

Applications Of Big Data Analytics

Module 2



In Marketing

Customer Segmentation:

Big data analytics helps segment customers based on behavior, preferences, and demographics, enabling targeted marketing campaigns.

Personalized Marketing:

Analyzing large datasets allows marketers to create personalized messages and offers that resonate with individual customers.

Predictive Analytics:

By analyzing past data, organizations can predict future trends and customer behaviors, aiding in product development and sales strategies.

Social Media Analysis:

Big data analytics assesses social media interactions to understand customer sentiment, engagement, and brand perception.

Campaign Optimization:

Analytics provides insights into the effectiveness of marketing campaigns, enabling adjustments for better outcomes.

Customer Journey Analysis:

By analyzing various touchpoints in the customer journey, businesses can optimize the experience and drive conversions.

In Finance

Fraud Detection:

Big data analytics identifies unusual patterns and behaviors that signal fraudulent activities in financial transactions.

Risk Assessment:

Analyzing vast datasets helps assess financial risks and predict potential vulnerabilities, guiding risk management strategies.

Portfolio Management:

Analytics assists in optimizing investment portfolios by analyzing market trends, historical data, and risk profiles.

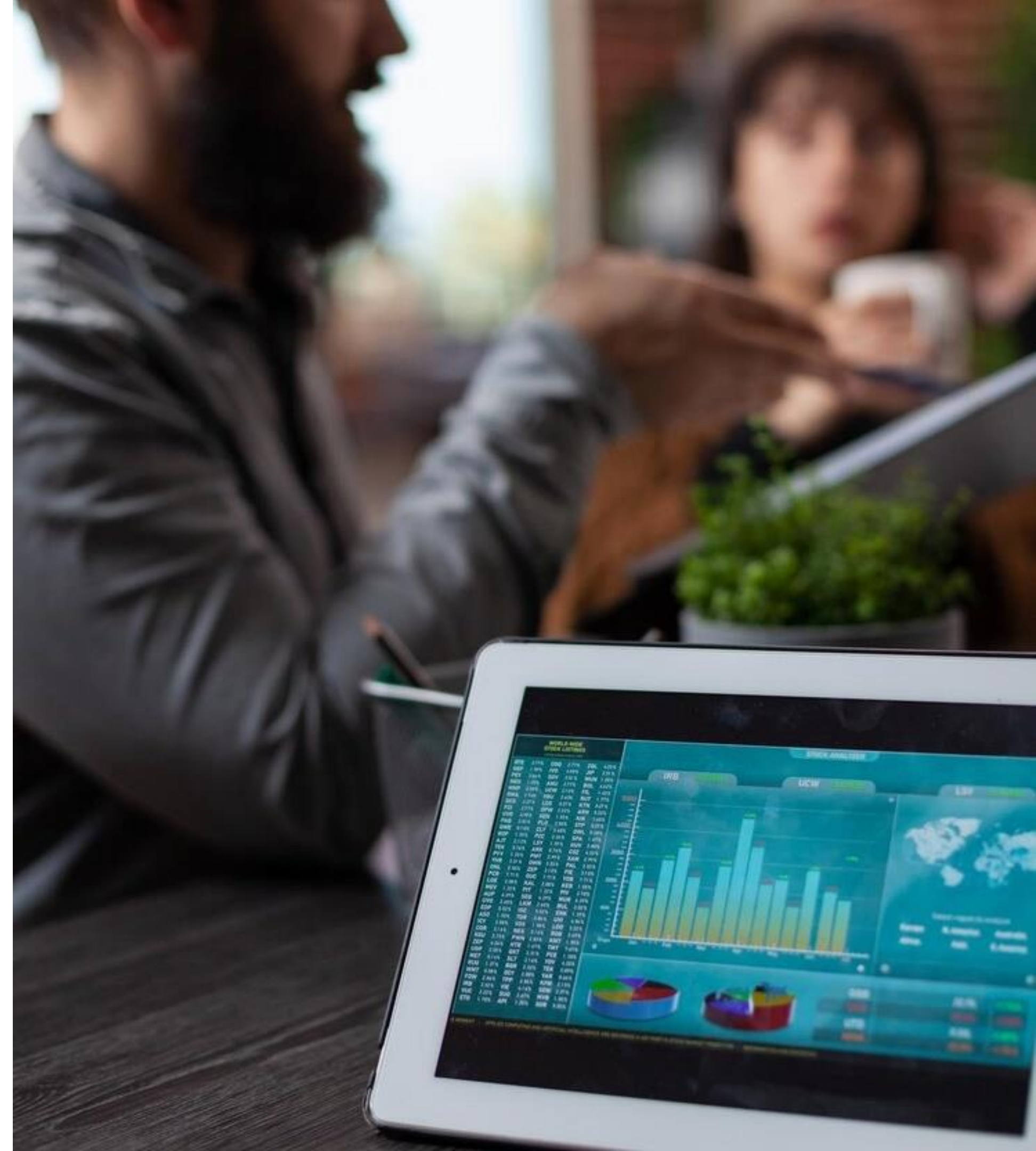


In Finance

Credit Scoring: Data analysis enhances credit scoring models, enabling lenders to make informed decisions about loan approvals.

Financial Forecasting: Big data analytics predicts financial trends, enabling better budgeting and decision-making.

Regulatory Compliance: Analytics ensures adherence to financial regulations by analyzing transactions and processes for compliance.





In Human Resources

01

Talent Acquisition

Big data analytics streamlines the recruitment process by analyzing candidate data, identifying suitable candidates, and predicting their potential success within the organization.

02

Employee Performance

Analytics assesses employee performance metrics, enabling better performance management, identifying training needs, and recognizing top performers.

03

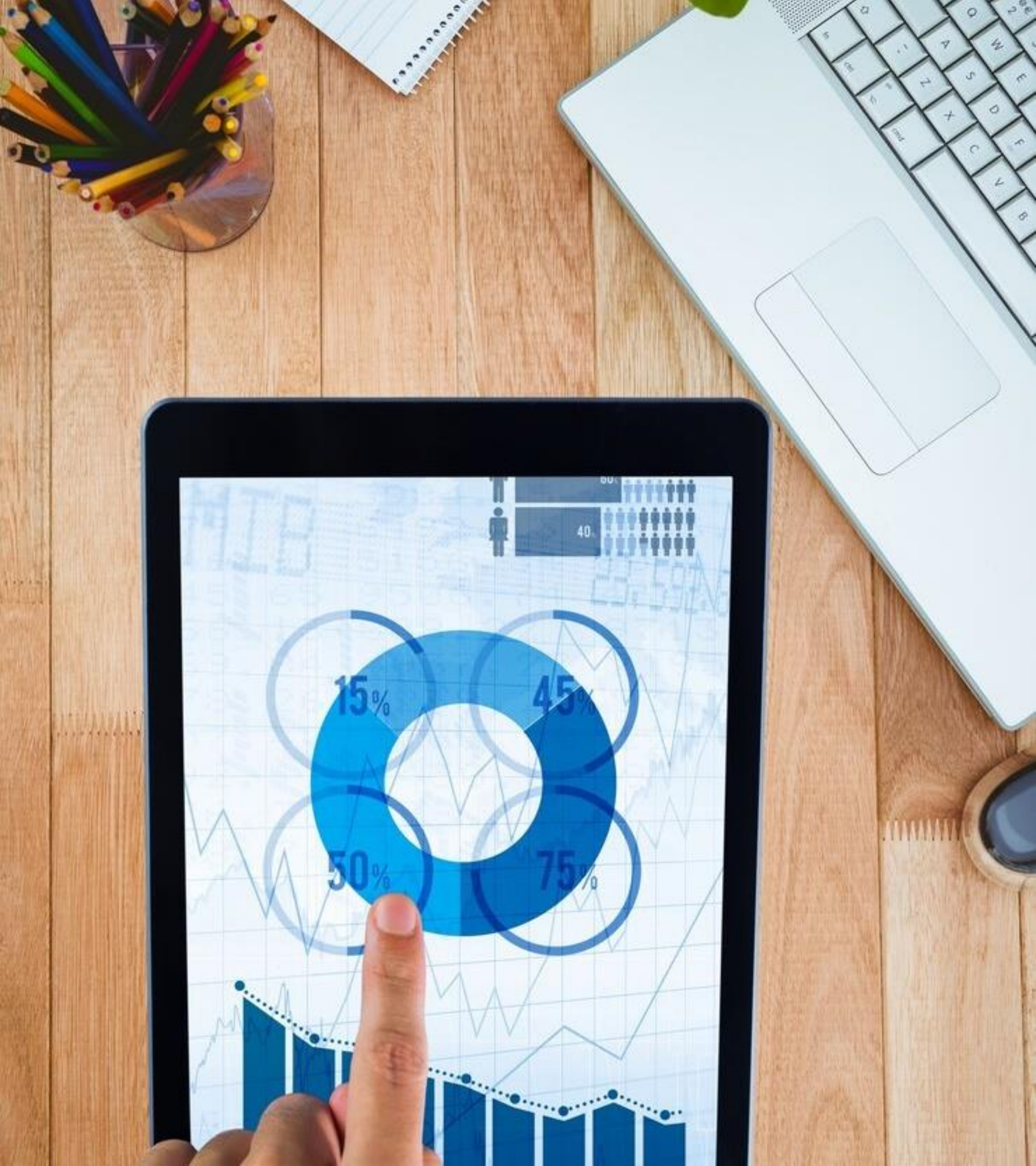
Retention Analysis

By analyzing various data points, organizations can identify patterns and factors affecting employee turnover, enabling proactive retention strategies.

04

Workforce Planning

Analytics helps in predicting workforce needs, ensuring the right number of skilled employees are available when needed.



In HR

- ❖ **Diversity and Inclusion:** Big data analytics helps measure diversity and inclusion efforts, identifying areas for improvement and promoting a more inclusive workplace.
- ❖ **Employee Engagement:** Analyzing surveys, feedback, and communication data helps gauge employee engagement and satisfaction levels.
- ❖ **Skills Gap Analysis:** Analytics identifies gaps in employee skills and helps in designing training programs to bridge those gaps.
- ❖ **Employee Training and Competency:** Ensure competence and customer-centric approach of customer service executives. Big Data Analysis: Provides insights into average response time, hold time, abandonment rate, enabling targeted employee

In Healthcare

1. Electronic Health Records (EHRs):

Definition: Digital records encompassing demographics, medical history, and test results.

Benefits: Facilitates comprehensive patient care, triggers alerts for tests, and enhances provider efficiency by tracking progress.

2. Real-time Alerts and Wearables

Application: Clinical Decision Support software analyzes data, providing real-time advice.

Future Potential: Wearables collect continuous health data, AI-powered analytics generate proactive alerts, transforming healthcare into a more preventative and proactive model.



In Healthcare

3. Predictive Analysis in Healthcare:

- **Usage:** Predictive analysis aids doctors in data-driven decision-making.
- **Examples:** Identifying diabetes risks, creating tailored treatment plans, and improving patient outcomes.

4. Error Prevention and Insurance:

Role in Healthcare: Big data prevents errors in dosage, medication, and insurance fraud.

Impact: Enhances patient safety and aids insurance companies in preventing fraudulent claims.

5. Big Data in Medical Imaging:

Challenges: Analyzing and storing millions of medical images is time-consuming.

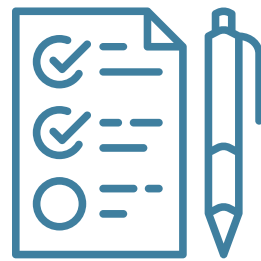
Solution: Big data analytics enables algorithms to analyze images efficiently, potentially revolutionizing medical imaging.

6. Revolutionizing Healthcare:

Hospitalization Risk: Big data helps predict hospitalization risks for patients with chronic conditions.

Preventative Care Plans: Enables the development of personalized preventative care plans, reducing the likelihood of deterioration.

Customer Service and Support



1. Multi-Channel Support and Churn Prevention

Scenario: Customers prefer multi-channel support, and inadequate support may lead to increased churn.

Big Data Role: Analyzes customer preferences across channels, ensuring a balanced and effective customer service strategy.



2. Agent Performance Improvement:

Insights: Big data analytics examines agents' knowledge, efficiency, and response rates.

Outcome: Identifies areas for improvement, enhancing overall customer service performance.



3. Enriching Customer Service Knowledge:

Scope: Extends beyond support to address various user queries and unusual issues.

Advantage: Enables the creation of a comprehensive knowledge base for customer service agents.

Communication Tools

4. Monitoring Waiting Time:

Significance: Waiting time impacts customer satisfaction and social media recommendations.

Big Data Contribution: Calculates response time across channels, highlighting strengths and weaknesses for process improvement.



5. Response Time Enhancement:

Recommendation: Big data suggests outsourcing for high request volumes to decrease response time.

Benefit: Improved response time enhances overall customer experience, positively impacting business profit.



6. Impact on Buying Experience:

Critical Role: Customer service directly influences the buying experience.

Big Data Metrics: Analyzes factors like response time, hold time, abandonment rate, guiding businesses in employee training and performance improvement.

7. Personalized Customer

Service:

Customer Segmentation: Big data analysis reveals diverse reasons customers choose a product.

Customization: Enables businesses to personalize products based on customer preferences, anticipating needs before they are expressed.



In Supply Chain Management

ANNUAL STATISTICS



Statistics



In Supply Chain Management

1. Improved Supply Chain Process Traceability:



2. Telecom Industry Optimization:



3. Big Data in Online Retail:



4. Cold Chain Monitoring in Industries:



Role of Big Data: Enables accurate product traceability using barcode scanners and RFID devices.

Application: Predicts product spoilage in real-time, enhancing distribution cycle efficiency.

Benefits: Streamlines collaboration with supply chain stakeholders and improves overall supply chain management.

Usage of Big Data: Leading telecom companies invest in big data analytics for understanding consumer usage patterns.

Example: Jio uses big data to forecast network growth and efficiently plan network expansions.

Retailer Examples: Snapdeal and Flipkart utilize big data to streamline management procedures.

Case Study: Flipkart enhances algorithms for precise delivery date estimates, warehouse automation, and route optimization.

Need for Monitoring:

Industries like food, agriculture, and pharmaceuticals require constant monitoring of temperature-sensitive products.

Technology Solution: Cold chain monitoring technology with real-time temperature tracking prevents wastage.

In Supply Chain Management



5. Operational Efficiency for Large Inventories:

Challenges Addressed: Big box retailers and online companies face obstacles in inventory management.

Big Data Analytics Impact: Provides real-time insights, detects bottlenecks, and optimizes supply chain processes.



6. Predictive Maintenance in Manufacturing:

Challenges in Manufacturing: Unplanned downtime due to machinery faults results in significant losses.

Big Data Solution: Coupling big data systems with IoT devices allows for predictive maintenance, reducing unplanned downtime.



7. Enhancing Order Fulfillment and Traceability:

Critical Aspects: Efficient order fulfillment and traceability are crucial for business productivity and customer satisfaction.

Example: Amazon revolutionizes shipping with fast delivery, real-time tracking, and optimized route deployment.

Government

1. Healthcare Management:

- Issue Addressed: Potential waste of resources and unfair subsidy distribution in health systems.
- Big Data Solution: Provides clear insights into government spending on healthcare, enabling efficient resource allocation.
- Outcome: Improved control over resources, ensuring better healthcare system management for the community.

2. Agriculture Management:

- Challenge: Difficulty in tracking livestock, land, and managing diverse crops.
- Big Data Impact: Alters how governments support farmers and manage agricultural resources by simplifying data collection and analysis.

Government

3. Transportation and Road Safety:

- **Concerns:** Accidents influenced by road conditions, policing, and weather.
- **Big Data Application:** Monitors transportation sector, enhances road safety through real-time traffic data analysis.
 - **Result:** Safer roads, better infrastructure, and improved response to potential road safety risks.

4. Education Planning:

Objective: Better understanding of educational needs at federal and local levels.

Big Data Role: Enables governments to assess educational needs, improve the quality of education, and track individual student progress.



5. Poverty Eradication:

- Government Efforts: Long-standing attempts to eradicate poverty globally.
- Big Data Contribution: Helps governments formulate innovative strategies by identifying urgent needs and areas for intervention

6. Taxation and Fraud Detection:

- Data Source: Social networks and various sources to verify information accuracy and identify potential fraud.
- Big Data Use: Predictive analytics assist in fraud detection, maximizing tax collection for the government..

Government

7. Weather Forecasting:

Data Source: National Oceanic and Atmospheric Administration (NOAA) sensors on land, sea, and in space.

Big Data Approach: Collects and analyzes large amounts of data for accurate weather forecasting, aiding disaster preparedness.



Thanks!

**Let's play hide and seek,
I will hide, you seek
professional help
because your mental
health is more f*cked up
than US Economy**