http://dx.doi.org/10.18623/rvd.v23.6313

BUILDING ORGANIZATIONAL RESILIENCE THROUGH DIGITAL LEADERSHIP: HOW ICT FIRMS IN CONSTRAINED ECONOMIES NAVIGATE UNCERTAINTY TOWARD COMPETITIVE POSITIONING

CONSTRUINDO A RESILIÊNCIA ORGANIZACIONAL POR MEIO DA LIDERANÇA DIGITAL: COMO AS EMPRESAS DE TIC EM ECONOMIAS EM DIFICULDADES ENFRENTAM A INCERTEZA PARA ALCANÇAR UM POSICIONAMENTO COMPETITIVO

Article received on: 1/2/2026
Article accepted on: 4/1/2026

Ayman Irziqat*
*Faculty of Economics and Business Administration (FEBA), Sofia University "St. Kliment Ohridski", Sofia, Bulgaria
Orcid: https://orcid.org/0009-0001-2750-0078
airziqat@gmail.com

The authors declare that there is no conflict of interest

Abstract
Organizations operating in institutionally constrained and conflict-affected economies face a compounded challenge: they must build competitive positioning against regional and global rivals while contending with resource scarcity, infrastructural fragility, and persistent political instability. This study examines how digital leadership — conceptualized through five behavioral dimensions: inspirational, innovation-oriented, uncertainty management, adaptation, and visionary — contributes to organizational resilience and, through it, to sustained competitive advantage among ICT firms in Palestine. Drawing on the Resource-Based View (RBV), Dynamic Capabilities Theory (DCT), and Organizational Resilience theory, and grounded in empirical data from 204 C-level executives in firms affiliated with the Palestinian Information Technology Association of Companies (PITA), the study employs Partial Least Squares Structural Equation Modelling (PLS-SEM) to test a resilience-mediated model of competitive positioning. The findings show that the uncertainty management role ($\beta = 0.270$, $p < 0.001$) and the adaptation role ($\beta = 0.218$, $p < 0.001$) are the most robust drivers of organizational resilience — operationalized through innovation capabilities — which in turn exerts a dominant influence on competitive advantage ($\beta = 0.731$, $p < 0.001$). The model accounts for 87.7% of the variance in competitive advantage, and robustness checks confirm that the resilience-building pathways remain structurally stable across demographic controls. This study contributes to a resilience-

Resumo
As organizações que operam em economias afetadas por conflitos e com restrições institucionais enfrentam um desafio complexo: precisam construir um posicionamento competitivo frente a rivais regionais e globais, ao mesmo tempo em que lidam com a escassez de recursos, a fragilidade da infraestrutura e a instabilidade política persistente. Este estudo examina como a liderança digital — conceituada por meio de cinco dimensões comportamentais: inspiradora, orientada para a inovação, gestão da incerteza, adaptação e visionária — contribui para a resiliência organizacional e, por meio dela, para a vantagem competitiva sustentável entre as empresas de TIC na Palestina. Com base na Visão Baseada em Recursos (RBV), na Teoria das Capacidades Dinâmicas (DCT) e na teoria da Resiliência Organizacional, e fundamentado em dados empíricos de 204 executivos de nível C em empresas afiliadas à Associação Palestina de Empresas de Tecnologia da Informação (PITA), o estudo emprega a Modelagem de Equações Estruturais por Mínimos Quadrados Parciais (PLS-SEM) para testar um modelo de posicionamento competitivo mediado pela resiliência. Os resultados mostram que o papel de gestão da incerteza ($\beta = 0,270$, $p < 0,001$) e o papel de adaptação ($\beta = 0,218$, $p < 0,001$) são os impulsionadores mais robustos da resiliência organizacional — operacionalizada por meio de capacidades de inovação —, que, por sua vez, exerce uma influência dominante sobre a vantagem competitiva ($\beta = 0,731$, $p < 0,001$) . O modelo explica 87,7% da variação na vantagem

centered reframing of digital leadership theory and offers empirically grounded guidance for ICT leaders navigating institutional complexity and disruption.
Keywords: Digital Leadership. Organizational Resilience. Competitive Advantage. Uncertainty Management. Adaptation Role. ICT Sector. Constrained Economies. PLS-SEM.

competitiva, e verificações de robustez confirmam que as vias de construção da resiliência permanecem estruturalmente estáveis em todos os controles demográficos. Este estudo contribui para uma reformulação centrada na resiliência da teoria da liderança digital e oferece orientações empiricamente fundamentadas para líderes de TIC que navegam pela complexidade institucional e pelas rupturas.

Palavras-chave: *Liderança Digital. Resiliência Organizacional. Vantagem Competitiva. Gestão da Incerteza. Papel de Adaptação. Setor de TIC. Economias Restritas. PLS-SEM.*

1 INTRODUCTION

There is a peculiar kind of pressure that comes with building a technology company in a place where infrastructure reliability is uncertain, physical mobility is constrained, and the political horizon offers little predictability. For ICT firms operating in Palestine, this is not a hypothetical scenario — it is the operational baseline. And yet, a significant number of these organizations have managed not only to survive but to sustain measurable competitive positioning in regional and international markets. Understanding how they do so, and specifically what role leadership plays in that capacity, is the central motivation behind this study.

The concept of organizational resilience has gathered considerable scholarly momentum over the past decade, driven in part by the disruptions brought about by global crises — the COVID-19 pandemic, geopolitical conflicts, supply chain collapses, and rapid technological displacement — that exposed the fragility of organizations built primarily for efficiency rather than endurance (Duchek, 2020; Baran & Woznyj, 2020). Resilience, in organizational terms, refers to a firm's capacity to anticipate disruption, absorb shocks, and reconfigure its resources and processes to maintain or restore functional performance (Duchek, 2020; Lengnick-Hall *et al*., 2011). Critically, resilience is not a passive property that organizations either have or lack; it is an active, leadership-mediated capability that must be deliberately built, practiced, and renewed (Baran & Woznyj, 2020; Ambulkar *et al*., 2015).

This is where digital leadership becomes particularly consequential. In environments marked by volatility, uncertainty, complexity, and ambiguity (VUCA), digital leaders do more than manage technological adoption — they shape the organizational conditions under which their firms either absorb or collapse under disruption (Kane *et al*., 2019; Sheninger, 2019). The uncertainty management and adaptation dimensions of digital leadership are especially relevant here. Leaders who are skilled at navigating ambiguity, communicating with clarity under pressure, fostering psychological safety, enabling risk-taking, and reconfiguring organizational strategies in response to shifting conditions are, functionally, constructing the resilience architecture of their organizations (Pashiardis & Brauckmann-Sajkiewicz, 2022; Duchek, 2020). This study argues that in constrained economies, these roles are not merely supportive of competitive advantage — they are foundational to it.

The bulk of empirical research on digital leadership and competitive performance has been conducted in institutional environments that are, by global standards, relatively stable. Western European and North American contexts dominate the published literature, with a growing but still limited representation of firms from Southeast Asia and East Africa (Munsamy *et al*., 2022; Cortellazzo *et al*., 2019). The specific dynamics of firms operating under conditions of prolonged institutional constraint — characterized by active political conflict, restricted physical mobility, and fractured access to capital and talent — remain poorly understood in the management literature. This gap is consequential, because the relationship between leadership behaviors and organizational outcomes cannot be assumed to operate identically across radically different institutional environments (Khanna & Palepu, 2010; London & Hart, 2004).

The Palestinian ICT sector provides a theoretically revealing setting for this inquiry. It is a knowledge-intensive industry with high global integration ambitions, represented institutionally by the Palestinian Information Technology Association of Companies (PITA). The West Bank component of PITA's membership encompasses 90 active firms whose leaders participated in this study; 68 additional PITA member companies located in Gaza were excluded due to the ongoing conflict, which itself underlines the severity of the institutional context under examination. The fact that West Bank ICT firms continue to compete and, in many cases, to grow under these conditions,

makes the question of how leadership enables resilience-driven competitiveness not merely academically interesting but practically pressing.

Prior empirical work from this research program has examined two related but distinct questions: how the five dimensions of digital leadership directly influence innovation capabilities, and how those capabilities mediate the pathway between leadership and competitive advantage (Irziqat, 2026a). The present study takes a third and distinct perspective — one organized around the concept of organizational resilience. Rather than asking whether digital leadership improves performance, this study asks how it equips organizations to sustain performance under conditions of duress. This reframing opens a substantially different set of theoretical and practical questions, grounded in resilience theory rather than in innovation or competitive advantage literature alone.

Three guiding research questions shape this inquiry. First, how do specific digital leadership roles contribute to organizational resilience among ICT firms operating in a constrained economy? Second, through what mechanisms does leadership-mediated resilience translate into sustained competitive positioning? Third, which digital leadership dimensions carry the greatest explanatory weight in resilience-building, and does that ordering hold after controlling for demographic and professional characteristics of respondents?

To address these questions, we employ PLS-SEM on survey data from 204 C-level executives across Palestinian ICT firms. Organizational resilience is operationalized through innovation capabilities — a theoretically defensible approach grounded in the resilience literature's emphasis on adaptive capacity, knowledge renewal, and continuous reconfiguration as the mechanisms through which firms sustain performance under pressure (Lengnick-Hall *et al*., 2011; Teece, 2007; Duchek, 2020). Five dimensions of digital leadership — inspirational, innovation-oriented, uncertainty management, adaptation, and visionary — are examined as antecedents to this resilience capacity and, through it, to competitive advantage.

The study makes three principal contributions. Theoretically, it extends organizational resilience theory into the domain of digital leadership, offering a conceptualization of resilience as a leadership-mediated dynamic capability rather than a static organizational trait. Contextually, it provides one of the relatively few quantitative empirical studies to examine digital leadership effectiveness under conditions of active

institutional constraint and conflict proximity. Practically, it offers ICT leaders and policymakers in constrained economies empirically grounded guidance on which leadership behaviors to prioritize when building organizations capable of sustaining competitive positioning under pressure.

The remainder of this article is organized as follows. Section 2 develops the theoretical framework and presents the study's hypotheses. Section 3 describes the research methodology. Section 4 reports empirical results. Section 5 discusses the findings in relation to existing theory and practice. Section 6 presents conclusions, limitations, and directions for future research.

2 THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

2.1 Organizational resilience in the digital age

Organizational resilience has evolved from a concept borrowed largely from engineering and ecology into a substantive construct within strategic management scholarship. Where engineering resilience focuses on the speed of return to equilibrium after disruption, organizational resilience is a richer, more dynamic concept — it encompasses the capacity to anticipate adverse conditions, absorb shocks when they arrive, and adapt organizational structures and processes so that performance is not merely restored but potentially reconfigured at a higher level (Duchek, 2020; Lengnick-Hall *et al*., 2011). This distinction matters considerably in the present context. Firms operating in constrained and conflict-affected economies are not simply exposed to occasional disruptions; they operate in conditions where disruption is a structural feature of the environment rather than an exceptional event. Resilience for these organizations cannot be episodic — it must be embedded into how the firm organizes, leads, and innovates on a continuous basis.

Duchek (2020) offers one of the most theoretically developed conceptualizations of organizational resilience as a capability, identifying three sequential phases: anticipation, which involves the ability to sense and interpret early warning signals; coping, which refers to improvising and responding effectively when disruption occurs; and adaptation, which involves learning from disruptions and using that learning to

reconfigure organizational processes for greater future strength. Critically, Duchek frames resilience not as a crisis management tool but as an ongoing organizational competency — one that must be actively cultivated through leadership, culture, and the development of flexible organizational capacities. This framing aligns closely with the theoretical orientation of the present study, which treats resilience as a dynamic leadership-enabled capability rather than a reactive posture.

The relationship between resilience and competitive advantage in digitally intensive environments has attracted growing scholarly attention. Firms with strong resilience capacities tend to outperform less resilient peers not only during periods of disruption but also in the periods of relative stability that follow, because the organizational routines, learning processes, and adaptive capabilities that enable resilience also drive sustained performance improvement (Ambulkar *et al*., 2015; Baran & Woznyj, 2020). In knowledge-intensive sectors such as ICT, where competitive positioning depends heavily on intangible assets — talent, knowledge, relational networks, and adaptive processes — resilience capacity is particularly closely tied to competitive outcomes (Teece, 2007; Muneeb *et al*., 2023).

2.2 Digital leadership as a resilience-building mechanism

Digital leadership, as conceptualized in the broader management literature, extends well beyond technical proficiency or digital fluency. It represents a multidimensional strategic capability through which leaders envision a digital future for their organizations, cultivate conditions for innovation, manage environmental uncertainty, enable adaptive responses to change, and inspire their teams to sustain commitment and performance through disruption (Kane *et al*., 2019; Sheninger, 2019; Schiuma *et al*., 2022). While much of the existing literature on digital leadership concentrates on its role in driving innovation and competitive advantage in growth-oriented settings, this study proposes a complementary framing: digital leadership as an architecture for organizational resilience.

This reframing is not merely semantic — it has theoretical implications for which leadership dimensions matter most and for how the value of leadership is understood. The uncertainty management role of digital leadership involves the capacity to make sound

decisions under conditions of informational scarcity, to communicate transparently when clarity is scarce, to create an organizational climate of psychological safety that allows teams to function effectively despite external stress, and to frame uncertainty as a source of learning and opportunity rather than purely as a threat (Pashiardis & Brauckmann-Sajkiewicz, 2022; Baran & Woznyj, 2020; Duchek, 2020). In the organizational resilience literature, this corresponds directly to Duchek's (2020) coping phase: the capacity to absorb disruption and maintain directional coherence under pressure.

The adaptation role is equally central to resilience. Adaptive digital leaders continuously reexamine strategic assumptions, reconfigure organizational processes in response to changing market and technological conditions, promote flexible learning structures, and break down institutional rigidities that prevent the firm from responding effectively to new demands (AlNuaimi *et al*., 2022; Ghosh *et al*., 2022). The inspirational, innovation-oriented, and visionary roles of digital leadership also contribute to resilience, though through somewhat different pathways. Inspirational leadership sustains employee motivation and commitment during difficult periods, preventing the talent loss and engagement collapse that often accompany prolonged uncertainty (Musaigwa & Kalitanyi, 2024; Schiuma *et al*., 2022). Visionary leadership provides the long-term strategic orientation that allows organizations to prioritize and resource their resilience investments coherently rather than reactively (Trenerry *et al*., 2021). Together, these five dimensions constitute what this study characterizes as a digital leadership resilience architecture — an interlocking set of leadership behaviors through which organizational resilience is continuously built and renewed (Irziqat, 2026b).

2.3 Innovation capabilities as the operational expression of resilience

A key theoretical choice in this study is the operationalization of organizational resilience through innovation capabilities. Innovation capabilities, as defined by Ferreira *et al*. (2020), encompass the firm's systematic ability to generate new ideas, absorb and combine knowledge, deploy emerging technologies, and continuously renew its product, process, and organizational repertoire. These capabilities are precisely what enables a firm to reconfigure in the face of disruption — to find new ways of serving customers when traditional pathways are blocked, to reorganize internal processes when external

conditions change, and to develop novel value propositions when market disruptions render existing ones obsolete. In this sense, innovation capabilities function as the operational mechanism through which resilience expresses itself in organizational behavior and competitive outcomes (Lengnick-Hall *et al*., 2011; Duchek, 2020; Chirumalla, 2021).

2.4 Theoretical integration: RBV, dynamic capabilities, and institutional theory

This study integrates three theoretical perspectives to build its explanatory framework. The Resource-Based View (RBV) provides the foundational logic: digital leadership is conceptualized as a strategic intangible resource that is valuable, rare, and difficult to imitate, enabling firms to build and deploy capabilities that underpin sustained competitive advantage (Barney, 1991; Cuthbertson & Furseth, 2022; Assensoh-Kodua, 2019). Digital leadership can therefore be conceptualized as a critical organizational capability that enables firms to build innovation-oriented cultures and integrate digital technologies into value-creating activities — with competitive advantage arising not from possessing leadership resources but from the quality with which they are deployed (Varadarajan, 2020; Khin & Ho, 2019).

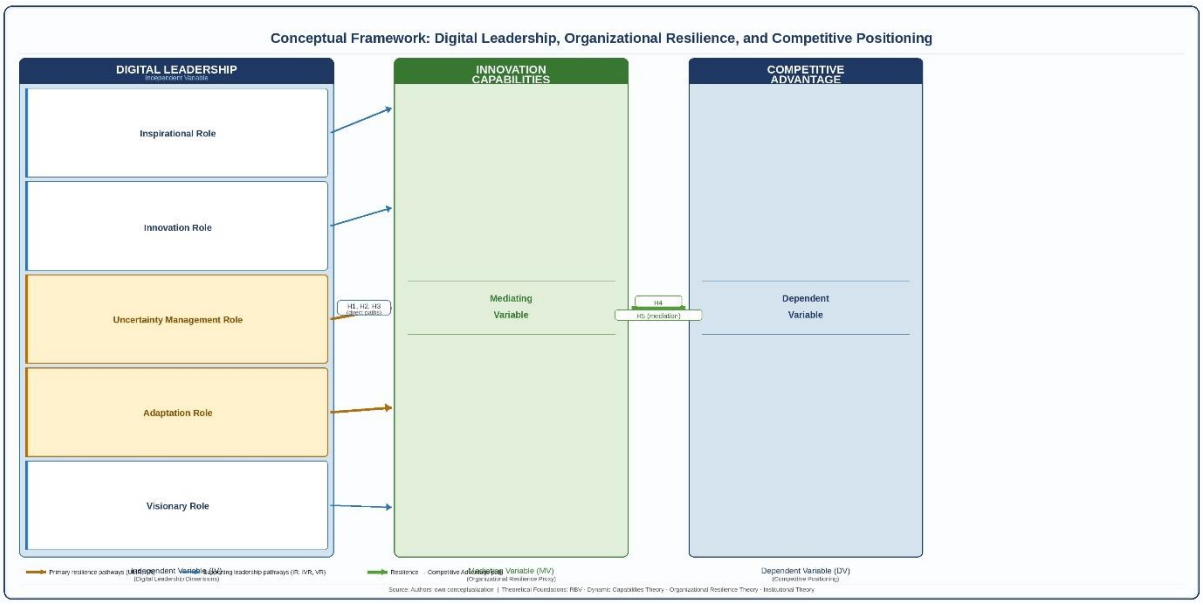
Dynamic Capabilities Theory extends RBV by addressing how organizations adapt their resource base in environments characterized by volatility and technological disruption (Teece, 2007; Muneeb *et al*., 2023). Digital leaders, within this framework, are the primary agents of dynamic capability development: they sense environmental shifts, make strategic commitments to reconfiguring organizational processes, and direct the development of innovation capabilities that allow the firm to renew its competitive position continuously. Institutional Theory adds the contextual dimension that neither RBV nor Dynamic Capabilities Theory fully addresses. In constrained economies characterized by institutional voids, firms cannot rely on institutional scaffolding to reduce environmental uncertainty. This places a disproportionate burden on internal leadership capabilities to substitute for external institutional support (Khanna & Palepu, 2010; London & Hart, 2004; Munsamy *et al*., 2022).

2.5 Conceptual framework and hypotheses

The theoretical framework developed above yields the following hypotheses, organized around the resilience-building model central to this study. Figure 1 presents the conceptual model illustrating the hypothesized relationships between digital leadership dimensions, innovation capabilities, and competitive advantage.

Figure 1.

Conceptual Framework — Digital Leadership, Organizational Resilience, and Competitive Positioning. Bold arrows indicate primary resilience pathways. Dashed arrows indicate supporting pathways. Theoretical foundations: RBV, Dynamic Capabilities Theory, Organizational Resilience Theory, Institutional Theory.



**UMR = Uncertainty Management Role; AR = Adaptation Role (highlighted as primary resilience dimensions).*

H1: The uncertainty management role of digital leadership has a significant positive effect on innovation capabilities (organizational resilience).

H2: The adaptation role of digital leadership has a significant positive effect on innovation capabilities (organizational resilience).

H3: The visionary role of digital leadership has a significant positive effect on innovation capabilities (organizational resilience).

H4: Innovation capabilities (organizational resilience) have a significant positive effect on competitive advantage.

H5: Innovation capabilities mediate the relationship between digital leadership roles and competitive advantage.

3 METHODOLOGY

3.1 Research design and philosophy

This study is grounded in a positivist epistemological position, which assumes that social reality is objective, observable, and measurable through systematic empirical inquiry (Ali, 2024). Positivism is the appropriate philosophical foundation for research that seeks to test theoretically derived hypotheses through quantitative data, because it prioritizes replicability, measurement precision, and the statistical evaluation of relationships between variables (Mohajan, 2020). The research employs a deductive approach, moving from theoretical propositions — grounded in organizational resilience theory, RBV, and Dynamic Capabilities Theory — toward empirical testing using a pre-specified set of hypotheses. The overall research design is quantitative, cross-sectional, and explanatory. A cross-sectional design was selected because it allows the simultaneous collection of data from multiple respondents at a single point in time, enabling efficient examination of patterns and relationships across the study population without experimental manipulation or intervention (Mweshi & Muhyila, 2024).

3.2 Study context and population

The study was conducted within the ICT sector in Palestine, targeting firms affiliated with the Palestinian Information Technology Association of Companies (PITA). PITA serves as the primary institutional representative of the Palestinian ICT industry and, at the time of data collection, had a total membership of 158 registered firms. Of these, 68 companies located in the Gaza Strip were excluded from the study due to the ongoing conflict and the practical impossibility of reaching their leadership teams safely

and reliably. The remaining 90 West Bank member companies constituted the accessible population for this study. The target respondents were C-level executives — Chief Executive Officers, Chief Operating Officers, Chief Marketing Officers, Chief Commercial Officers, Chief Technology Officers, Chief Information Officers, and Chief Digital Officers — who bear direct strategic responsibility for digital transformation decisions, innovation investment, and competitive positioning within their organizations (Hambrick & Mason, 1984).

3.3 Sampling and sample size

A convenience sampling approach was employed, targeting all accessible C-level executives across the 90 eligible West Bank PITA member firms. This approach was appropriate given the inherent difficulties of securing access to senior executives and because it maximized feasibility within the study's constraints (Emerson, 2021; Golzar *et al*., 2022). A total of 204 valid and complete responses were obtained. The adequacy of this sample size was verified using the Gamma-Exponential method for PLS-SEM, which requires a minimum of 155 responses for the complexity of the model under examination (Jhantasana, 2023). The obtained sample of 204 exceeds this threshold, confirming that the data are statistically sufficient to support reliable estimation of path coefficients, effect sizes, and predictive accuracy in the structural model (Hair *et al*., 2019).

3.4 Data collection and instrument

Data was collected using a self-administered structured questionnaire distributed digitally via Microsoft Forms between July 23 and September 30, 2025. The instrument comprised four main sections covering demographic information and measures of digital leadership (five dimensions; 28 items), innovation capabilities (11 items), and competitive advantage (12 items). All measurement items were rated on a five-point Likert scale anchored at 1 (strongly disagree) and 5 (strongly agree) (South *et al*., 2022; Tanujaya *et al*., 2022). Digital leadership items were adapted from Schiuma *et al*. (2022) and Kane *et al*. (2019); innovation capabilities from Ferreira *et al*. (2020) and Chirumalla

(2021); and competitive advantage from Farida & Setiawan (2022) and Sigalas *et al*. (2013).

3.5 Data analysis

Primary analysis was conducted using Partial Least Squares Structural Equation Modelling (PLS-SEM) implemented in SmartPLS 4.0. PLS-SEM was selected over covariance-based SEM for several methodologically grounded reasons: it is well suited for complex, multi-construct predictive models; it performs reliably with non-normally distributed data; and it is recommended for research involving reflective measurement models with multiple latent constructs (Hair *et al*., 2019; Sarstedt *et al*., 2020). The analytical procedure followed a two-stage approach: (1) measurement model evaluation for indicator reliability, convergent validity, and discriminant validity; and (2) structural model assessment examining path coefficients, R^2, f^2, and Q^2 via bootstrapping with 5,000 resamples. A robustness check introduced four demographic control variables — age, work experience, educational level, and job role — into the model.

3.6 Demographic profile of respondents

Table 1.

Demographic Profile of Respondents (n = 204)

Variable	Category	Frequency	Percentage (%)
Gender	Female	34	16.7
	Male	170	83.3
Age	Under 35 years	28	13.7
	35–44 years	128	62.7
	45–54 years	40	19.6
	55 years and above	8	3.9
Education	Bachelor's Degree	119	58.3
	Master's Degree	71	34.8

Variable	Category	Frequency	Percentage (%)
	Doctorate	14	6.9
Experience	5–9 years	21	10.3
	10–14 years	46	22.5
	15–19 years	79	38.7
	20 years and above	58	28.4
Current Role	CEO / General Manager	40	19.6
	COO / CCO / CMO	103	50.5
	CTO / CIO / CDO	61	29.9

4 RESULTS

4.1 Measurement model evaluation

Before testing the structural hypotheses, the measurement model was evaluated to confirm that the constructs are reliable and valid — a prerequisite for meaningful structural inference in PLS-SEM (Hair *et al*., 2019; Sarstedt *et al*., 2020). All outer loadings across the seven constructs exceeded the recommended threshold of 0.70, confirming that each item shares a substantive and reliable proportion of variance with its latent construct. As reported in Table 2, all constructs demonstrated strong composite reliability (CR) values ranging from 0.878 to 0.949, all exceeding the 0.70 threshold. AVE values ranged from 0.548 to 0.683, all exceeding the critical 0.50 threshold for convergent validity, confirming that each construct captures more variance from its indicators than from measurement error (Fornell & Larcker, 1981). All VIF values remained below 5.0, ruling out problematic multicollinearity.

Table 2.

Construct Reliability and Validity

Construct	Cronbach's α	CR	AVE	VIF
Inspirational Role (IR)	0.883	0.915	0.683	3.153
Innovation Role (IVR)	0.866	0.900	0.601	3.996
Uncertainty Management Role (UMR)	0.832	0.878	0.548	2.895
Adaptation Role (AR)	0.864	0.903	0.650	4.720
Visionary Role (VR)	0.854	0.897	0.593	3.744
Innovation Capabilities (IC)	0.930	0.942	0.597	3.123
Competitive Advantage (CA)	0.940	0.949	0.607	2.706

Table 3 presents the Fornell-Larcker discriminant validity results. In all cases, the square root of each construct's AVE (diagonal values) exceeds the inter-construct correlations in the corresponding row and column, confirming adequate discriminant validity (Fornell & Larcker, 1981).

Table 3.

Discriminant Validity — Fornell-Larcker Criterion

	IR	IVR	UMR	AR	VR	IC	CA
IR	0.827						
IVR	0.789	0.775					
UMR	0.718	0.722	0.740				
AR	0.726	0.799	0.717	0.806			
VR	0.643	0.736	0.700	0.835	0.770		
IC	0.515	0.587	0.620	0.639	0.638	0.772	
CA	0.500	0.505	0.583	0.571	0.572	0.779	0.779

Note: Diagonal values (bold) represent the square root of AVE. Off-diagonal values are inter-construct correlations.

4.2 Correlation analysis

Table 4 presents the Pearson correlation matrix for all study constructs. All correlations are positive and statistically significant at the $p < 0.01$ level, providing initial

support for the hypothesized relationships prior to structural model testing. Innovation Capabilities exhibit the strongest correlation with Competitive Advantage (r = 0.778), underscoring the centrality of this construct as the primary pathway between digital leadership and competitive positioning. Among the digital leadership dimensions, the Uncertainty Management Role (r = 0.584), Visionary Role (r = 0.571), and Adaptation Role (r = 0.570) show the highest correlations with Competitive Advantage — a pattern that is particularly notable from a resilience-building perspective.

Table 4.

Pearson Correlation Matrix

	CA	IR	IVR	UMR	AR	VR	IC
CA	1						
IR	0.498**	1					
IVR	0.504**	0.787**	1				
UMR	0.584**	0.714**	0.720**	1			
AR	0.570**	0.724**	0.797**	0.711**	1		
VR	0.571**	0.631**	0.731**	0.690**	0.832**	1	
IC	0.778**	0.508**	0.586**	0.620**	0.634**	0.637**	1

*** Correlation is significant at the 0.01 level (2-tailed).*

4.3 Structural model — baseline results

The baseline structural model yielded an R^2 of 0.686 for Innovation Capabilities and 0.877 for Competitive Advantage, indicating that the model explains 87.7% of its variance — exceptional by social science standards. Predictive relevance values (Q^2) of 0.499 for IC and 0.636 for CA, both well above zero, confirm strong out-of-sample predictive capability (Hair *et al*., 2019). All five digital leadership dimensions exert significant positive effects on Innovation Capabilities. The Visionary Role produces the largest effect ($\beta = 0.290$, $p < 0.001$), followed by Uncertainty Management ($\beta = 0.270$, p

< 0.001) and Adaptation (β = 0.218, p < 0.001). Innovation Capabilities is the dominant predictor of Competitive Advantage (β = 0.731, p < 0.001, f^2 = 0.577), confirming H4 and establishing it as the central pathway through which competitive positioning is achieved. All indirect (mediation) effects through Innovation Capabilities are statistically significant, fully supporting H5.

Table 5.

Structural Model — Direct and Indirect Effects (Baseline Model)

Path	β	SE	t-value	p-value	Significance
IR → IC	0.178	0.068	2.62	0.005	p < 0.01
IVR → IC	0.129	0.068	1.90	0.031	p < 0.05
UMR → IC	0.270	0.067	4.03	<0.001	p < 0.01
AR → IC	0.218	0.067	3.25	<0.001	p < 0.01
VR → IC	0.290	0.066	4.39	<0.001	p < 0.01
IR → CA	0.088	0.069	1.28	0.102	n.s.
IVR → CA	0.220	0.067	3.28	<0.001	p < 0.01
UMR → CA	0.122	0.068	1.79	0.038	p < 0.05
AR → CA	0.036	0.070	0.51	0.304	n.s.
VR → CA	0.061	0.069	0.88	0.191	n.s.
IC → CA	0.731	0.061	11.98	<0.001	p < 0.01
IR → IC → CA	0.130	0.048	2.71	0.004	p < 0.01
IVR → IC → CA	0.094	0.049	1.92	0.027	p < 0.05
UMR → IC → CA	0.198	0.048	4.13	<0.001	p < 0.01
AR → IC → CA	0.159	0.048	3.31	<0.001	p < 0.01
VR → IC → CA	0.212	0.048	4.42	<0.001	p < 0.01

R^2 (IC) = 0.686; Adj. R^2 = 0.678; Q^2 = 0.499 | R^2 (CA) = 0.877; Adj. R^2 = 0.873; Q^2 = 0.636

4.4 Effect sizes

Table 6.

Effect Sizes (f^2)

Path	f^2	Classification
VR → IC	0.195	Medium
UMR → IC	0.173	Medium
AR → IC	0.143	Medium
IR → IC	0.095	Small-Medium
IVR → IC	0.080	Small
IC → CA	0.577	Large
IVR → CA	0.122	Small-Medium
UMR → CA	0.074	Small
IR → CA	0.046	Negligible
VR → CA	0.037	Negligible
AR → CA	0.021	Negligible

Classification based on Cohen (1988): $f^2 \geq 0.02$ small, ≥ 0.15 medium, ≥ 0.35 large.

4.5 Robustness check — controlled model

After introducing demographic controls (age, work experience, educational level, job role), three digital leadership dimensions continue to exert significant positive effects on Innovation Capabilities: Uncertainty Management Role ($\beta = 0.277$, $p = 0.006$), Visionary Role ($\beta = 0.235$, $p = 0.020$), and Adaptation Role ($\beta = 0.220$, $p = 0.038$). No direct effects of digital leadership dimensions on Competitive Advantage remain significant after controls, but Innovation Capabilities remains dominant ($\beta = 0.688$, $p < 0.001$). The mediation effects via IC remain significant for UMR → CA ($\beta = 0.190$, $p = 0.014$), VR → CA ($\beta = 0.162$, $p = 0.025$), and AR → CA ($\beta = 0.151$, $p = 0.043$), confirming that the resilience-building pathways are structurally stable. The controlled model explains 48.4% of variance in Innovation Capabilities and 64.5% in Competitive Advantage.

5 DISCUSSION

5.1 Digital leadership as a resilience architecture

The central argument of this study — that digital leadership functions as an architecture for organizational resilience, and that it is through this resilience that competitive advantage is sustained — receives strong empirical support. The most consequential finding in the structural model is not the raw significance of any individual path coefficient but the pattern that emerges across the full model: digital leadership dimensions do not generate competitive advantage directly, at least not after accounting for demographic and professional heterogeneity. What they do, persistently and powerfully, is build and sustain the organizational capability base through which competitive positioning is established and maintained. This is precisely what resilience theory would predict — the competitive value of resilient organizations lies not in dramatic strategic maneuvers, but in the ability to sustain performance-building routines under conditions that would degrade less resilient organizations (Duchek, 2020; Lengnick-Hall *et al*., 2011).

The disappearance of direct effects in the controlled model is not a weakness — it is theoretically meaningful. It tells us that the relationship between digital leadership and competitive advantage is mediated rather than direct, which is consistent with the Dynamic Capabilities framework: leadership creates advantage through organizational mechanisms rather than through positional authority alone (Teece, 2007; Muneeb *et al*., 2023). The additional 19.1 percentage points of variance explained when innovation capabilities are added to the model (from $R^2 = 0.686$ to 0.877) quantifies the magnitude of this mediation effect and underscores that it is the capability infrastructure built by digital leadership, not leadership behavior in isolation, that ultimately determines competitive outcomes.

5.2 The Primacy of uncertainty management in constrained contexts

Among all five digital leadership dimensions, the Uncertainty Management Role emerges as one of the two most consistent and structurally stable predictors of organizational resilience, with a path coefficient that actually increases slightly after the introduction of controls (β = 0.270 baseline; β = 0.277 controlled). This stability is theoretically significant. It suggests that the effect of uncertainty management on resilience capacity is not a product of respondent demographics or seniority level but rather reflects something inherent to how this particular leadership behavior operates in this particular institutional context. Leaders who can decide effectively with incomplete information, communicate transparently under pressure, frame external threats as adaptive learning opportunities, and maintain psychological safety within their teams are, functionally, constructing their organizations' capacity to absorb and respond to disruption without losing strategic coherence (Baran & Woznyj, 2020; Pashiardis & Brauckmann-Sajkiewicz, 2022).

In the Palestinian ICT context, where political conflict, infrastructural unpredictability, and restricted physical access are structural features rather than occasional disruptions, this capacity is not a discretionary leadership enhancement — it is a competitive prerequisite. The finding extends the existing literature in an important direction: the theoretical importance of uncertainty management as a leadership dimension appears proportional to the intensity and persistence of the uncertainty that organizations face, a nuance the existing literature has not yet articulated empirically (Schiuma *et al*., 2022; Kane *et al*., 2019).

5.3 Adaptation as the operational expression of resilience

The Adaptation Role (β = 0.218 baseline; β = 0.220 controlled) is the second most structurally robust predictor of organizational resilience, and together with uncertainty management it represents two complementary phases of the resilience cycle: uncertainty management provides the cognitive and communicative capacity to absorb disruption without organizational fragmentation, while adaptation provides the structural and

strategic capacity to reconfigure in response to it (Duchek, 2020; AlNuaimi *et al*., 2022). Adaptive digital leaders reconfigure strategies and processes in response to changing market and technological conditions, promote learning-oriented organizational cultures, and break down the procedural rigidities that prevent effective organizational response (Ghosh *et al*., 2022; Busulwa *et al*., 2022). The persistence of the AR → IC → CA mediation path ($\beta = 0.151$, $p = 0.043$) after demographic controls confirms that this leadership behavior contributes to resilience capacity in a way that outlasts respondent background characteristics — it is the behavior itself, not simply who practices it, that matters.

5.4 The visionary role: long-term resilience orientation

The Visionary Role produces the largest effect on innovation capabilities in the baseline model ($\beta = 0.290$, $f^2 = 0.195$), though its coefficient decreases somewhat in the controlled model ($\beta = 0.235$). This pattern suggests that visionary leadership's contribution to resilience is partly, though not entirely, explained by the seniority and experience profile of the leaders who practice it most effectively. Visionary leadership provides the long-term strategic orientation without which resilience-building investments remain incoherent and reactive (Trushkina *et al*., 2020; Trenerry *et al*., 2021). In constrained environments, where short-term operational pressures are intense and constant, the visionary leader's capacity to maintain focus on long-term competitive positioning — and to direct innovation investments toward that horizon — is what prevents resilience from degenerating into mere crisis management.

5.5 Innovation capabilities as the dominant competitive mechanism

The dominant effect size of innovation capabilities on competitive advantage ($f^2 = 0.577$ baseline; $f^2 = 0.688$ controlled) places this relationship in a category of its own within the model. No other construct comes close to matching this effect, which confirms the theoretical claim that innovation capabilities are not merely a pathway through which leadership value is transmitted but the primary source of competitive advantage in

knowledge-intensive, digitally constrained contexts. This is consistent with Dynamic Capabilities Theory: in environments characterized by rapid change and institutional constraint, the capacity to continuously reconfigure the organization's resource base is the most durable source of competitive differentiation (Teece, 2007; Muneeb *et al*., 2023). The pattern of full mediation for the adaptation, visionary, and inspirational roles — meaning their entire contribution to competitive advantage runs through innovation capabilities — further confirms that the resilience-building work of leadership is realized through organizational capability development, not through direct strategic authority.

5.6 Contextual amplification and theoretical contributions

The institutional context of this study is theoretically constitutive of the findings. Palestinian ICT firms operate under conditions — restricted mobility, interrupted infrastructure, conflict proximity, limited access to capital markets — that place a disproportionate burden on internal leadership capabilities to substitute for the external institutional support that is unavailable (Khanna & Palepu, 2010; London & Hart, 2004; Munsamy *et al*., 2022). The exceptionally high explanatory power of the model (87.7% of variance in competitive advantage) likely reflects this institutional reality: in the absence of institutional alternatives, digital leadership and innovation capabilities are among the very few reliable sources of competitive advantage, which amplifies their statistical weight.

This study makes three distinct theoretical contributions. First, it extends organizational resilience theory into the domain of digital leadership, offering a behavioral mapping of which leadership dimensions most directly construct resilience capacity. Second, it advances Dynamic Capabilities Theory by demonstrating the consistent primacy of capability-mediated pathways over direct leadership effects even in institutionally extreme environments. Third, it contributes to the institutional theory of competitive advantage in constrained economies by providing quantitative evidence that the leadership-capabilities-competitiveness pathway is particularly strong and tightly coupled in environments characterized by institutional voids. The finding also extends the prior empirical consensus — represented by Mihardjo *et al*. (2019), Benitez *et al*. (2022), Irziqat (2026a), and Shin *et al*. (2023) — by demonstrating that the mediation

pathway holds under chronic disruption, not just manageable change, and that the uncertainty management and adaptation roles carry greater structural weight than inspirational or innovation roles in such contexts.

6 CONCLUSION

6.1 Summary of key arguments

This study sets out to examine how digital leadership builds organizational resilience among ICT firms operating in a constrained, conflict-proximate institutional context, and how that resilience translates into sustained competitive positioning. The empirical evidence converges on a coherent and theoretically significant answer: digital leadership does not generate competitive advantage through the direct exercise of strategic authority, but through the patient, cumulative construction of organizational capabilities that sustain performance under conditions of disruption and uncertainty. Three digital leadership dimensions emerge as the most structurally reliable contributors to this resilience architecture: the Uncertainty Management Role, the Adaptation Role, and the Visionary Role. Innovation capabilities, in turn, dominate the competitive advantage pathway with a large and stable effect ($\beta = 0.688$, $p < 0.001$ in the controlled model), confirming that the organizational capability base is the proximate source of competitive positioning.

6.2 Practical implications

For ICT executives in constrained economies, the study offers concrete guidance on leadership prioritization. The structural robustness of the uncertainty management and adaptation roles suggests that these are the behaviors most reliably associated with building organizational resilience capacity regardless of the leader's background profile. Organizations should focus on developing leaders who can make clear-headed decisions under informational scarcity, communicate transparently during disruption, create psychologically safe environments for experimentation, and reconfigure strategies fluidly

in response to changing conditions. For policymakers and institutional actors, the findings highlight the importance of supporting leadership development programs targeted specifically at resilience-enabling behaviors. If innovation capabilities are built through specific leadership behaviors, then investments in developing those behaviors at scale are investments in the competitive capacity of the sector as a whole.

6.3 Limitations and future research

Several limitations should be acknowledged. The cross-sectional research design precludes causal inference; the structural relationships documented here represent statistically supported associations consistent with the theoretical framework but cannot establish directionality. The convenience sampling approach, while methodologically justified, limits representativeness beyond the West Bank PITA member firms. The operationalization of organizational resilience through innovation capabilities, while theoretically defensible, does not capture all dimensions of resilience theorized in the broader literature. Future studies would benefit from longitudinal designs tracking how leadership behaviors actually build resilience capacity over time; comparative studies across multiple constrained economies; qualitative approaches illuminating the behavioral mechanisms through which uncertainty management and adaptation are practiced within these firms; and direct measures of resilience as a distinct construct.

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