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The Impact of Digital Leadership Competencies on Strategic Performance in Sports Institutions in the United Arab Emirates

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Abstract. The rapid acceleration of digital transformation has profoundly altered leadership models across various sectors, including sports. In alignment with the United Arab Emirates' national visions—UAE Vision 2021 and Centennial Vision 2071—this study examines how digital leadership competencies influence strategic performance within sports institutions. The research employed a descriptive-analytical cross-sectional design involving 337 administrators and managerial staff from public and private sports institutions across the UAE. Data were collected using validated instruments that measured digital readiness, leadership competencies, and perceived institutional challenges. Statistical analyses revealed a strong positive correlation between digital leadership competencies, particularly strategic vision, innovation facilitation, and data-driven decision-making—and strategic performance outcomes. Moreover, organizational culture and digital infrastructure emerged as key enablers of leadership effectiveness, while limitations in digital talent development and resistance to change were reported as significant barriers. These findings underscore the necessity of strategic investments in leadership capacity-building, technological infrastructure, and digital culture to advance sustainable performance in the UAE's sports sector.

Keywords. Digital leadership, Sports institutions, UAE, Strategic performance, Digital readiness, Innovation, Organizational culture, Digital transformation

1. Introduction

The accelerating pace of digital transformation has redefined the competencies required of organizational leaders across sectors. In the context of sports institutions—where agility, innovation, and performance are essential, the role of digital leadership has become increasingly central. Traditional models of leadership, once focused on administrative control and operational efficiency, are no longer sufficient in an era marked by technological disruption, data-driven decision-making, and the need for rapid adaptability.

Globally, digital leadership is conceptualized as the ability to guide organizations through digital transformation by leveraging advanced technologies, fostering innovation, and

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aligning strategic goals with emerging digital opportunities. This form of leadership integrates digital literacy with strategic foresight, emotional intelligence, and a culture of continuous learning (Westerman et al., 2014; Goleman, 2017). In sports, these elements are particularly vital due to the fast-paced, performance-oriented environment in which institutions operate.

The United Arab Emirates (UAE) has positioned itself at the forefront of global digital transformation through initiatives such as Vision 2021 and Centennial Vision 2071, which emphasize innovation, smart governance, and digital excellence. Within this strategic vision, the sports sector is seen as a vital contributor to national identity, health promotion, and global influence. However, despite substantial investments in digital infrastructure and technological platforms, the adoption of digital leadership practices within sports institutions remains uneven.

Existing research on digital transformation has largely focused on the corporate, healthcare, and education sectors, with relatively few empirical studies exploring its dynamics within the sports domain—particularly in the Gulf and Arab regions. There is a pressing need to understand not only the extent to which digital leadership is being implemented in sports institutions, but also the institutional, cultural, and individual factors that support or hinder this transformation.

This study aims to fill this gap by (1) assessing the current state of digital leadership competencies among sports leaders in the UAE, (2) examining the relationship between digital readiness and strategic performance, and (3) identifying challenges and barriers that may impede effective digital transformation in the sports sector. By providing a data-driven analysis based on a diverse sample of institutional leaders, the study seeks to inform national strategies and guide policy, training, and investment priorities in the years ahead.

2. Methods

2.1. Study Design

This study employed a quantitative, cross-sectional, descriptive-analytical design aimed at examining the relationship between digital leadership competencies and strategic performance in sports institutions in the United Arab Emirates. The study was conducted during the 2023–2024 academic year and followed standardized ethical procedures for participant recruitment, data collection, and analysis. The design was informed by frameworks in digital transformation and leadership theory, enabling a multi-level analysis that included both individual and institutional variables.

2.2. Participants

The target population included sports administrators, decision-makers, and managerial staff from public sports federations, government-linked sports councils, and private sports clubs across various emirates in the UAE. A total of 350 participants were invited through stratified random sampling, ensuring proportional representation based on organizational type, emirate, and leadership level. After excluding incomplete responses and participants who did not meet eligibility criteria, 337 valid responses were retained for analysis (response rate: 96.3%).

Inclusion criteria were as follows:

- Active employment in a UAE-based sports institution
- Holding a leadership, managerial, or supervisory role
- Involvement in digital strategy planning or execution
- Minimum one year of relevant experience

Exclusion criteria included:

- Non-managerial roles

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- Less than one year of experience
- No engagement with digital leadership initiatives
- Participants included general directors (26.7%), heads of departments (38.4%), and technical supervisors (34.9%).

2.3. Data Collection Instruments

Three structured and validated tools were used to collect the data:

1- Digital Readiness Scale (DRS)

A 20-item scale assessing an institution's preparation for digital transformation across three domains:

- Digital infrastructure
- Human capital and digital skills
- Organizational culture

Responses were rated on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). Cronbach's alpha for the subscales ranged from 0.82 to 0.89.

2- Digital Leadership Competency Questionnaire (DLCQ)

A 25-item tool measuring five key dimensions of digital leadership:

- Strategic digital vision
- Technological awareness
- Data-driven decision-making
- Innovation facilitation
- Team empowerment

The scale was adapted from existing leadership models and pilot-tested with 30 respondents.

3- Barriers and Challenges Checklist (BCC)

A qualitative checklist designed to capture perceived institutional and cultural challenges. Items included cybersecurity, regulatory complexity, lack of training, and resistance to change.

All instruments were reviewed by a panel of five experts in sports management, digital leadership, and organizational psychology to ensure content validity.

2.4. Procedure

Data were collected through both in-person distribution (for institutions in Abu Dhabi, Sharjah, and Dubai) and secure online forms (for other emirates). Participants received clear instructions and informed consent forms, emphasizing anonymity and voluntary participation. Each respondent completed the questionnaires within 25–30 minutes.

Institutional leaders facilitated access, and trained research assistants supervised on-site completion. Data collection spanned an eight-week period between October and December 2023.

2.5. Data Analysis

Quantitative data was analyzed using IBM SPSS Statistics v26.0. Descriptive statistics (means, standard deviations, and frequencies) were used to summarize demographic data and scale responses. The Kolmogorov–Smirnov test confirmed normality of distributions.

- Pearson's correlation coefficients were calculated to assess relationships between digital leadership, readiness, and performance.
- Multiple linear regression was used to identify key predictors of digital leadership effectiveness.
- Significance threshold was set at $p < 0.05$.

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Qualitative responses from the BCC were thematically coded and categorized to identify recurrent obstacles.

2.6. Ethical Considerations

The study protocol received approval were informed of their rights and provided informed written consent. All data were anonymized and stored securely in compliance with UAE research governance and data protection regulations.

3. Results

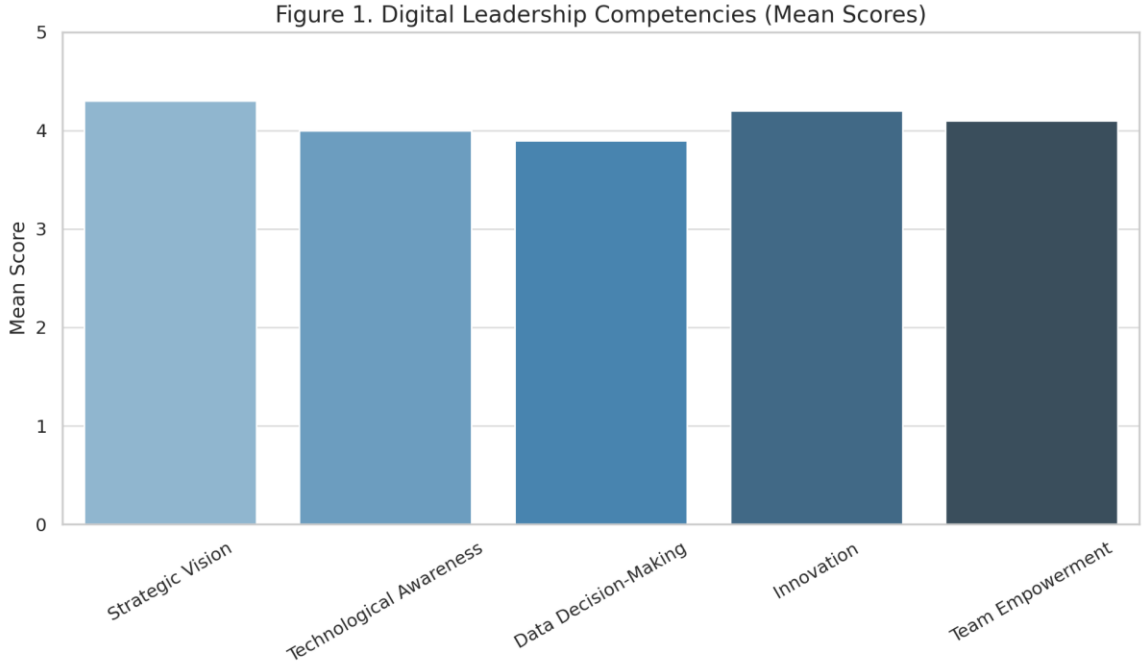
3.1. Descriptive Statistics

The analysis of digital leadership competencies revealed high levels of perceived capability across all five measured domains. As shown in **Table 1**, the highest mean score was observed for *Strategic Vision* (M = 4.3, SD = 0.5), followed by *Innovation* (M = 4.2, SD = 0.5) and *Team Empowerment* (M = 4.1, SD = 0.6). The lowest average score was reported in *Data-Driven Decision-Making* (M = 3.9, SD = 0.7), indicating a potential development gap in analytical leadership capacities.

Table 1. Mean scores and standard deviations for digital leadership competencies

Competency	Mean (M)	Standard Deviation (SD)
Strategic Vision	4.30	0.50
Technological Awareness	4.00	0.60
Data-Driven Decision-Making	3.90	0.70
Innovation	4.20	0.50
Team Empowerment	4.10	0.60

Figure 1. Digital Leadership Competencies (Mean Scores)



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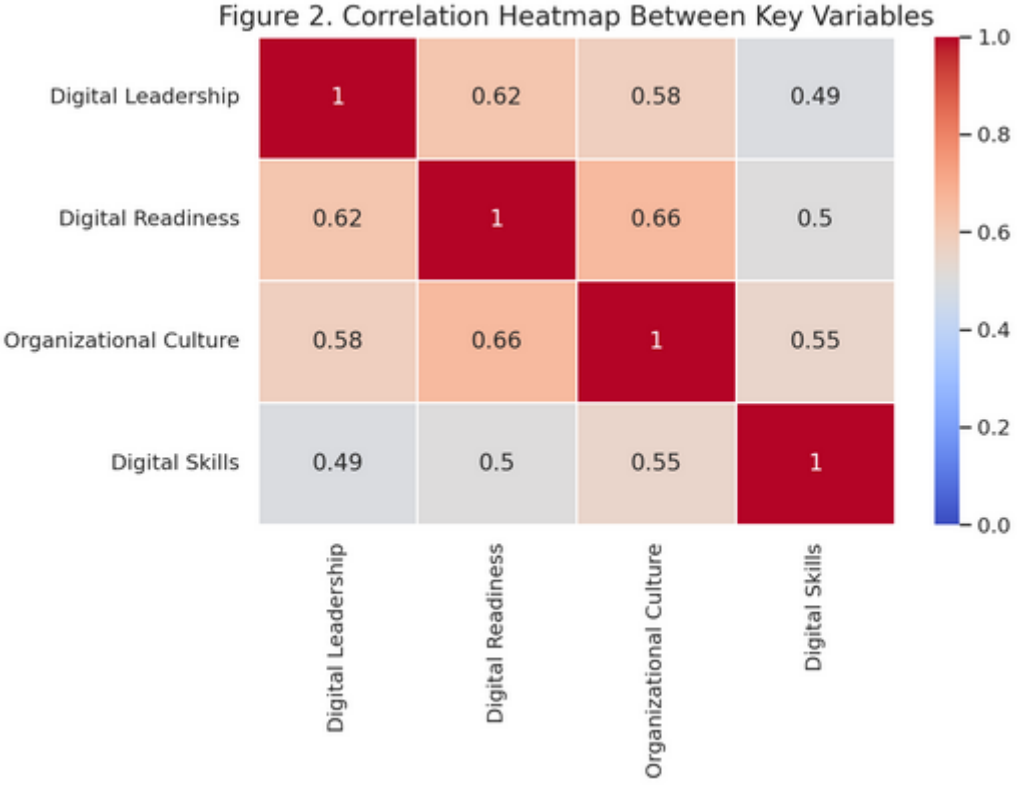
3.2. Correlation Analysis

Pearson correlation coefficients demonstrated statistically significant and positive associations among digital readiness, leadership competencies, and enabling contextual factors. The highest correlation was observed between *Digital Infrastructure* and *Readiness* ($r = 0.66$, $p < 0.001$), followed by *Digital Leadership* and *Readiness* ($r = 0.62$, $p < 0.001$).

Table 2. Correlation coefficients among key study variables

Variable Pair	Pearson's r	p-value
Digital Readiness ↔ Digital Leadership	0.62	< 0.001
Organizational Culture ↔ Leadership Competency	0.58	< 0.001
Digital Skills ↔ Leadership Competency	0.49	0.001
Digital Infrastructure ↔ Readiness	0.66	< 0.001

Figure 2. Correlation Heatmap Between Key Variables



3.3. Regression Analysis

A multiple linear regression model was constructed to identify the most significant predictors of successful digital leadership implementation. The model was statistically significant ($R^2 = 0.52$, $F(5, 331) = 23.6$, $p < 0.001$), indicating moderate to strong explanatory power.

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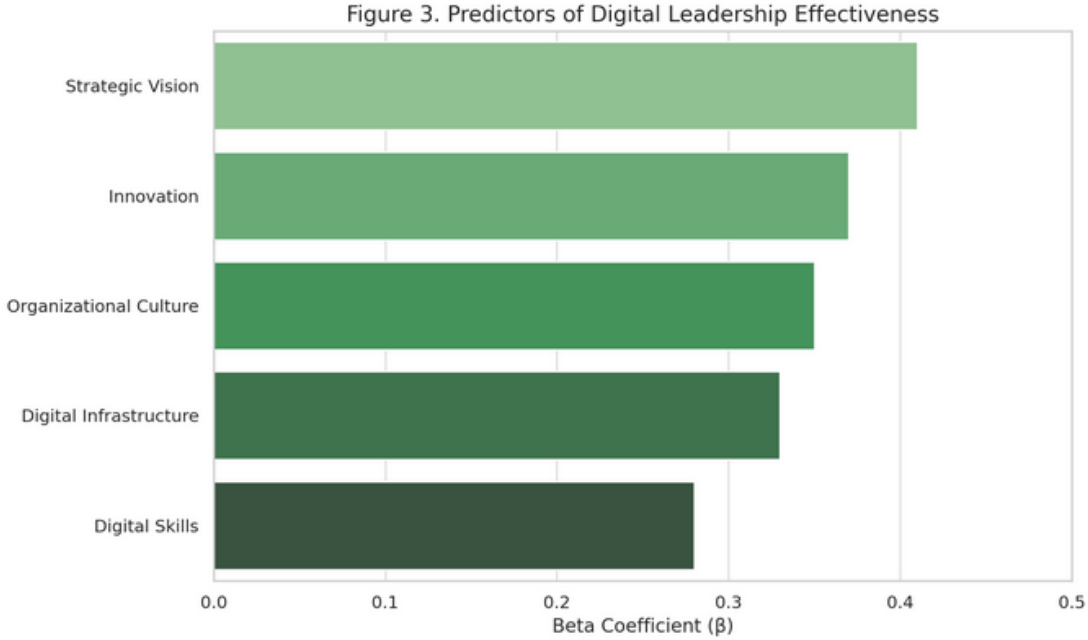
Table 3. Multiple regression analysis predicting digital leadership implementation

Predictor	Beta Coefficient (β)	p-value
Strategic Vision	0.41	< 0.001
Innovation	0.37	< 0.001
Organizational Culture	0.35	< 0.001
Digital Infrastructure	0.33	0.001
Digital Skills & Talent	0.28	0.003



As visualized in **Figure 3**, *Strategic Vision* emerged as the strongest predictor, followed by *Innovation* and *Organizational Culture*.

4. Discussion

This study investigated the impact of digital leadership competencies on strategic performance in sports institutions within the United Arab Emirates. It also explored the interplay between individual leadership capabilities and contextual enablers such as digital readiness, infrastructure, culture, and talent. The findings provide robust empirical evidence in support of the hypothesis that both leadership competencies and organizational readiness are critical for successful digital transformation in the sports sector.

4.1. Interpretation of Key Findings

The results revealed that *Strategic Vision* (β = 0.41) and *Innovation* (β = 0.37) were the most influential predictors of digital leadership effectiveness. These findings are consistent with prior research emphasizing that visionary leadership—defined by clarity of purpose, future orientation, and the ability to articulate a compelling digital roadmap—is a key driver of transformation (Goleman, 2017; Westerman et al., 2014). Similarly, innovation capability

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reflects a leader's capacity to foster experimentation, accept calculated risks, and create environments conducive to digital growth.

Organizational culture also played a substantial role (β = 0.35), reinforcing the notion that a collaborative, agile, and digitally aware culture is essential for sustaining change. As supported by previous literature (Bass & Avolio, 1994; Deloitte, 2020), cultural alignment facilitates employee buy-in, reduces resistance, and enhances digital adoption. This is particularly critical in hierarchical environments such as sports organizations, where legacy practices may inhibit the integration of new technologies.

Digital infrastructure and *digital skills readiness* were also significant, though slightly less predictive. The strength of these findings suggests that without appropriate technical systems and trained personnel, even the most competent leaders may struggle to execute digital strategies effectively. This aligns with the multi-level digital transformation models proposed by El Sawy et al. (2020), which emphasize the interplay between leadership, infrastructure, and human capital.

Interestingly, while *data-driven decision-making* was identified as a key leadership dimension in the survey, its mean score (3.9) was comparatively lower than others such as *Strategic Vision* (4.3) and *Innovation* (4.2). This finding highlights a developmental area in the current leadership landscape, suggesting that many sports administrators may still rely on traditional, experience-based decision models rather than analytical or evidence-based approaches. This result mirrors regional research indicating that data utilization in public sector leadership remains underdeveloped in the Gulf (Sivarajah et al., 2017).

4.2. Theoretical Contributions

This study contributes to the emerging literature on digital leadership in non-corporate sectors by validating a model that integrates both *individual competencies* and *institutional readiness*. While most prior studies have focused on education or enterprise contexts, this research offers new insight into the sports domain—where performance, reputation, and public engagement are tightly interwoven with innovation and technology. It also supports theories of *transformational* and *agile leadership* by demonstrating the practical importance of future-oriented vision and innovation capacity.

Furthermore, the study reinforces the concept that digital leadership is not a purely technical role, but a strategic and cultural function—dependent on emotional intelligence, organizational alignment, and adaptability. This aligns with conceptualizations by Zhu and Zheng (2023), who argue that digital leaders must exhibit agility, empathy, and system-level thinking.

4.3. Practical Implications

From a policy and management standpoint, the findings suggest that investment in leadership development must go beyond technical training. **Capacity-building programs** should focus on:

- Vision development and strategic foresight
- Innovation management
- Data literacy and analytics
- Organizational change facilitation

Institutions must also **embed digital transformation into their culture**—through incentive systems, cross-functional collaboration, and digital experimentation hubs. Additionally, **public–private partnerships (PPPs)** can help bridge technical gaps and expose

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sports leaders to real-world innovations in performance analytics, fan engagement, and AI-driven decision tools.

4.4. Limitations and Future Research

Despite its strengths, this study has several limitations. First, its cross-sectional design restricts causal inferences. Longitudinal research could better capture the evolution of leadership capabilities and institutional change over time. Second, self-report tools may introduce bias, although high internal reliability was ensured. Third, the qualitative component (Challenges Checklist) provided breadth but limited depth.

Future studies could adopt **mixed-methods or ethnographic approaches**, exploring how digital leadership is enacted in real organizational settings. Comparative studies across Gulf Cooperation Council (GCC) countries would also be valuable in contextualizing the UAE's unique digital trajectory. Finally, future models could integrate variables such as gender, age, digital maturity index, or leadership tenure to examine more nuanced patterns.

5. Conclusion

5.1. Summary of Findings

This study provides a comprehensive analysis of how digital leadership competencies influence strategic performance within sports institutions in the United Arab Emirates. It confirms that the successful implementation of digital leadership is not solely a function of individual skills, but rather the result of a synergistic interplay between **leadership vision**, **organizational readiness**, **technological infrastructure**, and **cultural adaptability**.

Among the competencies assessed, *Strategic Vision* emerged as the most significant driver of digital transformation, followed by *Innovation Capability*, *Organizational Culture*, and *Digital Infrastructure*. These findings validate the central role of forward-thinking and innovation-driven leadership in fostering institutional agility and sustained performance. Conversely, comparatively lower scores in *Data-Driven Decision-Making* suggest that more efforts are needed to cultivate analytical thinking and evidence-based practices within sports leadership in the UAE.

The study's results echo global calls for a paradigm shift in leadership frameworks—from reactive, hierarchical models to proactive, digital-first mindsets grounded in continuous learning, emotional intelligence, and strategic integration.

5.2. Strategic Recommendations

Considering these findings, several actionable strategies are proposed to accelerate the shift toward effective digital leadership in UAE sports institutions:

1. Develop a National Digital Leadership Framework for the Sports Sector

A standardized national framework should be designed to define:

- Core digital leadership competencies
- Assessment criteria and performance benchmarks
- Progression pathways aligned with *Vision 2071*

Such a framework would support consistency, accountability, and long-term capability, building across all levels of leadership in the UAE's sports ecosystem.

2. Institutionalize Digital Culture and Change Readiness

Organizational culture must evolve to prioritize:

- Innovation and experimentation
- Cross-departmental collaboration

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- Agile responses to technological trends

This may involve:

- Establishing "Digital Champions" in each department
- Incentivizing innovation through recognition programs
- Creating digital innovation labs or incubators within institutions

3. Strengthen Data-Driven Leadership Practices

Investments must be made in:

- Training leaders to interpret and utilize analytics
- Integrating data dashboards into decision-making workflows
- Embedding Key Performance Indicators (KPIs) based on digital metrics (e.g., athlete analytics, fan engagement platforms, digital fanbase growth)

This will ensure that digital transformation is rooted in measurable outcomes and evidence-based strategy.

4. Enhance Talent and Skill Development

Professional development should go beyond IT workshops and focus on:

- Vision articulation and strategic alignment
- Emotional and adaptive intelligence
- Digital ethics and cybersecurity awareness
- Change leadership and digital communication

Such training can be integrated into national sports management institutes and in-service development tracks.

5. Facilitate Cross-Sector Collaboration and Public–Private Partnerships (PPPs)

UAE sports institutions can benefit from strategic alliances with:

- Technology providers
- Universities with digital transformation labs
- Global innovation networks

These partnerships can help accelerate the adoption of AI, big data, cloud-based performance systems, and virtual coaching environments in the sports domain.

6. Conduct Periodic Digital Maturity Audits

Regular audits will allow institutions to:

- Benchmark their digital progress
- Identify capability gaps
- Align with evolving global standards

Such audits should assess infrastructure, culture, competencies, and digital outcomes on a biannual basis.

5.3. Final Remarks

By embracing a holistic and proactive approach to digital leadership, UAE sports institutions can position themselves as global pioneers in digitally enabled sports governance, performance, and innovation. This study lays the groundwork for such transformation by identifying both the strengths and critical gaps in the current leadership landscape.

To achieve the ambitious aspirations outlined in **UAE Vision 2071**, it is imperative that sports institutions embed digital leadership at the core of their strategic DNA. This requires

not only competent individuals but also visionary systems, resilient cultures, and long-term national alignment.

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