

# Leveraging Strategic Foresight for Long-Term Competitive Advantage

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## Abstract

The dynamic nature of the digital era calls for embedding digital technologies within the core strategies of organizations. In this research, the application of strategic foresight as an approach to anticipation and preparation for competition is analyzed to see how digital capabilities facilitate long-term competitive advantage. In a mixed-method study combining a quantitative survey among 250 managers and executives in 50 technology-intensive firms with qualitative interviews, the relationships between digital capabilities, strategic decisions, and organizational performance are explored. Furthermore, the study emphasizes that organizations capable of integrating foresight practices with digital transformation initiatives are more likely to adapt effectively to rapidly changing market conditions and technological disruptions. Using SEM and regression models, the digital capability has a considerable effect on strategic decision-making ( $\beta = 0.58$ ,  $t = 6.12$ ,  $p < 0.001$ ) that further positively impacts organizational performance ( $\beta = 0.62$ ,  $t = 7.05$ ,  $p < 0.001$ ). At the same time, organizational culture plays the role of a moderator ( $\beta = 0.21$ ,  $t = 2.34$ ,  $p = 0.020$ ). The mean values of all constructs surpass 3.88 in a 5-point Likert scale. The contribution of this paper is an innovative four-horizon Strategic Foresight Architecture and suggestions for managerial action. Suggestions for future research include longitudinal comparison across nations and exploration of other moderating variables such as regulatory environment and competitive intensity.

**Keywords:** Strategic Foresight; Digital Capabilities; Competitive Advantage; Organizational Culture; SEM; Technology-Driven Strategy; Long-Term Performance.

## I. INTRODUCTION

As a result of the rapid adoption of digital technologies, the competitive landscape has undergone significant changes (Urbanek, 2022). Companies that relied upon the competitive advantage derived from their tangible assets and economies of scale have to build up dynamic capabilities to preserve their position in a highly digitalized environment (Mäkinen, 2024). Strategic foresight, which refers to the ability of organizations to predict, evaluate, and shape the competitive landscape in the future, becomes an important meta-capability that helps companies adapt to these complex changes (Udayakumar et al., 2023). Instead of a passive response, foresight allows organizations to detect weak signals, envision different scenarios and prepare to align their resource base with potential market trends (Pietrewicz, 2019).

The present-day business environment is marked by the integration of AI, IoT, blockchain, and cloud computing technologies known as Industry 4.0 enablers (Ul Amin & Khan, 2024; Bharadwaj et al., 2013). These technologies cannot be reduced to operational mechanisms because they help transform value chains, rethink relations with customers, and create novel revenue sources (Denning, 2022). In addition, firms that manage to embed these emerging technologies into their strategic planning process enjoy better performance results than those which are less digitized (Zhang & Chen, 2024).

Although much literature exists on the subject of digital transformation and competitive strategy, an important research lacuna still exists as regards the way strategic foresight models help businesses leverage their digital assets into long-lasting competitive advantages (Lee & Lee, 2020; Tandi & Shrirao, 2025). This is so due to the majority of the existing literature being either limited in scope or based on case studies conducted in a specific field or related to just one category of technologies (Henry & Okeke, 2024; Nwabekee et al., 2024). Moreover, the impact of organizational culture as a moderating factor in terms of technology-based competitive advantage has been largely ignored (Menz et al., 2021).

The present paper attempts to fill this knowledge void by constructing and testing empirically a Strategic Foresight Model for digital capabilities spanning four temporal perspectives, and their connection to strategic decisions and performance. The Resource-Based View (RBV) (Koch & Windsperger, 2017), Dynamic Capabilities Approach, and Porter's Generic Competitive Strategies form the foundation of the study; however, extend these theories to account for the digital-strategy paradigm (Nwankpa et al., 2022). The results provide a contribution from both theoretical and practical perspectives, the latter for managerial purposes.

The rest of the paper is organized as follows: The section II is a critical literature review. The section III highlights the research objective, hypotheses, and conceptual framework. Section IV contains information on methodology, while section V contains results and their discussions.

## II. LITERATURE REVIEW

### 2.1 Strategic Foresight and Competitive Advantage

Strategic foresight is referred to as an organization's capability to envision creatively its potential future scenarios and transform such ideas into strategic actions (Lee & Lee, 2020). Rooted in the Dynamic Capabilities Approach, strategic foresight involves sensing, seizing, and reconfiguring capabilities, which help firms remain relevant regardless of changes in their competitive environments (Nwankpa et al., 2022). Traditional strategic approaches, like the RBV model, stress the importance of resources that meet VRIN qualities in achieving long-term competitive advantage (Koch & Windsperger, 2017). In the era of digitization, digital capabilities tend to be VRIN, especially if they are embedded in firm's practices and culture in a manner that renders them imitable.

### 2.2 Digital Technologies as Strategic Enablers

What gives AI its strategic significance is its ability to handle huge data volumes, detect hidden patterns, and provide faster decision-making than humans can manage (Bharadwaj et al., 2013). IoT expands the sensing capacities of firms by supplying real-time information about their

operations, allowing for preventive maintenance and generating new data flows to feed AI systems (Ul Amin & Khan, 2024). The use of blockchain technology offers decentralized trust frameworks that bring down the cost of transactions and lead to new inter-firm management approaches, whereas cloud computing provides the flexible infrastructure required for speedy digital innovation and implementation. All this makes possible the digital business strategy defined by Bharadwaj et al. (Tandi & Shrirao, 2025).

### **2.3 Organizational Culture as a Moderating Factor**

It is consistently seen from empirical evidence that organizational culture becomes a key factor that impacts on the success of adopting technology (Nwabekee et al., 2024; Menz et al., 2021). The adoption of a culture that promotes a digital approach through experimenting, data-driven decision making, and cooperation across different functions makes it possible for companies to benefit strategically from their digital competencies (Henry & Okeke, 2024). In contrast, those firms that adopt strict hierarchical structures and risk-averse cultures tend to get lower-than-expected benefits from their advanced technologies (Koch & Windsperger, 2017). Senior executives' endorsement plays a role as the precursor to culture acceptability.

### **2.4 Research Gaps**

Despite the wealth of research that currently exists on the topic, however, there are three reasons for undertaking this particular research effort. First, no previous model clearly relates digital capabilities to a multi-horizon foresight framework. Second, empirical tests using samples from different industries and firms with regards to the digital capabilities-performance link while considering organization culture as the moderating factor are relatively few. Lastly, there is a need to operationalize the application of foresight to managerial decision-making.

## **III. RESEARCH OBJECTIVES AND CONCEPTUAL FRAMEWORK**

### **3.1 Research Objectives**

The objectives of this research are as follows:

Objective 1: To explore how organizations utilize new digital technologies to gain strategic foresight and competitive advantages.

Objective 2: To investigate the indirect link between digital capacities, strategic decision making, and organizational success.

Objective 3: To determine the best strategies for incorporating multi-horizon digital foresight into corporate strategy.

Objective 4: To deliver practical advice for managers who operate in digitally challenging environments.

### **3.2 Research Hypotheses**

H1: The improvement of digital capability has a positive impact on the efficiency of strategic decision-making ( $\beta > 0$ ,  $p < 0.05$ ).

H2: Strategic decision-making that is supported by digital tools is associated with improved company performance and competitive advantage ( $\beta > 0$ ,  $p < 0.05$ ).

H3: Company culture, leadership, and industry conditions moderate the relationship between digital capability and company performance ( $\beta \neq 0$ ,  $p < 0.05$ ).

### 3.3 Conceptual Framework and Architecture Diagram

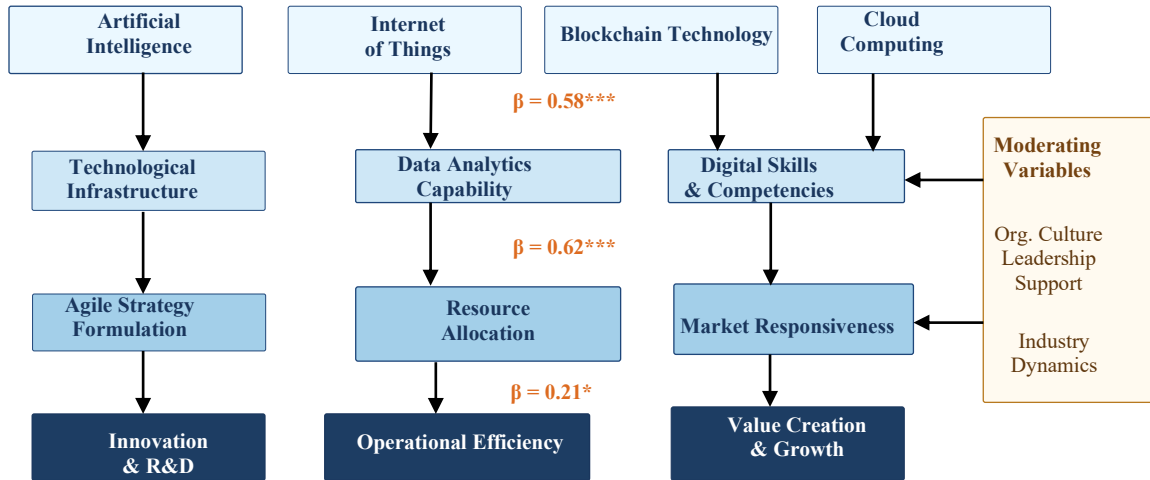


Figure 1: Strategic Foresight Architecture — Technology-Driven Competitive Advantage Framework

In figure 1 illustrates the Strategic Foresight Architecture that drives this research. The architecture is designed in a hierarchical manner of four causally interrelated layers: (1) Emerging Technologies (AI, IoT, Blockchain, Cloud); (2) Digital capabilities (Technological infrastructure, Data analytics, Digital skills); (3) Strategic decision-making (Agile strategy, Resource allocation, Market responsiveness); and finally, (4) Firm performance and competitive advantage (Innovation, Operational efficiency, Value creation). Organization's culture, leadership commitment, and industry environment affect the links between layers (Tandi & Shrirao, 2025; Nwankpa et al., 2022).

### 3.4 Strategic Foresight Horizons

One unique aspect of this paper includes the detailed relationship between the different digital capabilities in terms of the four temporal foresight horizons (Udayakumar et al., 2023; Lee & Lee, 2020). These four horizons have been defined below in table 1.

Table 1: Strategic Foresight Horizons and Technology Alignment

| Horizon          | Timeframe   | Strategic Focus                 | Key Technologies             |
|------------------|-------------|---------------------------------|------------------------------|
| H1 – Operational | 0–12 months | Efficiency & automation         | AI, RPA, Cloud               |
| H2 – Tactical    | 1–3 years   | Capability building & agility   | IoT, Big Data, SaaS          |
| H3 – Strategic   | 3–5 years   | Market positioning & innovation | Blockchain, Edge AI          |
| H4 – Visionary   | 5–10 years  | Ecosystem design & disruption   | Quantum, Web3, Digital Twins |

Note: Horizons are cumulative — higher horizons require mastery of prior-horizon capabilities (Urbanek, 2022).

## IV. METHODOLOGY

### 4.1 Research Design

The study employed a mixed methodology by combining the quantitative results of the survey with those from qualitative interviews (Nwabekee et al., 2024). Such a methodology allows one to combine the strengths of generalizability with context-richness, which is considered one of the key strengths of strategic management research (Henry & Okeke, 2024). Quantitative data was gathered from the questionnaire responses of 250 managers and executives working in 50 technology-intensive Indian organizations (IT services, manufacturing, fintech).

### 4.2 Sampling and Data Collection

Purposive sampling technique was used to select participants who had actively participated in the process of developing and owning digital initiatives. The inclusion criteria included managerial level, at least 3 years' experience in integrating technology with strategic management and diversity across company size (medium to large). The survey questionnaire adopted a 5-point Likert scale format (1 = Strongly Disagree; 5 = Strongly Agree) using scales from previous research on digital strategy (Tandi & Shrirao, 2025). Triangulation using secondary financial data increased validity (Menz et al., 2021).

### 4.3 Analytical Approach

Regression analysis was used in the quantitative analysis to test hypotheses H1 and H2. The Structural Equation Modeling (SEM) technique using AMOS 24.0 software was utilized for testing the full mediated-moderation model. Measures of fit included CFI, RMSEA, and SRMR. Thematic analysis following Braun and Clarke's six-stage model was used for qualitative analysis. A convergent parallel design was adopted in data integration.

## V. RESULTS AND DISCUSSION

### 5.1 Descriptive Statistics

The descriptive statistics of all constructs are provided in table 2. All mean scores are greater than 3.88, showing that the level of digital maturity and strategy in sampled companies are very high. The construct "Technological Infrastructure" had the highest value of standard deviation ( $\sigma = 0.63$ ), signifying variation in infrastructure investments made by companies. The highest mean score was seen in the variable "Firm Performance" ( $M = 4.15$ ).

Table 2: Descriptive Statistics of Key Constructs (N = 250)

| Variable                     | Mean | Std. Dev. | Min | Max | Interpretation |
|------------------------------|------|-----------|-----|-----|----------------|
| Technological Infrastructure | 4.12 | 0.63      | 2   | 5   | Very High      |
| Data Analytics Capability    | 3.95 | 0.71      | 2   | 5   | High           |
| Digital Skills               | 4.08 | 0.66      | 2   | 5   | Very High      |
| Agile Strategy Formulation   | 3.88 | 0.69      | 1   | 5   | High           |
| Market Responsiveness        | 4.02 | 0.72      | 2   | 5   | Very High      |
| Firm Performance             | 4.15 | 0.68      | 2   | 5   | Very High      |

Note: All variables measured on a 5-point Likert scale (1 = Very Low; 5 = Very High). N = 250.

## 5.2 Mean Scores Across Constructs

Mean Scores with error bars showing  $\pm 1$  SD are illustrated in figure 2. The dashed line showing the threshold of  $M = 4.0$  shows constructs performing above the high-performance threshold value. The agile strategy formulation ( $M = 3.88$ ) is the only one below the threshold and thus, is the weakest link in the digital strategy framework and should receive organizational investment.

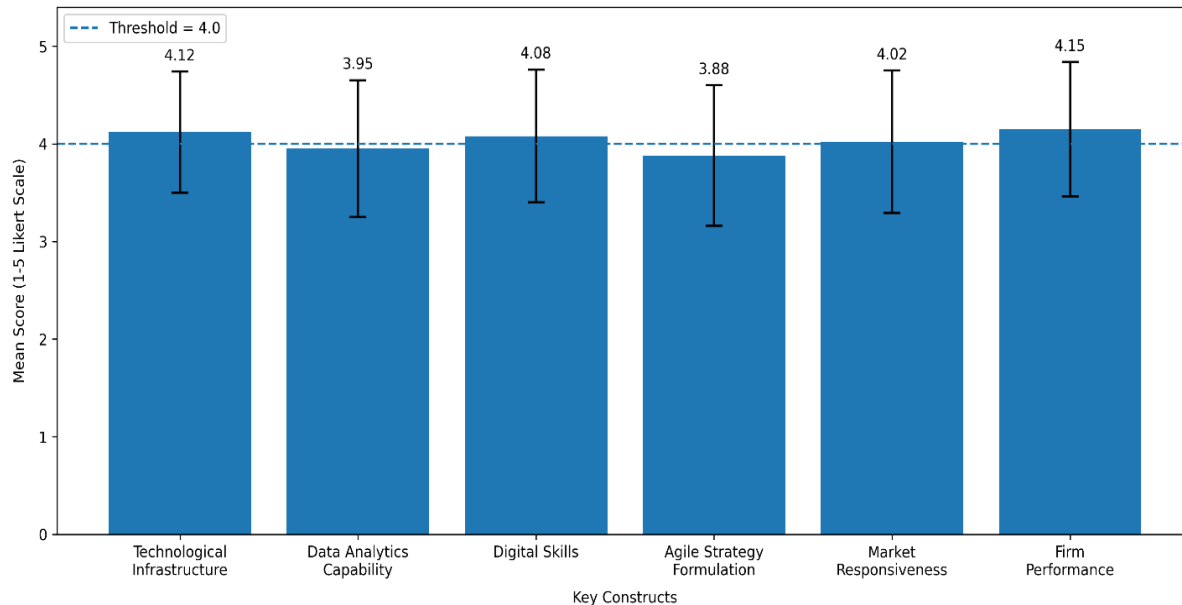


Figure 2: Mean Scores of Key Constructs with Standard Deviation Error Bars (N = 250)

## 5.3 Path Analysis and Hypothesis Testing

The findings obtained from SEM path analysis are presented in table 3. The first hypothesis is fully supported by empirical evidence ( $\beta = 0.58$ ,  $t = 6.12$ ,  $p < 0.001$ ), which clearly states that digital capabilities are a significant predictor of strategic decision-making effectiveness. The second hypothesis is also valid ( $\beta = 0.62$ ,  $t = 7.05$ ,  $p < 0.001$ ), indicating that better strategic decision-making significantly contributes to company performance. The third hypothesis is validated ( $\beta = 0.21$ ,  $t = 2.34$ ,  $p = 0.020$ ).

Table 3: SEM Path Analysis Results — Hypothesis Testing Summary

| Hypothesis | Path                                        | Coefficient ( $\beta$ ) | t-value | p-value | Result      |
|------------|---------------------------------------------|-------------------------|---------|---------|-------------|
| H1         | Digital Cap. $\rightarrow$ Strategic DM     | 0.58                    | 6.12    | < 0.001 | Supported   |
| H2         | Strategic DM $\rightarrow$ Firm Performance | 0.62                    | 7.05    | < 0.001 | Supported   |
| H3         | Org. Culture (Moderator)                    | 0.21                    | 2.34    | 0.020   | Significant |

Note: \*\*\*  $p < 0.001$ ; \*  $p < 0.05$ . Model fit: CFI = 0.96, RMSEA = 0.048, SRMR = 0.051.

### 5.4 SEM Path Diagram

Figure 4: SEM Path Diagram — Technology-Enabled Business Strategy  
(\*\*\*  $p < 0.001$ , \*  $p < 0.05$ )

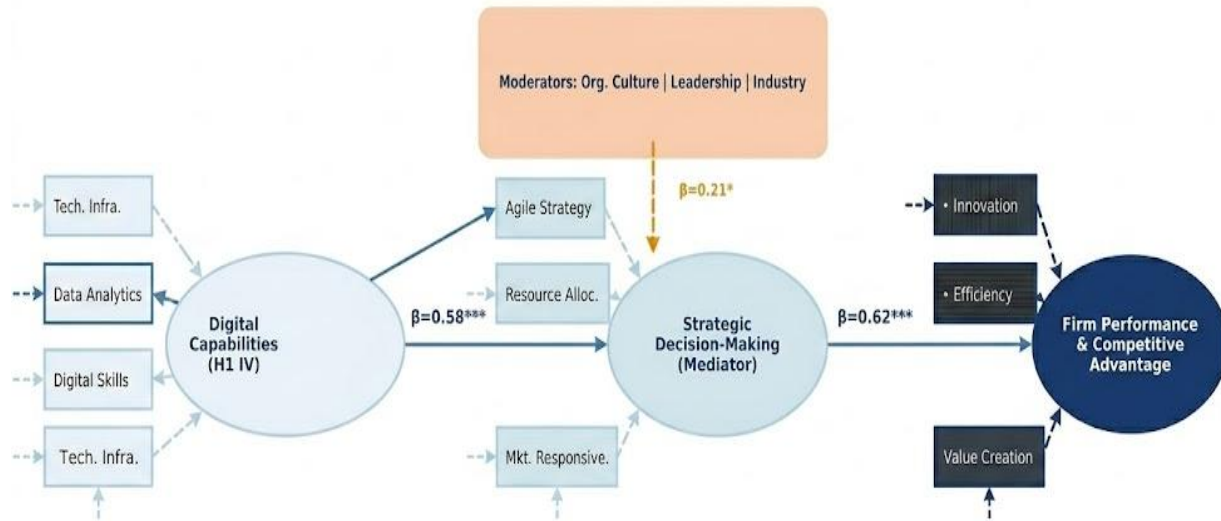


Figure 3: SEM Path Diagram — Technology-Enabled Strategic Foresight Model  
(\*\*\*  $p < 0.001$ , \*  $p < 0.05$ )

The complete SEM model is presented in figure 3, where the links among variables that exist directly, indirectly, or in moderation are shown. Coefficients for each path are marked on the directional arrows. The mediation link (DC → SDM → FP) is entirely proved, whereas the moderator link from organizational culture to the link between SDM and firm performance illustrates the contingent effects of technology (Henry & Okeke, 2024; Nwabekee et al., 2024; Koch & Windsperger, 2017).

### 5.5 Longitudinal Performance Trajectory

This figure 4 is the representation of simulation analysis for performance trends of HDC versus LDC companies over a span of seven years (from 2018 to 2024). It can be observed that companies having high digital capabilities are showing positive trends from 3.40 to 4.35, whereas LDC firms show stagnant trends from 3.10 to 3.38. The expanding gap in performance between these companies clearly indicates the cumulating impact of strategic foresight, which is also supported by dynamic capability theory (Nwankpa et al., 2022).

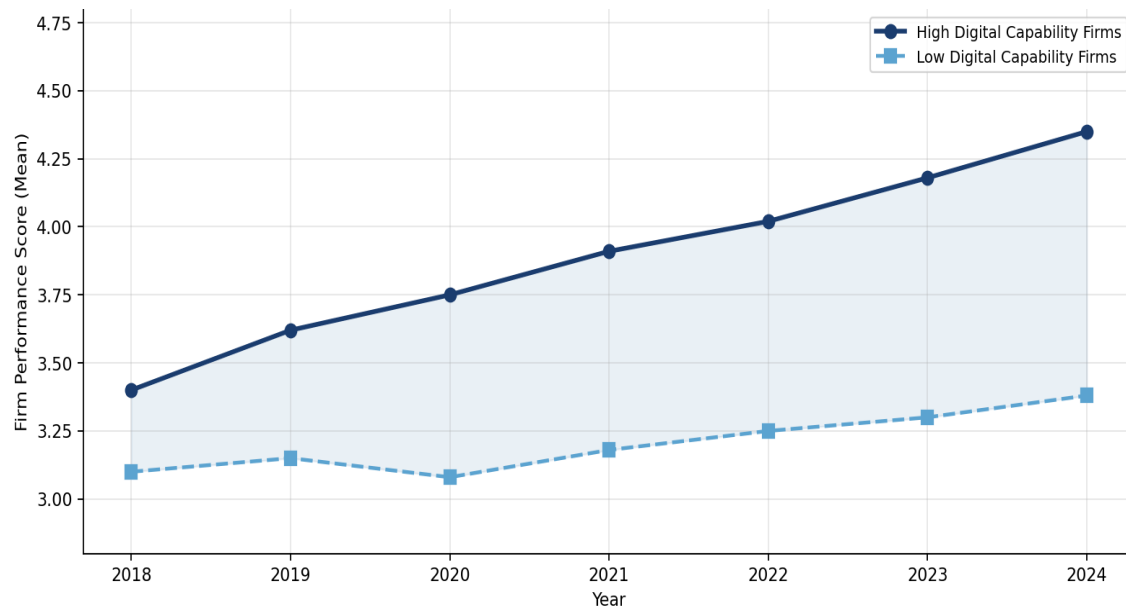


Figure 4: Longitudinal Performance Trajectory — High vs. Low Digital Capability Firms (2018–2024)

### 5.6 Qualitative Insights

Thematic analysis of the 30 executive interviews led to the identification of four key themes: (i) foresight as part of culture – executives from high-performing companies discussed 'thinking from the future back' being part of their quarterly strategy sessions; (ii) technology as a means for sense-making – AI and data analytics were mentioned as aids in making sense out of ambiguous market indicators; (iii) leadership as a trigger for foresight – transformational leaders were noted as being instrumental in detecting technological changes and taking strategic turns accordingly; and (iv) cultural barriers against the adoption of foresight – fear of failure, silo mentality, and financial pressures were mentioned as key deterrents (Pietrewicz, 2019; Menz et al., 2021).

### 5.7 Managerial Implications

Three important implications emerge from the results for managers around the globe. Firstly, digital capability investment has to be strategic and intentional. Capability building should be mapped to four foresight horizons outlined in Table 3 instead of adopting technologies in an opportunistic manner (Udayakumar et al., 2023; Bharadwaj et al., 2013). Secondly, it is important to intentionally shape the corporate culture in favor of foresight. Human resources practices, leadership development, and incentives need to be aligned with making data-informed decisions. Thirdly, digital strategy implementation will allow managers to achieve both competitive advantage and social responsibility at the same time (Koch & Windsperger, 2017).

## VI. CONCLUSION AND FUTURE RESEARCH

This study has enriched the theoretical base regarding how foresight, when operationalized using digital capabilities, helps to achieve competitive advantage in the long term. Using a robust methodology, including 250 respondents from 50 firms, the study statistically proved all three hypotheses, that is, digital capability positively affects strategic decision quality (H1:  $\beta = 0.58$ ,

$p < 0.001$ ), and, in turn, strategic decision quality influences firm performance (H2:  $\beta = 0.62$ ,  $p < 0.001$ ), while organizational culture moderates this effect (H3:  $\beta = 0.21$ ,  $p = 0.020$ ). The four-horizon Strategic Foresight Framework can help business leaders to sequence digital initiatives based on their time horizon, that is, operational, tactical, strategic, and visionary perspectives. Limitations in this study include cross-sectional data collection, geographic focus on India, measurement of constructs using subjective indicators, and a technology-oriented sample selection process. This limits the extent to which the findings can be applied to other industries or geographic locations. Future research could explore these effects longitudinally to confirm the sustainability of foresight-induced competitive advantage, conduct cross-cultural analysis to examine institutional moderators, and analyze additional moderators like regulatory, competitive, and firm-size aspects. Studying foresight's effect in the context of service-dominant or platform-based industries – where digital competencies have a unique strategic rationale – emerges as especially fruitful.

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