International Journal of Scientific Research and Engineering Development-– Volume 9 Issue 1, Jan-Feb 2026
Available at wwwijsred.com

RESEARCH ARTICLE OPEN ACCESS

Data-Driven Decision Making and Its Impact on Organizational Performance in Saudi Enterprises: An Exploratory Study of Current Practices, Challenges, and Contextual Factors

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Abstract:

This study investigates how analytics capability, governance maturity, and digital readiness influence the effectiveness of data-driven decision making and its impact on organizational performance within Saudi enterprises. Using an exploratory qualitative approach supported by semi-structured interviews and documentary analysis, the research identifies operational practices, barriers, and contextual drivers shaping decision quality and efficiency. Findings indicate that integrated analytics infrastructures enhance transparency, coordination, and operational effectiveness, whereas fragmented systems and limited analytical competencies constrain value realization. A conceptual framework linking analytics capability to performance outcomes is proposed, offering practical recommendations for sustainable digital transformation.

Keywords **--- Data-Driven Decision Making; Analytics Capability; Organizational Performance; Digital Transformation; Governance Maturity; Saudi Enterprises**

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I. INTRODUCTION

Organizations increasingly operate in environments characterized by rapid technological change and heightened uncertainty. Managerial intuition alone is insufficient for ensuring effective strategic decisions. Data-driven decision making enables organizations to transform operational data into actionable insights that enhance forecasting accuracy, resource allocation, and overall performance.

In Saudi Arabia, Vision 2030 has accelerated digital initiatives across sectors. Despite growing investments in analytics systems, many enterprises still struggle to convert data into measurable performance improvements. This indicates that technology adoption must be complemented by governance structures and workforce competencies. Therefore, this study explores how analytics capability and organizational readiness shape decision effectiveness and performance outcomes.

II. LITERATURE REVIEW

Prior research highlights analytics capability as a critical driver of competitive advantage. Davenport and Harris [1] demonstrate that firms competing on analytics outperform peers through systematic experimentation and measurement. Chen et al. [2] emphasize that business analytics creates strategic value by enabling evidence-based decisions. However, technology alone is insufficient. Bharadwaj et al. [3] argue that digital business strategy requires alignment between IT and organizational processes. Wamba et al. [5] and Akter et al. [6] show that dynamic capabilities and governance maturity significantly influence analytics outcomes. Despite this evidence, limited

studies explore these relationships within Middle Eastern enterprises. This research addresses that contextual gap.

III. THEORETICAL FRAMEWORK

Analytics infrastructure and skills are conceptualized as strategic resources, while governance and digital readiness strengthen the organization's ability to sense opportunities, seize insights, and reconfigure processes. The Resource-Based View [8] and Dynamic Capabilities Theory [7] provide the theoretical foundation for understanding how firms leverage analytics capabilities for sustained competitive advantage.

Proposed relationship: Analytics Capability + Governance Maturity + Digital Readiness → Decision Quality → Organizational Performance

IV. METHODOLOGY

An exploratory qualitative methodology was adopted to gain in-depth understanding of data-driven decision making practices. Semi-structured interviews were conducted with managers and analysts across Saudi enterprises representing diverse industry sectors. Documentary evidence such as dashboards, analytical reports, and internal policy documents was also analyzed to triangulate findings.

A. Data Collection

Primary data was gathered through face-to-face and virtual interviews lasting 45-60 minutes each. Participants were selected using purposive sampling based on their involvement in analytics initiatives. Interview protocols covered analytics infrastructure, governance mechanisms, decision processes, and perceived performance impacts.

B. Data Analysis

Thematic analysis was employed to identify patterns and themes. Data was coded iteratively, and findings were validated through member checking and triangulation with documentary evidence. This approach ensured reliability and validity of the qualitative insights generated.

V. RESULTS AND DISCUSSION

Organizations with integrated analytics platforms reported faster decision cycles, improved coordination, and enhanced transparency. Real-time dashboards facilitated proactive responses and reduced reliance on subjective judgment. Conversely, fragmented databases and limited analytical skills constrained value realization.

A. Analytics Capability

Findings reveal that organizations investing in centralized data warehouses and business intelligence tools demonstrated superior decision quality. Analytics capability encompasses not only technological infrastructure but also analytical talent and data literacy across organizational levels. Firms with dedicated analytics teams showed better alignment between data insights and strategic actions.

B. Governance Maturity

Data governance emerged as a critical enabler. Organizations with established data quality standards, clear ownership protocols, and robust security frameworks reported higher confidence in analytics outputs. Without mature governance, data silos and inconsistent definitions undermined decision reliability.

C. Digital Readiness

Digital readiness involves both technological infrastructure and cultural acceptance of data-driven approaches. Organizations exhibiting change readiness and leadership commitment to digital transformation achieved faster adoption and better performance outcomes. These findings confirm that socio-technical alignment between systems, governance, and people determines performance outcomes rather than technology alone.

VI. PRACTICAL IMPLICATIONS

Based on the findings, managers should establish enterprise-wide data governance frameworks that define data ownership, quality standards, and access controls. Standardizing

reporting practices across departments enables consistent performance measurement. Investing in analytics training programs enhances workforce competencies and promotes data literacy at all organizational levels.

Furthermore, integrating analytics into routine decision processes rather than treating it as a separate function strengthens organizational effectiveness. Cross-functional collaboration between IT, operations, and strategy teams ensures that analytical insights translate into actionable improvements. Leadership commitment and change management initiatives are essential for successful digital transformation.

VII. LIMITATIONS AND FUTURE RESEARCH

The qualitative scope and limited sample may restrict generalizability of findings. While the exploratory approach provided rich contextual insights, caution is warranted when extending conclusions to other regions or industries. Future research may employ quantitative approaches with larger samples to statistically validate the proposed relationships. Longitudinal studies could examine how analytics capability evolves over time and its sustained impact on performance.

VIII. CONCLUSION

Data-driven decision making constitutes a strategic capability essential for competitiveness and sustainability in the contemporary business environment. This study demonstrates that Saudi enterprises combining analytics infrastructure with governance maturity and skilled personnel achieve superior operational performance. The proposed conceptual framework offers a foundation for understanding the interplay between technological, organizational, and human factors in leveraging data for strategic advantage.

As Saudi Arabia pursues Vision 2030 objectives, organizations must recognize that technology adoption alone is insufficient. Success requires holistic approaches integrating infrastructure, governance, talent development, and cultural transformation. This research contributes practical guidance for managers navigating digital transformation and positions analytics capability as a cornerstone of organizational excellence.

ACKNOWLEDGMENT

The author gratefully acknowledges the support of the Graduate School of Management, Management and Science University, Malaysia. Special thanks to the participating organizations and interview respondents whose insights made this research possible.

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