colorbrewer width=8cm,compat=1.9

How Do Big Data And AI Both Individually And In Combination Impact Business Performance?

Pouya Ataei

August 27, 2024

1 Research Framework

1.1 Research Question

"How do Big Data and Artificial Intelligence, both individually and in combination, impact business performance?"

1.2 Systematic Literature Review

- Search for studies on Big Data impact on business performance
- Search for studies on AI impact on business performance
- Search for studies that explicitly address the combined impact of Big Data and AI

1.3 Categorization

- Big Data studies
- AI studies
- Combined Big Data and AI studies

1.4 Analysis Framework

[label=)]Individual impacts:

1. - Impact of Big Data on business performance
   - Impact of AI on business performance

2. Synergistic effects:
   - How Big Data enhances AI capabilities
   - How AI improves Big Data analytics

3. Combined impact on various aspects of business performance:
   - Operational efficiency
   - Decision-making processes

- Customer experience
- Innovation and product development
- Market competitiveness
- Financial performance

1.5   Meta-Analysis and Network Analysis

- Conduct separate meta-analyses for Big Data studies and AI studies
- Conduct a meta-analysis on studies that examine combined effects
- Perform network analysis on the results from the two SLRs

1.6   Interrelation Analysis

- Identify common themes and patterns across Big Data and AI studies
- Analyze how Big Data and AI complement each other
- Examine case studies where both technologies are implemented together

1.7   Moderating Factors

- Industry sector differences
- Company size and resources
- Technological maturity of the organization
- Data quality and availability
- Regulatory environment

1.8   Challenges and Limitations

- Data privacy and security concerns
- Integration challenges
- Skill gap and talent acquisition
- Ethical considerations

1.9   Future Trends

- Emerging technologies that combine Big Data and AI
- Predicted future impacts on business models and strategies

1.10   Practical Implications

- Best practices for implementing Big Data and AI together
- Recommendations for businesses looking to leverage both technologies