recurring Defects: Trim	Recurring Defects: Elec	Recurring Defects: Roller	Group Leader in Call: Minutes	Breakdn Minutes	Shortage Minutes			
Mezzanine													
Cockpit													
Door Sub-Assy													
TBS 1													
TBS 2													
Mainline 1													Angle torque faulty
Mainline 2													
Trim Final													
Roller Test													
HWP													
BS													
TOTAL													

A4 ASSY	74%											

Sales by Categories

Category Name	Quantity	Amount
Beverages	925	$27,761.57
Condiments	378	$10,773.27
Confections	880	$22,877.18
Dairy Products	581	$13,685.32
Grains/Cereals	189	$3,325.40
Meat/Poultry	92	$4,083.66
Produce	351	$13,031.20
Seafood	669	$9,316.54
Total	4,065	$104,854.14

Key Activities, People and Deliverables

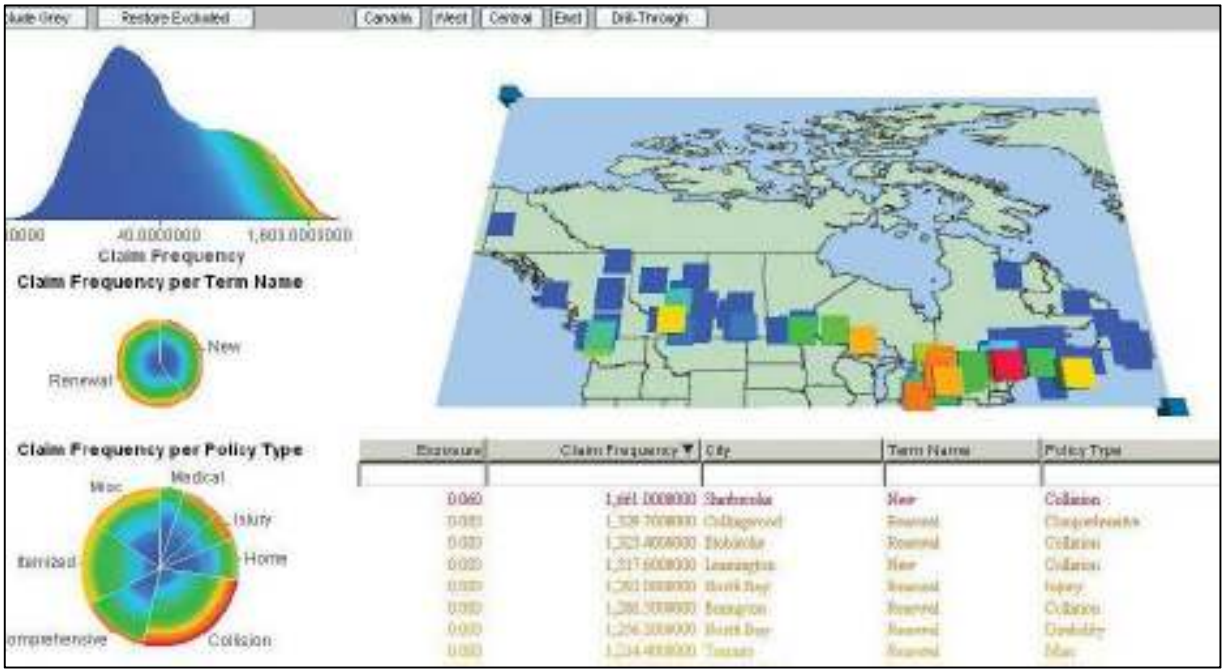
Analytic Types

Predictive analytics answers the question, "What is likely to happen in the future?" Here data modeling and forecasting are used to determine future possibilities

Key Activities, People and Deliverables

Analytic Types

Prescriptive analytics is the combination of the above to provide answers to the "So what?" and the "Now what?" For example, what should a business do to retain key customers? How can businesses improve their supply chain to enhance service levels while reducing costs?



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Key Success Factors

1. Support from Business Sponsor
2. Start with Outcome Answer First
3. Involve Real Users and Create Effective Use Cases
4. Define Quick-Win and Phasing
5. Sufficient Data Source
6. Choose the Open Technology Platform
7. Identify SLA for Service Operation
8. Project Review

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Thank you very much.

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