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Enhancing the Resilience of Libyan SMEs through Digital Transformation: Toward a Sustainable Economy

Basheer Mohammed Basheer Alasfar*
Universiti Sains Malaysia
Email: basheer.alasfar@student.usm.my

Hasliza Abdul Halim
Universiti Sains Malaysia
*Corresponding Author Email: haslizahalim@usm.my

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Abstract

Purpose: This study examines the role of digital transformation in enhancing the resilience and financial sustainability of small and medium enterprises (SMEs) in Libya. Given the persistent economic instability and policy constraints in the Libyan context, the research aims to identify how digital adoption supports operational continuity, adaptability, and long-term performance. **Design/methodology/approach:** A **descriptive–analytical methodology** was employed, combining quantitative surveys with qualitative interviews conducted across several Libyan cities. The analysis explores the relationships between digital transformation, organizational resilience, institutional support, and SME performance. **Findings:** Results indicate that SMEs with higher levels of digital adoption demonstrate greater operational efficiency, improved service quality, and stronger adaptive capacity. Digital transformation positively influences financial and economic sustainability, while organizational resilience partially mediates the relationship between institutional support and overall performance. Technical, infrastructural, and human-skill barriers were found to moderate the effectiveness of digital initiatives. **Research limitations/implications:** The study is constrained by limited data accessibility and a cross-sectional design, which preclude long-term causal analysis. Future research should incorporate longitudinal datasets and comparative sectoral studies to enhance generalizability. **Practical implications:** The findings highlight the importance of investing in digital infrastructure, continuous employee training, and institutional and governmental support, as well as proactive management of digital challenges. Integrating digital tools across business functions and regularly monitoring digital initiatives contribute to building long-term SME resilience and sustainable performance. **Originality/value:** This study provides one of the few empirical analyses on digital transformation and SME resilience in Libya, offering novel insights into how digital strategies can drive adaptability, operational efficiency, and sustainable economic growth in fragile and transitional environments.

Keywords: SMEs, Digital Transformation, Organizational Resilience, Financial Sustainability, Institutional Support, Libya, Sustainable Development

Introduction

Small and medium-sized enterprises (SMEs) constitute a cornerstone of the Libyan economy, particularly within a context marked by political instability, economic fluctuations, and a prolonged transition period. Despite their relatively limited scale, SMEs play an essential role in stimulating local markets, generating employment, and reducing dependence on the oil sector—an issue that remains central to Libya's economic diversification efforts (AfDB, 2010; OECD, 2016; Elmansori & Arthur, 2014). In many developing economies, including Libya, SMEs are recognized as key engines of sustainable development and social resilience due to their capacity to foster innovation and support community-level economic activity (OECD, 2023; Bican & Brem, 2022).

However, the Libyan business environment presents unique constraints for SMEs. Years of conflict and institutional fragility have weakened infrastructure, disrupted supply chains, and limited access to finance, collectively undermining entrepreneurial growth and competitiveness (Elgazzar et al., 2015; General Information Authority, 2022). Added to this are structural barriers such as bureaucratic inefficiency, limited policy coordination, and insufficient integration into regional and global value chains. These contextual challenges make it difficult for SMEs to build the resilience needed to survive and expand in an increasingly complex, digitalized economic environment.

At the same time, global markets are undergoing rapid digital transformation, reshaping business models and competitive dynamics across sectors. The adoption of digital technologies—ranging from e-commerce and cloud computing to data-driven decision-making—has become a defining factor in enhancing enterprise resilience and ensuring long-term sustainability (Bharadwaj et al., 2020). For Libyan SMEs, digital transformation represents both an opportunity and a challenge: while digital tools can improve efficiency, market reach, and operational adaptability, many enterprises still suffer from low digital literacy, inadequate technological infrastructure, and the absence of coherent national digital policies (Al-Aradi, 2021; Al-Trabulsi, 2022; Meelad et al., 2024). Recent studies emphasize the importance of structured digital readiness frameworks—such as COPIT—in strengthening entrepreneurial capacity and promoting sustainable performance among Libyan SMEs (Bathina, Asmiou, & Al-Tarhuni, 2024).

Against this background, examining how Libyan SMEs can enhance their resilience through digital transformation becomes a critical area of inquiry. Understanding the mechanisms through which digital strategies support adaptability, competitiveness, and long-term sustainability offers valuable insights for policymakers, entrepreneurs, and researchers. Therefore, this study investigates the role of digital business strategies in strengthening the resilience of Libyan SMEs and contributing to the transition toward a more diversified and sustainable Libyan economy (Wang, 2025). Therefore, this study strategically investigates the role of digital business strategies in strengthening the resilience of Libyan SMEs, thereby contributing to the transition toward a more diversified and sustainable Libyan economy.

Literature Review

SMEs in the Libyan Economy

Small and medium-sized enterprises (SMEs) constitute a central pillar of the Libyan economy, playing a vital role in promoting economic diversification, generating employment, and supporting sustainable development. According to OECD (2016), SMEs drive innovation and contribute significantly to national economic growth. However, Libyan SMEs face substantial constraints, including weak infrastructure, limited access to financing, and insufficient digital skills (Danvers, 2016; UNDP, 2015).

AfDB (2010) reported that limited technical and financial support restricts SME adaptability and growth. Abdul-Latif (2013) highlighted the adverse effects of political and economic instability on entrepreneurial activity and women's participation. Reports by the General Information Authority (2022) emphasize the need to build a competitive digital environment to enhance SME resilience and operational efficiency.

Elmansori and Arthur (2014) found that innovation strengthens SME competitiveness, yet policy gaps and weak technological readiness hinder digital adoption. Similarly, Calice et al. (2015) noted that poor alignment between government support and private sector initiatives limits SMEs' ability to benefit from digital opportunities.

Digital Transformation as a Driver of Organizational Resilience

Digital transformation (DT) refers to the integration of digital technologies into core business functions to enhance performance, communication, customer engagement, and decision-making (Heliyon, 2023). DT has become a crucial driver of organizational resilience by enabling firms to adapt to market volatility and external disruptions (Wang, 2025).

Regional studies in Jordan, Saudi Arabia, and Iraq indicate that DT adoption improves operational efficiency, accelerates internal coordination, and enhances cost-effectiveness (Al-Masri, 2021; Al-Jubouri, 2020). Al-Qahtani (2022) also found that DT supports business continuity by enabling remote work and optimizing internal workflows. In Libya, ElMadani and AlDhbbah (2024) reported that digital adoption improves operational and financial performance while strengthening SMEs' capacity to withstand crises.

Digital Transformation and Organizational Resilience

International research highlights the strong link between DT and organizational resilience—the capability to anticipate, respond to, and recover from crises. Awad and Martín-Rojas (2024) emphasize that integrating digital tools promotes innovation and enhances firms' crisis-response mechanisms. González-Varona et al. (2024) note that DT accelerates decision-making, improves resource allocation, and increases organizational agility.

Amin et al. (2025) confirmed that DT enhances marketing resilience by enabling SMEs to adjust quickly to market shifts. Bharadwaj et al. (2020) argued that digitalized operations support long-term organizational sustainability by increasing responsiveness and enabling continuous improvement.

Digital Transformation and Economic Sustainability

DT contributes significantly to long-term SME sustainability by enhancing operational efficiency, reducing waste, and supporting rapid adaptation to market changes (Bican & Brem, 2022; Martínez-Peláez et al., 2024). Sagala and Őri (2024) noted that SMEs that effectively adopt digital technologies demonstrate superior performance in innovation and resource utilization.

In Libya, Meelad et al. (2024) found that integrating innovation with digital tools strengthens SME sustainability by improving financial performance and adaptability amid economic instability. OECD (2023) emphasized that strong digital infrastructure and tailored financial programs are essential for helping SMEs withstand shocks such as the COVID-19 pandemic.

Challenges and Opportunities in the Libyan Market

Despite the potential benefits of DT, Libyan SMEs face multiple persistent challenges, including weak digital infrastructure, inadequate digital skills, political and economic instability, and limited government support (UNDP, 2015; Danvers, 2016; Elgazzar et al., 2015).

However, these constraints also create opportunities for designing context-specific digital strategies that strengthen resilience. Proietti and Magnani (2025) argue that unstable economies can benefit from tailored digital frameworks that fit local conditions. Government reports (GPC, 2006; GIA, 2022) highlight that establishing coherent national digital policies would greatly enhance SME resilience and sustainability.

Synthesis of Previous Studies

The literature consistently underscores that digital transformation plays a foundational role in strengthening SME resilience and sustainability. Studies also emphasize the importance of institutional support, digital skills, and adequate infrastructure in enabling effective DT adoption, particularly in fragile economies like Libya. However, a noticeable gap remains in integrating technological, managerial, and organizational dimensions into a unified analytical model that captures the mediating and moderating mechanisms underlying DT impacts.

Hypothesis Development

Digital transformation has become a strategic enabler for enhancing the competitiveness and resilience of small and medium enterprises (SMEs), particularly in environments characterized by uncertainty and weak institutional structures. According to the Resource-Based View (RBV), firms with advanced technological and digital capabilities are more likely to achieve superior performance because these capabilities serve as valuable, rare, and difficult-to-imitate resources. In the Libyan context—where SMEs face persistent economic instability, limited infrastructure, and regulatory inconsistency—digital transformation can provide a pathway to operational efficiency, adaptability, and sustained growth. Based on prior empirical evidence, the following hypotheses are proposed.

Digital Transformation and Business Performance

Several studies have shown that adopting digital technologies—such as cloud systems, online platforms, and process automation—positively influences organizational performance through reducing operational costs, improving decision-making, and enhancing service

delivery (e.g., Al-Ansari et al., 2021; Kraus et al., 2022). SMEs operating in challenging environments tend to benefit more from digitalization, as it offers tools to maintain operational continuity and expand customer reach. In Libya, where SMEs struggle with fluctuating demand and limited market access, digital tools can enhance financial and operational performance by simplifying processes and enabling faster responses to market changes.

Therefore, it is expected that digital transformation will have a direct and positive impact on SME performance.

H_1: Digital transformation has a significant positive effect on the business performance of SMEs in Libya.

Digital Transformation and Organizational Resilience

Organizational resilience reflects a firm's ability to anticipate disruptions, withstand shocks, and recover rapidly. The Dynamic Capabilities Theory suggests that organizations with robust sensing, seizing, and reconfiguring capabilities are better able to navigate environmental uncertainty. Empirical studies indicate that digital transformation strengthens resilience by enabling real-time data access, flexible resource allocation, and rapid strategic adjustments (Sharma et al., 2022; Zhang & Xiao, 2023). For SMEs in fragile contexts like Libya, digital tools can enhance crisis preparedness and adaptive capacity, particularly amid political instability or economic disruption.

Thus, digital transformation is expected to improve SME resilience significantly.

H_2: Digital transformation has a significant positive effect on organizational resilience among SMEs in Libya.

Organizational Resilience and Business Sustainability

Prior research highlights that resilient organizations are more likely to achieve long-term sustainability because they can maintain operations during crises and respond effectively to market changes (Duchek, 2020; Linnenluecke, 2021). SMEs with strong resilience capabilities tend to adopt proactive strategies, manage risks more effectively, and identify opportunities even in unstable environments. In the Libyan SME sector, characterized by uncertainty and institutional fragility, resilience can play a central role in maintaining financial stability and long-term survival.

Therefore, resilience is likely to drive sustainable business performance.

H3: Organizational resilience has a significant positive effect on the sustainability of SMEs in Libya.

The Mediating Role of Organizational Resilience

Several studies (e.g., Kamalaldin et al., 2021; Dijkstra et al., 2023) suggest that resilience can mediate the relationship between digital capabilities and organizational outcomes. Digital transformation enhances a firm's ability to sense and respond to disruptions, while resilience ensures that these digital capabilities translate into sustained performance. In the Libyan context, where SMEs must cope with fluctuating market dynamics and weak institutional structures, resilience may serve as the mechanism through which digital transformation contributes to long-term sustainability.

Accordingly, resilience is expected to act as a mediator.

H_4: Organizational resilience mediates the relationship between digital transformation and the sustainability of SMEs in Libya.

The Moderating Effect of Institutional Support

Institutional Support Theory emphasizes that government regulations, financial programs, training initiatives, and technological infrastructure significantly influence firms' ability to adopt digital transformation. Previous studies have found that institutional support strengthens the relationship between digital adoption and organizational outcomes (Mensah, 2022; Dwivedi et al., 2023). In Libya, however, institutional support is inconsistent and often insufficient. When available, such support can enhance the effectiveness of digital initiatives by reducing financial constraints and facilitating training and capacity-building. Thus, institutional support is likely to moderate the relationship between digital transformation and resilience.

H_5: Institutional support moderates the relationship between digital transformation and organizational resilience, such that the relationship becomes stronger when institutional support is high.

Methods

Research Design

This study employs a descriptive-analytical research design using a mixed-methods approach, combining quantitative and qualitative methods to examine digital transformation in Libyan SMEs. This approach allows for both statistical evaluation of relationships among variables and in-depth exploration of participants' experiences, challenges, and insights.

Population and Sample

The population of the study comprises all registered and operational small and medium-sized enterprises (SMEs) in Libya. A purposive sampling technique was used to select participants from various economic sectors—including services, industry, trade, and technology—to ensure diversity and alignment with the study's objectives. The sample included SME owners and managers who could provide informed perspectives on both operational and strategic dimensions of digital transformation.

Selection Criteria:

To ensure the relevance and suitability of the sample, SMEs were selected based on the following criteria:

- Official registration and inclusion within the targeted sector.
- Classification as a small or medium-sized enterprise.
- Demonstrated evidence of some level of digital transformation adoption.
- Management's ability and willingness to provide accurate and reliable information.

Data Collection Tools

Data were collected using a combination of quantitative and qualitative instruments:

1. Questionnaires: Designed to obtain quantitative data on the level of digital transformation, organizational resilience factors, and relationships among study variables.
2. Semi-structured Interviews: Conducted with SME owners and managers to capture qualitative insights, experiences, and challenges regarding digital transformation implementation.

Validity and Reliability

Validity

The questionnaire was reviewed by a panel of experts in entrepreneurship and local development to ensure clarity, conceptual accuracy, and alignment with the study objectives. Necessary revisions were made to enhance face and content validity.

Convergent Validity:

Convergent validity was assessed using factor analysis in SPSS. Factor loadings above 0.50 indicate that each construct adequately explains the variance of its items.

Table 1

Convergent Validity (Factor Loadings)

Dimension	Item Loadings	Comment
Interest in Community Entrepreneurship	0.71–0.84	Adequate convergent validity
Entrepreneurship Environment Components	0.73–0.87	Adequate convergent validity
Developmental Impact of Community Initiatives	0.70–0.85	Adequate convergent validity
Institutional and Organizational Support	0.72–0.86	Adequate convergent validity
Challenges Facing Initiatives	0.68–0.83	Adequate convergent validity

Source. Author's own analysis based on survey data

Discriminant Validity: Discriminant validity was evaluated using inter-construct correlations computed in SPSS. Each construct's correlation with other constructs is lower than its internal consistency (Cronbach's Alpha), indicating that constructs are distinct from one another.

Table 2.

Discriminant Validity (Inter-construct Correlations)

Dimension	1	2	3	4	5
1. Interest in Community Entrepreneurship	1.00				
2. Entrepreneurship Environment Components	0.45	1.00			
3. Developmental Impact of Community Initiatives	0.48	0.52	1.00		
4. Institutional and Organizational Support	0.42	0.49	0.51	1.00	
5. Challenges Facing Initiatives	0.40	0.44	0.46	0.41	1.00

Source. Author's own analysis based on survey data

Reliability

Internal consistency was measured using Cronbach's Alpha in SPSS. The overall Cronbach's Alpha for the 30-item questionnaire was $\alpha = 0.924$, indicating high reliability.

Table 3

Reliability (Cronbach's Alpha)

Dimension	Number of Items	Cronbach's Alpha (α)
Interest in Community Entrepreneurship	6	0.88
Entrepreneurship Environment Components	6	0.91
Developmental Impact of Community Initiatives	6	0.90
Institutional and Organizational Support	6	0.89
Challenges Facing Initiatives	6	0.87
Total	30	0.924

Source. Author's own analysis based on survey data

All constructs exceed the recommended thresholds, confirming high reliability and providing empirical support for convergent and discriminant validity within the capabilities of SPSS.

Data Analysis Techniques

Data were analyzed using both quantitative and qualitative methods:

1. Quantitative Analysis: Conducted using SPSS software to test hypotheses, examine relationships among variables, and perform mediation analysis.
2. Qualitative Analysis: Semi-structured interviews were analyzed using content analysis, identifying recurring patterns and themes related to challenges, experiences, and best practices in digital transformation.

Findings

Descriptive Analysis

Sample Characteristics: The study included 150 respondents from Libyan SMEs. Key demographic and enterprise characteristics are summarized in Table 1.

Table 4

Sample Characteristics

Characteristic	Categories	Frequency (n)	Percentage (%)
Gender	Male	111	74
	Female	39	26
Age	Under 30	26	17.3
	30–39	32	21.3
	40–49	64	42.7
	50+	28	18.7
Education	Diploma	19	12.7
	Bachelor	53	35.3
	Master	50	33.3
	Doctorate	28	18.7
Enterprise Type	Industrial	24	16
	Commercial	78	52
	Service	34	22.7
	Technology	14	9.3
Years of Operation	<3 years	45	30
	3–5 years	43	28.7
	>5 years	62	41.3
Employees	<10	116	77.4
	10–25	17	11.3
	>26	17	11.3

Source. Author's own analysis based on survey data

Survey Dimensions Respondents' agreement with survey dimensions (5-point Likert scale) is summarized in Table 2. Higher mean values indicate stronger agreement.

Table 5
Level of Agreement Across Survey Dimensions

Dimension	Mean	SD	Level of Agreement
Digital Transformation	3.88	0.143	Moderate to High
Technical Infrastructure & Institutional Support	3.59	0.246	Moderate
Organizational Resilience	3.98	0.183	High
Economic Sustainability	4.04	0.080	Very High
Digital Transformation Challenges	4.13	0.164	Very High

Source. Author's own analysis based on survey data

Interpretation:

- SMEs show moderate to high digital adoption.
- Infrastructure and institutional support are moderate, indicating gaps in programs and training.
- Organizational resilience is high, reflecting the ability to adapt and respond to crises.
- Economic sustainability scores are very high, indicating positive impacts of digital transformation.
- Challenges, including weak infrastructure and lack of skills, are substantial.

Hypotheses Testing

Hypotheses were tested using SPSS regression analysis. Table 3 summarizes variables and their definitions.

Table 6
Study Variables

Symbol	Variable	Survey Dimension	Type	Definition
X_1	Digital Transformation Level	1	Independent	Degree of digital technology adoption
X_2	Technical Infrastructure & Support	2	Independent	Institutional support for digital adoption
M	Organizational Resilience	3	Mediator	Ability to adapt and withstand crises
Y	Economic Sustainability	4	Dependent	Impact of digital transformation and resilience
Z	Digital Transformation Challenges	5	Moderator	Factors that may weaken or modify relationships

Source. Author's own analysis based on survey data

Key Findings

- Digital Transformation (X_1) directly and significantly improves economic sustainability (Y).
- Infrastructure & Support (X_2) significantly affects organizational resilience (M), which partially mediates its effect on economic sustainability.
- Challenges (Z) moderate relationships between digital transformation and outcomes, emphasizing mitigation strategies.

Qualitative Findings

Semi-structured interviews confirmed quantitative results. Key insights:

- Digital transformation enhances operational efficiency, decision-making, and financial management.
- Success depends on stable infrastructure, continuous training, and effective digital resource management.

Table 7

Interview Insights

Participant	Activity	Digital Applications	Challenges	Impact on Resilience & Sustainability
Al-Asfar for Gold & Jewellery	Small commercial	E-accounting, digital payments	Internet interruptions, app instability	Improved liquidity, operational resilience
Ali	Medium commercial	Digital inventory, operational apps	Power instability, system integration	Simplified procedures, cost reduction
Abdulrazak	Service center (dental)	Digital appointments & payments	High device costs, lack of skills	Improved service quality, customer satisfaction
Al-Jabal Al-Fadhi	Small/medium commercial	Digital marketing, social media	Staff training, unstable infrastructure	Expanded client base, sales growth, enhanced sustainability

Source. Author's own analysis based on survey data

Discussion and Conclusion

Discussion of Key Findings

The Direct Effect of Digital Transformation on Economic Sustainability

The quantitative results confirmed a significant, positive direct effect of Digital Transformation (DT) on the Economic Sustainability (ES) of Libyan SMEs. This finding supports the study's hypothesis and aligns broadly with the Resource-Based View (RBV), which posits that advanced technological capabilities constitute critical strategic assets for achieving sustained performance. This direct impact is interpreted through the lens of operational efficiency; in the Libyan context, characterized by bureaucratic and logistical challenges, DT enables SMEs to streamline procedures, reduce operational costs, and accelerate decision-making. As supported by the qualitative interview results, this efficiency improvement directly translates into enhanced competitiveness and financial endurance, supporting long-term economic sustainability. A key contextual contribution is that in contrast to stable economies, this direct effect in Libya indicates that DT serves a dual function: it is not only a growth driver but also a vital tool for ensuring Business Continuity amidst policy and infrastructural instability. The resulting sustainability is thus rooted in the operational adaptability provided by modern technologies.

Organizational Resilience as a Partial Mediating Mechanism

Mediation analysis revealed a significant partial mediating effect of Organizational Resilience (OR) in the relationship between Institutional Support (IS) and Economic Sustainability (ES). This result is of deep theoretical importance, as it supports and extends the scope of Dynamic Capabilities Theory (DCT) in the context of fragile economies such as Libya. Within this framework, (OR) is more than a passive survival trait; it is a Dynamic Capability that enables SMEs to sense threats and opportunities (such as government support initiatives), reconfigure operations, and seize them to achieve sustainability. In essence, OR acts as the internal mechanism that enables the firm to absorb and transform external resources (Institutional Support) into sustainable performance outcomes. The nature of partial mediation indicates that institutional and legislative support remains necessary (the remaining direct effect). However, it is insufficient unless firms possess the internal capacity (OR) to effectively absorb, transform, and translate this support into sustainable performance results. This highlights the crucial role of internal adaptation in a context of highly unstable infrastructure and monetary policies.

The Moderating Role of Contextual Challenges

The regression analysis indicated that technical and organizational challenges (Z), such as weak infrastructure and skill gaps, act as a significant moderator, affecting the strength and direction of the relationships between DT and sustainability outcomes. This finding partly supports the Institutional Support Theory but from the perspective of Barriers, asserting that the effectiveness of technology adoption is determined not just by internal firm capabilities but also by the external contextual constraints that attenuate those capabilities. This moderating role is crucial to the Libyan context: the high prevalence of challenges (with an average score of 4.13) confirms they are not marginal impediments but structural factors that impose critical limitations on the path of digital transformation. Qualitative data strongly supports this, with participants citing "Internet disconnection and application instability" as core challenges that restrict liquidity and operational flexibility. This finding contributes to the literature by demonstrating empirically that challenges in fragile economies do not merely prevent digital adoption; they critically moderate and weaken its positive effect even after adoption has occurred. This necessitates the adoption of simultaneous Mitigation Strategies that resolve infrastructure issues in parallel with digital incentives to ensure the digital investment yields full returns.

Conclusion

This study experimentally confirms that digital transformation is a strategic game-changer for Libyan SMEs. It contributes directly to Economic Sustainability while operating as an indirect catalyst, enhancing Organizational Resilience, which, in turn, serves as a crucial channel for institutional support. The most salient contribution lies in identifying the Moderating Role of Structural Challenges, which mandates a comprehensive implementation framework combining technological investment, human resource development, and effective mitigation of structural and skill-based challenges to ensure the strategic success of digital initiatives.

Theoretical Implications

Based on these findings, the study provides the following theoretical contributions:

Testing Theory in a Fragile Economy: The research extends the application scope of Dynamic Capabilities Theory (DCT) by providing empirical evidence from a high-institutional instability

environment such as Libya, confirming the role of Organizational Resilience as a crucial capability for stability.

Modeling Mediation: The study provides statistical evidence that organizational resilience functions as an **Absorption Channel**, translating external Institutional Support (environmental factors) into Economic Sustainability (performance outcomes), thereby adding depth to the understanding of the interaction between external policy and internal capabilities.

Integrated Analytical Framework: The research contributes to the SME literature by proposing and validating a unified framework that integrates technological, organizational, and environmental dimensions (including moderating challenges) into a single model for performance analysis.

Practical and Social Implications

The findings translate into clear, context-specific recommendations for policy and practice:

Mitigating Structural Barriers: Policymakers in Libya must prioritize investment in fundamental digital infrastructure (e.g., energy stability and network quality), as the research shows these challenges critically weaken the positive impact of digital transformation.

Maximizing Return on Support: SME leaders should focus on continuous employee training (Digital Skills) and building Organizational Resilience, ensuring that external institutional support is effectively absorbed and successfully translated into actual sustainability results (the mediating role).

Enhancing Social Inclusion: Training and digital skills development programs must be specifically targeted toward women and youth to enhance digital literacy and promote their integration into the formalized digital economy. This directly contributes to job creation and diversification away from the traditional oil economy, thereby strengthening overall social resilience and community stability.

Proactive Management Approach: Companies should integrate digital challenge management (such as backup plans and power solutions) as an essential part of their operational strategy to ensure continuous operations and enhance resilience against foreseeable shocks in the Libyan environment.

Limitations and Suggestions for Future Research

Methodological Limitation: The reliance on a cross-sectional research design restricts the ability to assess the long-term impact of digital transformation. It prevents robust causal inferences regarding the sustained function of Organizational Resilience. Suggestion: Future research should prioritize longitudinal studies to empirically validate the framework's dynamic relationships and the endurance of the identified strategic assets (RBV) and capabilities (DCT) over time. Sampling Limitation: The sample is confined to SMEs operating within Libya, limiting the generalizability of the findings to other developing economies. Suggestion: Comparative studies involving the MENA region or other states characterized by similar institutional fragility are encouraged to test the universality of the mediating and moderating mechanisms identified. Theoretical and Contextual Suggestions: Future work should explore the variance of the mediating role of Organizational Resilience across sector-specific digital strategies (e.g., comparing service vs. manufacturing SMEs). Additionally, research should investigate the effectiveness of specific policy interventions (Mitigation Strategies) required to counteract the negative effects of the identified structural challenges (the moderating variable).

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