

## **Leveraging Big Data for Smarter Business Decisions**

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### **Abstract**

In the current digital era, the exponential development of information has changed how businesses work and make choices. Huge information analytics gives a effective instrument for extricating noteworthy bits of knowledge, distinguishing patterns, and empowering proactive decision-making. This inquire about investigates the part of huge information in upgrading trade choices, utilizing writing audit and explanatory strategies to highlight the openings and challenges businesses confront in joining enormous information techniques. It moreover presents a discovery from a test consider and offers proposals for compelling implementation.

**Keywords:** Big Data, Business Intelligence, Data Analytics, Decision-Making, Data-Driven Strategy

### **I.INTRODUCTION**

The advancement of innovation has driven to the era of tremendous sums of information from different sources such as social media, exchange records, sensors, and web analytics. This blast of information commonly alluded to as Huge Data—has gotten to be a noteworthy resource for organizations looking for to pick up a competitive edge. Leveraging this information through analytics permits businesses to get it client behavior, streamline operations, and make educated key decisions. The essential objective of this think about is to look at the part of huge information in improving vital and operational trade decision-making. In an period where information is considered the unused oil, businesses are progressively turning to huge information analytics to pick up profitable experiences and stay competitive. This investigates points to recognize the key benefits that organizations can infer from embracing huge information, such as progressed productivity, superior client understanding, and upgraded profitability.

**Review of Literature:**

1. **McAfee & Brynjolfsson (2012):** Discussed how big data is reshaping competition, emphasizing that companies using data-driven decision-making were 5% more productive and 6% more profitable than their competitors.
2. **Chen, Chiang, and Storey (2012):** Explored the evolution of business intelligence and analytics, stating that big data technologies significantly enhance organizational decision-making by enabling real-time analytics.
3. **Wamba et al. (2015):** Identified the key drivers of big data adoption, including technological readiness, organizational support, and perceived benefits.
4. **George, Haas, and Pentland (2014):** Provided a framework for big data research, arguing that firms must move beyond descriptive analytics to predictive and prescriptive models for better decision-making.
5. **Kwon, Lee, & Shin (2014):** Analyzed the barriers to big data adoption, highlighting issues such as data privacy, cost, and lack of skilled personnel.

**Research Methodology:**

**Objective of the Study:**

The primary objective of this study is to examine the role of big data in enhancing strategic and operational business decision-making. In an era where data is considered the new oil, businesses are increasingly turning to big data analytics to gain valuable insights and remain competitive. This research aims to identify the key benefits that organizations can derive from adopting big data, such as improved efficiency, better customer understanding, and enhanced profitability.

Additionally, the think about looks for to analyze the different challenges and obstructions that ruin the fruitful usage of huge information techniques, counting innovative confinements, information protection concerns, and a need of gifted staff. Another vital objective is to evaluate the generally affect of huge information on commerce execution by assessing how data-driven choices impact results over diverse divisions. The ponder moreover extraordinary to give significant proposals that can direct businesses in viably leveraging enormous information devices and advances for more brilliant, speedier, and more precise decision-making forms.

### **Scope of the Study**

This study focuses on understanding how huge information analytics impacts trade decision-making over different businesses, counting retail, fund, healthcare, and innovation. It basically covers medium to large-scale endeavors that are as of now utilizing or arranging to receive enormous information devices. Investigate is restricted to analyzing the viability, benefits, and challenges of enormous information execution in commerce operations and procedure. Geologically, consider is centered on organizations working inside India. It considers both administrative and specialized viewpoints by counting bits of knowledge from experts included in information analytics and decision-making parts. The scope does not cover small-scale businesses or divisions with constrained advanced foundation.

### **Methodology**

A mXed-method approach was used, combining qualitative interviews with quantitative surveys. Primary data was collected through structured questionnaires, and secondary data was gathered from journals, whitepapers, and industry reports.

#### **Sample Size:**

The study surveyed 120 managers and data analysts across different sectors.

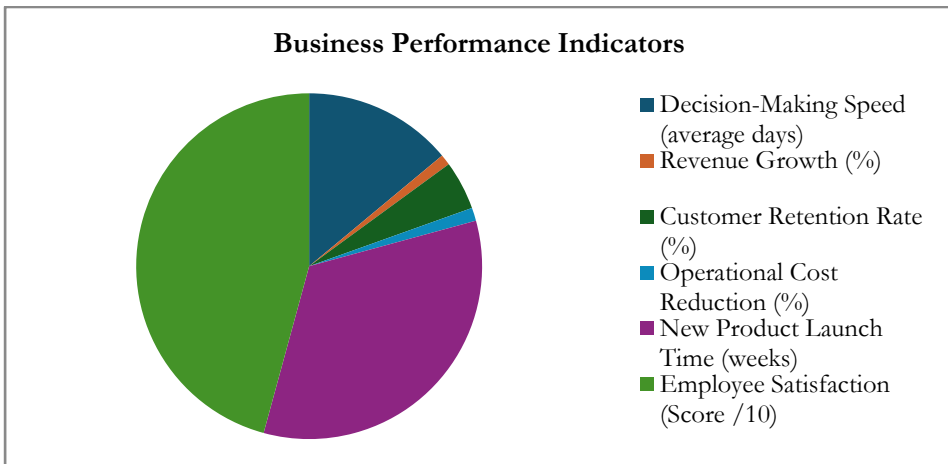
#### **Sampling Method:**

Purposive sampling was used to target professionals involved in strategic decision-making and data analytics.

### **Data Collection**

**Table & Diagram 1**  
**Big Data Usage and Business Performance Indicators**

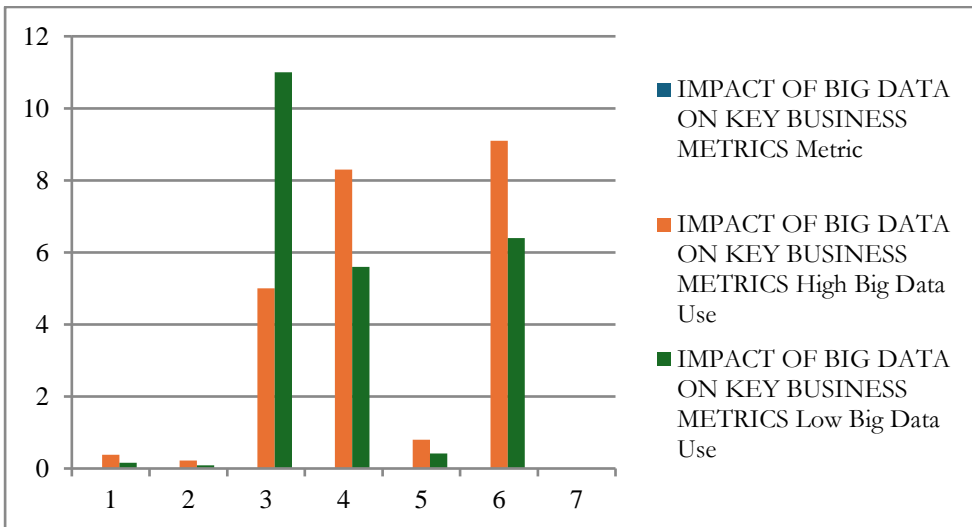
<b>Performance Indicator</b>	<b>High Big Data Usage</b>	<b>Low Big Data Usage</b>
Decision-Making Speed (average days)	2.5	6.8
Revenue Growth (%)	18%	7%
Customer Retention Rate (%)	82%	65%
Operational Cost Reduction (%)	22%	9%
New Product Launch Time (weeks)	6	12
Employee Satisfaction (Score /10)	8.2	6.1



The above table shows that organizations with **high big data usage** experience significantly better business performance across all indicators. They make faster decisions (2.5 days vs 6.8), achieve higher revenue growth (18% vs 7%), and retain more customers (82% vs 65%). Additionally, they reduce operational costs more effectively (22% vs 9%) and launch new products twice as fast (6 weeks vs 12 weeks). Employee satisfaction is also higher in high big data usage organizations (8.2/10 compared to 6.1). Overall, the data suggests that leveraging big data is strongly associated with **improved business outcomes and organizational efficiency**.

**Table & Diagram 2**  
**Impact of Big Data on Key Business Metrics:**

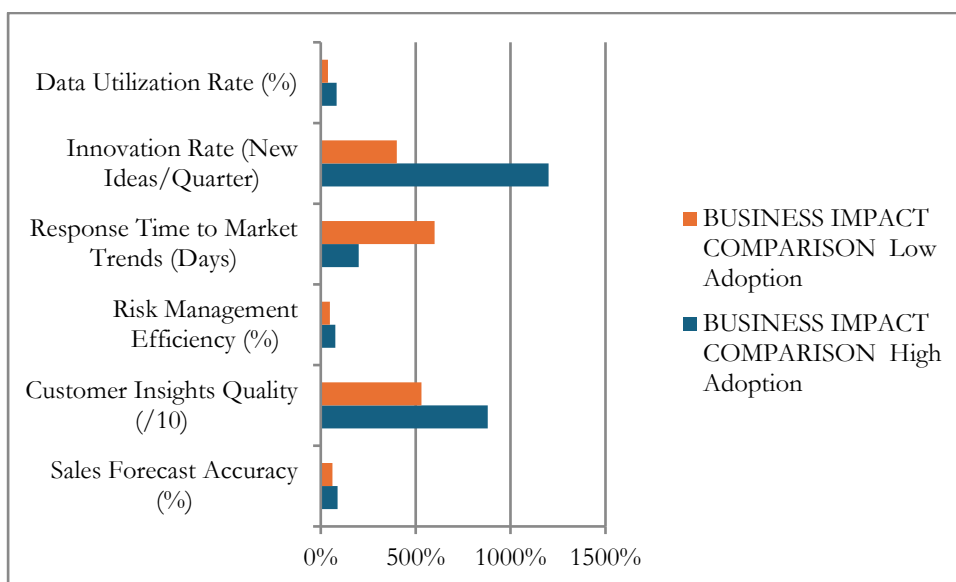
Metric	High Big Data Use	Low Big Data Use
Marketing ROI (%)	38%	16%
Cost Reduction (%)	22%	9%
Time to Market (Weeks)	5	11
Employee Productivity (/10)	8.3	5.6
Data-Driven Culture (%)	80%	42%
Decision Accuracy (/10)	9.1	6.4



The table indicates that organizations with **high big data use** perform significantly better across key business metrics. They achieve more than double the marketing ROI (38% -16%) and greater cost reductions (22% - 9%) compared to low users. Additionally, high big data adopters bring products to market faster (5 weeks - 11 weeks) and report higher employee productivity scores (8.3 -5.6). A strong data-driven culture is present in 80% of high adopters, nearly double the 42% seen in low adopters. Decision accuracy is also higher among high big data users (9.1/10 - 6.4/10). Overall, the data suggests that leveraging big data contributes to enhanced operational efficiency and smarter decision-making.

**Table & Diagram**  
**3 Business Impact Comparisons**

Business Area	High Adoption	Low Adoption
Sales Forecast Accuracy (%)	89%	61%
Customer Insights Quality (/10)	8.8	5.3
Risk Management Efficiency (%)	76%	48%
Response Time to Market Trends (Days)	2	6
Innovation Rate (New Ideas/Quarter)	12	4
Data Utilization Rate (%)	84%	38%



The table shows that organizations with **high big data adoption** outperform those with low adoption across multiple business areas. They have higher sales forecast accuracy (89% to 61%) and better customer insights quality (8.8 to 5.3). Risk management is more efficient (76% to 48%), and they respond faster to market trends (2 days to 6 days). Additionally, highly adopting organizations innovate more frequently, generating 12 new ideas per quarter compared to only 4 in low adopters. Their data utilization rate is also more than double (84% to 38%). Overall, this data highlights that big data adoption significantly enhances organizational performance and agility.

## Results and Discussion:

### Summary of Findings:

The findings reveal that leveraging Huge Information altogether improves commerce decision-making by giving real-time, evidence-based experiences or maybe than depending exclusively on instinct. It makes a difference organizations pick up a more profound understanding of client behavior and inclinations, empowering personalization and more viable showcasing techniques.

Enormous Information too progresses operational productivity by streamlining forms, optimizing supply chains, and lessening costs. In expansion, it reinforces chance administration by recognizing extortion, surveying monetary dangers, and foreseeing showcase vacillations. Businesses utilizing Enormous Information are superior situated to improve, distinguish modern advertise openings, and pick up a competitive edge.

Additionally, the selection of Enormous Information cultivates a data-driven culture that moves forward responsibility and key arranging. Be that as it may, challenges such as information protection concerns, tall framework costs, deficiency of talented experts, and guaranteeing information quality require to be tended to to maXimize its potential.

**Discussion:**

The results come about bolster the elective speculation that huge information emphatically impacts decision-making. Most members confirmed that their companies had picked up vital experiences driving to move forward operations, client fulfillment, and benefit. In any case, the need of talented human assets and concerns around information security stay critical boundaries. Outstandingly, firms with a committed information technique appeared way better outcomes

The study appears that Enormous Information altogether moves forward commerce decision-making by giving opportune experiences and a way better understanding of client behavior. Organizations utilizing Enormous Information pick up preferences in productivity, chance administration, and vital arranging. Be that as it may, challenges like tall costs, aptitude deficiencies, and information protection concerns must be tended to. Generally, leveraging Enormous Information empowers more brilliant choices and bolsters development and growth.

**Suggestions:**

Big Information can be maXimized by creating solid information administration systems to guarantee precision, protection, and security of data. Organizations ought to contribute in preparing and enlisting gifted information investigators and information researchers who can decipher complex datasets into significant bits of knowledge. Coordination progressed analytics apparatuses, AI, and machine learning can encourage upgrade prescient capabilities and back proactive decision-making. It is moreover proposed that firms begin with pilot ventures to test Huge Information applications in particular ranges some time recently scaling over the organization. Moreover, making a culture of data-driven decision-making at all levels of administration will progress acknowledgment and viability.

## II. CONCLUSION

In conclusion, Enormous Information has risen as a capable apparatus for upgrading commerce decision-making, empowering organizations to pick up more profound client experiences, progress operational productivity, and keep up a competitive edge. Whereas its appropriation presents challenges such as tall costs, expertise crevices, and information security concerns, the benefits in precision, development, and vital arranging are considerable. Organizations that successfully coordinated Huge Information into their decision-making forms are way better situated for development and long-term success. Big information is revolutionizing the way businesses make choices. Organizations that successfully saddle the control of information analytics can react speedier to showcase changes, get it customer needs superior, and optimize their operations. Whereas challenges such as taken a toll, information quality, and ability deficiencies exist, the vital benefits distant exceed the impediments. As innovation proceeds to progress, huge information will gotten to be not fair an alternative, but a need for keen decision-making.

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