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Compensatory Resilience and Crisis Management: When Informal Practices Substitute for Formal Systems. A Qualitative Study of Tunisian Organizations (2011–2025).

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Résumé

Objectif. Cet article identifie et hiérarchise les facteurs de résilience organisationnelle mobilisés par des organisations tunisiennes durant la décennie de crises 2011-2025 (révolution, crises sécuritaires, pandémie de COVID-19, tensions sociales, technologiques et environnementales), et analyse l'articulation entre dispositifs formels et pratiques informelles. **Problématique.** La littérature conçoit la résilience comme une capacité d'anticipation, de réaction et d'adaptation, mais elle documente surtout des organisations dotées de dispositifs formels de gestion de crise stabilisés ; on sait moins ce qui fonde la résilience lorsque ces dispositifs sont lacunaires, centralisés ou privés de ressources, dans un contexte d'instabilité institutionnelle durable. **Cadre théorique.** Nous mobilisons quatre cadres complémentaires : la résilience comme capacité, la construction collective du sens, les pratiques réelles et le bricolage, et l'apprentissage organisationnel. **Approche méthodologique.** Dans une posture interprétativiste et un raisonnement abductif, nous menons une enquête qualitative exploratoire par entretiens semi-directifs, analysés sous NVivo 20 par une analyse thématique hybride, déductive et inductive. **Échantillon.** Vingt responsables de la gestion de crise, choisis par échantillonnage raisonné à diversification maximale, ont été interrogés dans vingt organisations issues de dix secteurs d'activité (treize publiques ou parapubliques et sept privées). **Résultats.** Organisés selon les étapes de la gestion de crise (détecter, gouverner, piloter, apprendre), les résultats sont synthétisés en une classification de quatre catégories de facteurs (structurants, compensatoires, dynamiques, contextuels), traversées par deux facteurs transversaux : le facteur humain et la tension entre dispositifs formels et pratiques informelles. La résilience observée est largement compensatoire : les acteurs pallient les déficits des dispositifs formels par des ressources informelles (réseaux de terrain, confiance, improvisation collective, coopérations), qui sont à la fois la principale force et la principale fragilité des organisations, car elles dépendent des individus. **Originalité et apports.** L'étude propose une lecture compensatoire de la résilience, formule huit propositions destinées à être testées et met en évidence des régimes de crise chronique et une dimension symbolique de la résilience. **Implications managériales.** Dix pistes d'application sont proposées aux responsables de la gestion de crise. **Limites.** Le codage a été réalisé par un seul chercheur, les données sont déclaratives et les PME sont faiblement représentées.

African Scientific Journal
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Mots clés : résilience organisationnelle ; gestion de crise ; pratiques informelles ; facteur humain ; apprentissage organisationnel ; Tunisie

Abstract

Purpose. This article identifies and ranks the organizational resilience factors that Tunisian organizations drew on during the decade of crises from 2011 to 2025 (the revolution, security crises, the COVID-19 pandemic, and social, technological and environmental tensions), and examines how formal systems and informal practices interact. **Research problem.** The literature conceives of resilience as a capability to anticipate, respond and adapt, yet it mostly documents organizations with stabilized formal crisis-management systems; far less is known about what sustains resilience when such systems are incomplete, centralized or under-resourced, in a context of lasting institutional instability. **Theoretical framework.** We draw on four complementary perspectives: resilience as a capability, collective sensemaking, actual practices and bricolage, and organizational learning. **Methodology.** Adopting an interpretivist stance and abductive reasoning, we conduct an exploratory qualitative study based on semi-structured interviews, analyzed in NVivo 20 through a hybrid thematic analysis combining deductive and inductive coding. **Sample.** Twenty crisis managers, selected through purposive maximum-variation sampling, were interviewed in twenty organizations from ten sectors (thirteen public or semi-public and seven private). **Findings.** Organized along the stages of crisis management (detecting, governing, steering, learning), the findings are synthesized into a classification of four categories of factors (structural, compensatory, dynamic and contextual), cut across by two transversal factors: the human factor and the tension between formal systems and informal practices. The resilience observed is largely compensatory: actors offset the shortcomings of formal systems with informal resources (field networks, trust, collective improvisation, cooperation), which are at once the organizations' main strength and their main weakness, since they depend on individuals. **Originality and contribution.** The study offers a compensatory view of resilience, puts forward eight propositions to be tested, and identifies chronic-crisis regimes and a symbolic dimension of resilience. **Practical implications.** Ten practical recommendations are offered to crisis managers. **Limitations.** Coding was carried out by a single researcher, the data are self-reported, and SMEs are poorly represented in the sample.

African Scientific Journal
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Keywords: organizational resilience; crisis management; informal practices; human factor; organizational learning; Tunisia

Introduction

Since 2011, Tunisian organizations have operated in an environment marked by a succession of shocks of very different kinds: the political and institutional rupture of the revolution, security crises, the COVID-19 pandemic, social tensions, major technological incidents, and environmental and water-related tensions. This accumulation has turned crisis management from an exceptional event into a lasting component of organizational functioning. The subject of this article is what this repetition reveals about the foundations of organizational resilience: on what, in practice, does an organization's capacity to hold out, to react and to rebuild rest when crises recur and resources are limited?

The literature conceives of resilience as a capability that draws on cognitive, behavioral and contextual resources (Lengnick-Hall et al., 2011), that unfolds through anticipation, coping with the event and adaptation (Duchek, 2020), and that rests on the quality of the meaning collectively constructed under uncertainty (Weick, 1993; Weick & Sutcliffe, 2015). Recent reviews stress the fragmentation of the field (Hillmann & Guenther, 2021; Linnenluecke, 2017) and call for linking resilience and crisis management (Bundy et al., 2017; Williams et al., 2017; Wenzel et al., 2021). Yet this work more readily documents organizations equipped with stabilized formal crisis-management systems (crisis cells, plans, lessons-learned reviews). Less is known about what sustains resilience when such systems are incomplete, slowed down by centralization or deprived of resources, which is the situation of many Tunisian organizations.

Research conducted in Tunisia has focused mainly on the COVID-19 crisis, whether on individual or collective resilience in sixteen firms (Mokline & Ben Abdallah, 2021, 2022) or on the effect of talent management practices on resilience (Bouteraa & Bouaziz, 2023). This research notes the importance of improvisation, bricolage and less formalized rules, but it concerns a single shock and does not examine, at each stage of crisis management, how informal resources and formal systems fit together when crises recur. It is this articulation that we study.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 38 Octobre 2026

This article pursues two objectives: (1) to identify and rank the factors that, according to crisis managers, underpin the resilience of their organization; and (2) to understand how these factors are articulated between formal systems and informal practices. Our research question is the following: on which factors does the resilience of Tunisian organizations rest in the face of repeated crises, and how do formal systems and informal practices interact within it? Our central argument is that, in this context, resilience is largely compensatory: actors offset the shortcomings of formal systems with informal resources (field networks, trust, collective improvisation, cooperation), which constitute at once the organizations' main strength and their main weakness.

We draw on four complementary theoretical frameworks: resilience conceived as a capability (Lengnick-Hall et al., 2011; Duchek, 2020), collective sensemaking and organizational reliability (Weick, 1993; Weick & Sutcliffe, 2015), actual practices, improvisation and bricolage (Baker & Nelson, 2005; Cunha et al., 1999; Orlikowski, 2007) and organizational learning (Argyris & Schön, 1978; Nonaka & Takeuchi, 1995; Zollo & Winter, 2002), brought together in an analytical framework (Table 1). Adopting an interpretivist stance and abductive reasoning, we conduct an exploratory qualitative study based on twenty semi-structured interviews and a hybrid thematic analysis. The research makes three contributions: a compensatory view of resilience; empirical insight into a little-studied context, together with a hierarchy of factors; and an illustration of the value of hybrid coding. It leads to eight propositions and ten practical recommendations.

The research is organized as follows. Section 1 presents the theoretical framework, the study context and the analytical framework, and Section 2 the methodology, including our epistemological positioning. Section 3 presents the findings, organized around the stages of crisis management. Section 4 discusses the compensatory-resilience thesis, derives eight propositions from it and details the managerial implications. The conclusion synthesizes the theoretical, methodological and empirical contributions, then sets out the limitations and perspectives.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 38 Octobre 2026

1 Theoretical Framework and Study Context

1.1 Organizational Resilience: A Capability Rather Than a State

Organizational resilience is increasingly conceived as a capability rather than a state (Duchek, 2020). Lengnick-Hall et al. (2011) offer a reading structured around cognitive (the ability to interpret events and maintain an overall view), behavioral (a repertoire of actions and routines that can be mobilized) and contextual (the relationships, resources and organizational climate that support action) dimensions. Duchek (2020) breaks it down into three phases, anticipation, coping with the event and adaptation, which correspond to as many possible factors: the quality of monitoring, the speed and relevance of the response, and the ability to draw on experience.

This perspective extends Weick's (1993) work on the collapse of sensemaking during the Mann Gulch disaster: failure often occurs when shared interpretive frames disintegrate faster than the situation becomes clear (see also Maitlis & Christianson, 2014). Weick and Sutcliffe (2015) draw from it the operating principles of "high-reliability" organizations: preoccupation with weak signals, reluctance to accept simplified interpretations, sensitivity to frontline operations, commitment to resilience and deference to expertise rather than to hierarchy.

Two limitations nevertheless seem to us to characterize this literature. It more readily documents organizations equipped with stabilized formal systems than it analyzes what happens when these are incomplete or constrained; and it rarely addresses environments where institutional instability is not an event but a lasting regime. Recent work on the balance between organizational structures (Andersson et al., 2019) nonetheless paves the way for a reading that articulates the formal and the flexible.

1.2 Formal Systems, Informal Practices and Learning

A second line of research invites us not to confuse prescribed systems with actual practices. Orlikowski (2007) shows that actors continually reconfigure, in action, the tools and procedures at their disposal, so that what is actually done can depart significantly from what was planned. In emergency situations, this gap takes the form of improvisation, which Cunha et al. (1999) regard

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 38 Octobre 2026

as an organizational competence in its own right when it draws on shared experience and communication, and of bricolage, that is, the ability to construct solutions with the resources at hand (Baker & Nelson, 2005). These adjustments draw on social capital: ties, including weak ones, facilitate the circulation of information and access to external resources (Granovetter, 1973).

The question of learning occupies a specific place. Argyris and Schön (1978) distinguish single-loop learning, which corrects action without questioning the rules that govern it, from double-loop learning, which questions and modifies those rules. Zollo and Winter (2002) stress that the transformation of experience into improved routines rests on deliberate mechanisms of codification and knowledge capture, while Nonaka and Takeuchi (1995) remind us that the tacit knowledge held by individuals becomes organizational knowledge only if it is made explicit and shared. Finally, individuals' capacity to flag a problem depends on the team's climate of psychological safety (Edmondson, 1999; Edmondson & Lei, 2014), while the integration of artificial intelligence into decision-making raises the question of how automation and the augmentation of human judgment are to be articulated (Raisch & Krakowski, 2021).

1.3 The Tunisian Context: A Regime of Instability and a Structuring Role for the State

The post-2011 Tunisian context has characteristics that make it a relevant setting for this inquiry. In just over a decade, organizations there have gone through the 2011 revolution, security crises, the COVID-19 pandemic and social, technological and environmental crises. Institutional instability thus constitutes less an event than a lasting operating framework. Moreover, several strategic sectors (health, energy, water, transport, telecommunications) remain closely tied to public action, which exposes their organizations to constraints of supervisory oversight, hierarchical validation and budgetary resources, which the literature on public crisis management associates with issues of governance capacity and political arbitration (Boin et al., 2016; Christensen et al., 2016). Subsidiaries of international groups and family-owned groups operate in the same environment with different governance standards and decision-making modes, which allows for illuminating comparisons.

1.4 The Research Analytical Framework

These elements constitute our analytical framework (Table 1). For each stage of crisis management (detecting, governing, steering, learning), we examine the share of what belongs to the formal system and what belongs to informal practice, as well as their effects on learning. This framework is not a diagram of relationships to be tested: it is an interpretive grid intended to guide data collection and initial coding, and to be revised in light of the data.

Table 1: Research Analytical Framework

Stage	Theoretical anchoring	Formal/informal tension examined
Detecting	Sensemaking and reliability (Weick, 1993; Weick & Sutcliffe, 2015); psychological safety (Edmondson, 1999)	Formalized monitoring *vs* field-based monitoring and informal upward reporting of weak signals
Governing	Resilience as a capability (Lengnick-Hall et al., 2011; Duchek, 2020); public crisis governance (Christensen et al., 2016)	Centralization and hierarchical validation *vs* de facto decentralization and deference to expertise
Steering	Actual practices, improvisation, bricolage and social capital (Orlikowski, 2007; Cunha et al., 1999; Baker & Nelson, 2005; Granovetter, 1973)	Prescribed tools and procedures *vs* tools and networks actually mobilized
Learning	Organizational learning (Argyris & Schön, 1978; Zollo & Winter, 2002; Nonaka & Takeuchi, 1995)	Formalized lessons-learned review (RETEX) *vs* individual tacit memory

Source: Authors' elaboration based on the literature.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 38 Octobre 2026

2 Methodology

2.1 Epistemological Positioning and Mode of Reasoning

Our objective is not to measure the effect of predefined variables, but to understand how crisis managers make sense of what has underpinned the resilience of their organization, and to account for situated practices. It falls within an interpretivist positioning (Thiétart et al., 2014; Dumez, 2016): knowledge is constructed from the meanings that actors attribute to their experience, which the researcher reconstructs by interpreting them. We adopt abductive reasoning (Dubois & Gadde, 2002; Timmermans & Tavory, 2012): the theoretical framework guides data collection and initial coding (deductive logic), while unexpected elements from the field lead us to enrich, or even revise, this framework (inductive logic), through back-and-forth movements between theory and data.

This choice is consistent with the nature of the phenomenon. The available studies say little about resilience in the absence of stabilized formal systems: a purely deductive reasoning would have confined the analysis within categories designed for other contexts. Interviews also give access to actual practices and to actors' justifications, which a standardized questionnaire would capture less finely at this stage. Finally, this study constitutes the exploratory component of a broader research project combining qualitative exploration followed by quantitative validation (Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 2010): the propositions that arise from it are not intended to generalize, but to prepare a subsequent test.

2.2 Field and Sample

We conducted twenty semi-structured interviews (coded E01 to E20) with crisis managers: managers from the human resources, risk and compliance, information systems and communication departments, or operational heads of crisis cells. The sample was constructed using purposive maximum-variation sampling along three simultaneous axes: sector of activity, legal status of the organization and the respondent's function. This choice aims to identify factors that are robust to variation in organizational context, rather than representative in the statistical sense, and to partially neutralize the hypothesis that the observed factors would be specific to a sector or a status. Table 2 presents the composition of the sample.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 38 Octobre 2026

Table 2: Composition of the Qualitative Sample

Characteristic	Distribution (N = 20)
Sector of activity	Health (2); finance and banking (3); central administration (1); transport (2); manufacturing and agri-food industry (3); extractive industry (1); civil protection (1); energy and water (2); tourism (1); telecommunications and postal services (4)
Legal status	13 public or semi-public organizations; 7 private organizations (including 3 subsidiaries of international groups and 2 national family-owned groups)
Respondent gender	15 men; 5 women
Crisis cell	17 formal cells (one of which was judged in need of improvement); 3 semi-formal cells
Crises mentioned	2011 revolution, COVID-19 pandemic, security, social, technological and environmental crises

Source: Authors' survey.

2.3 Data Collection and Research Ethics

The interviews, lasting 45 minutes on average, were conducted in person between December 2025 and May 2026, recorded and then transcribed with the participants' consent. The themes addressed correspond to those of the analytical grid (Section 2.4.1). To preserve confidentiality, verbatim excerpts are identified by an interview code (E01 to E20) and organizations are designated only by their sector and status. Quotations have been translated into English by the authors.

2.4 Data Analysis

2.4.1 A Hybrid Deductive and Inductive Coding

The interviews were analyzed in NVivo 20 using thematic analysis (Braun & Clarke, 2006, 2021; Miles et al., 2020) combining, in a hybrid logic (Fereday & Muir-Cochrane, 2006), deductive coding based on seven themes derived from our theoretical framework (detection and anticipation;

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 38 Octobre 2026

governance and activation of the crisis cell; operational steering and tools; organizational learning and lessons learned; post-crisis transformation; digital technology and artificial intelligence; Tunisian context), transversal nodes making it possible to qualify the nature of the factors (human, cultural, formal–informal tension), and inductive coding allowing field-specific elements to emerge. Recurrent elements that did not fit in the initial grid led us to open additional inductive nodes, which gave rise to the findings on chronic-crisis regimes and the symbolic dimension of resilience.

2.4.2 Thematic Saturation and Triangulation

From about the twelfth interview onward, the deductive themes were no longer yielding substantially new information, which leads us to consider thematic saturation as having been progressively reached (Guest et al., 2006, 2020; Saunders et al., 2018). This finding remains cautious: in a deliberately heterogeneous sample, the saturation observed on deductive themes does not guarantee the exhaustiveness of inductive themes (Hennink & Kaiser, 2022). We complemented the analysis with a lexical similarity analysis and with matrix cross-tabulations between themes and transversal nodes, in order to triangulate the coding results.

2.5 Rigor Criteria and Methodological Limitations

We rely on the four criteria of Lincoln and Guba (1985), supplemented by the recommendations of Nowell et al. (2017) and Tracy (2010). Credibility rests on the diversity of the organizations interviewed and on the systematic comparison of accounts. Transferability was sought through a detailed description of the organizations and the crisis situations mentioned. Dependability rests on the traceability of the coding, which was iterative and whose decisions are recorded in a research journal (Paillé & Mucchielli, 2021). Confirmability and reflexivity stem from the distinction we make between participants' statements and our interpretations. Two limitations should be noted: the coding was carried out by a single researcher, and the figures mentioned by some respondents are treated as self-reported information reflecting their perception of organizational reality, not as independently verified data.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 38 Octobre 2026

3 Findings: Factors Articulated Around the Stages of Crisis Management

We present the findings following the logic of the stages of crisis management (detection, governance, steering, learning), before turning to post-crisis transformation, digital technology and context, and then to transversal factors and emerging elements.

3.1 Detecting: The Primacy of Informal Monitoring

The detection of crises rarely relies on formal systems alone. In several organizations, the first signals come from frontline actors, informal exchanges and proximity to stakeholders, in particular staff representatives:

“Real monitoring is done in the field. [...] Always listen to the unions, even if it is tiring, they sense things before we do” (E01, private clinic)

The banking and telecommunications sectors have developed structured monitoring, with indicators and alert thresholds. But tools do not guarantee anticipation: what matters is the ability to listen, to interpret and to process signals quickly (Weick & Sutcliffe, 2015), an ability that is hindered, in some organizations, by cultural and hierarchical obstacles:

“Tunisian administrative culture [...] does not naturally encourage the frontline civil servant to say ‘watch out, there is a problem’ ... so there is self-censorship, not out of dishonesty, but out of professional caution” (E06, central administration)

Three configurations emerge from the corpus: the hierarchical withholding of signals, observed mainly in public organizations; rapid but poorly structured upward reporting, present in strongly mobilized social contexts, where alerts exist but call for a better processing capacity; and the institutionalized right to raise alerts, observed mainly in subsidiaries of international groups. Across these configurations, informal upward reporting remains dependent on individuals: “Informal, human upward reporting depends a lot on the courage of the middle manager” (E03, public bank). Detection resilience therefore depends less on the technological level of monitoring than on the organization’s ability to let weak signals circulate freely and to turn them into decisions (Edmondson, 1999; Weick & Sutcliffe, 2015).

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 38 Octobre 2026

3.2 Governing: Between Centralization and Speed

The second factor concerns the governance of the crisis cell and the arrangements for decision-making in an emergency. We observe a recurrent tension between a logic of centralization, particularly present in public and semi-public organizations, and the need for a rapid reaction to an uncertain situation. In several public organizations, the crisis decision still requires validation by higher hierarchical levels, which can slow down the activation of the response:

“Centralized, without any doubt, and at the political summit on top of that ... because the message often has to be validated at the level of the minister himself, sometimes even by the Presidency of the Government” (E02, central administration of the health sector)

Conversely, some private organizations practice a more distributed governance, in which operational decisions are made by the experts concerned, with senior management intervening only for strategic trade-offs, which echoes the principle of deference to expertise (Weick & Sutcliffe, 2015):

“During an incident, the SOC lead analyst is in the virtual crisis room with the directors. He has a say in technical decisions” (E18, private telecommunications operator)

One practice deserves emphasis: after identifying delays in activating their system, two telecommunications operators changed their internal procedures by introducing faster triggering mechanisms. The organization thus corrects not only its response but also the rules that govern it, which is akin to double-loop learning (Argyris & Schön, 1978; Zollo & Winter, 2002). The effectiveness of crisis governance thus lies less in the existence of a formal structure than in the ability to bring decision-making closer to action and to recognize frontline expertise.

3.3 Steering: The Human Factor as a First-Resort Resource

In all the organizations studied, the human dimension appears as an essential resource for maintaining cohesion and continuity of action. Despite the existence of tools and procedures, the actual steering capacity rests largely on trust, managerial proximity and the quality of relationships within the crisis cell:

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 38 Octobre 2026

"What keeps the team on its feet is not the process, it is the trust they have in each other and in you" (E18, private telecommunications operator)

This finding is consistent with the idea that resilience rests less on perfect procedures than on actors' ability to build a collective understanding and to act together under uncertainty (Kahn et al., 2018; Weick & Sutcliffe, 2015). Improvisation also plays a central role in unforeseen situations. Procedures do not eliminate adaptation: they structure decisions when the situation exceeds pre-established scenarios (Cunha et al., 1999). We nevertheless distinguish two forms of improvisation: effective improvisation remains collective, communicated and grounded in experience, whereas isolated improvisation can create inconsistencies and weaken coordination: "A successful improvisation stays within communication. An improvisation that makes things worse is a solo improvisation" (E18).

Finally, the coding brought out a less expected factor: decision fatigue and the exhaustion of crisis teams. It appears as a major weakness of steering: "I lost two excellent analysts in 2022 [...] not to a competitor, to burnout" (E18). Similar observations emerge in two public enterprises. The performance of a crisis cell thus rests on a balance between formalization, collective trust and the preservation of the human resources engaged in the repeated management of crises.

3.4 Learning: The Paradox of Uncaptured Memory

The fourth factor concerns the capacity to transform the experience of crises into lasting learning. We observe a paradox: most organizations have lessons-learned review mechanisms (RETEX, from the French *retour d'expérience*), but their use remains limited:

"We recreated exactly the same communication confusion with three different counterparts. The 2018 recommendation was in a drawer" (E16, public energy and water company)

Two logics of RETEX management can be distinguished. In several public organizations, the lessons-learned review remains a summary document, with no follow-up of the recommended actions. Conversely, one telecommunications operator has set up follow-up of their implementation: "We have a RETEX action tracker with a designated owner and a due date ..."

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 38 Octobre 2026

(E18). Resilience therefore does not depend on the existence of a RETEX, but on the organizational capacity to convert lessons into concrete change, that is, to move from single-loop learning to learning that modifies operating rules (Argyris & Schön, 1978). The analysis also reveals a strong dependence on individual memory: several respondents see their accumulated experience as a resource, but also as a vulnerability when this knowledge remains tacit: “I have 28 years of living memory in my head. It is both a richness and a vulnerability” (E20, public telecommunications operator). This finding illustrates the distinction made by Nonaka and Takeuchi (1995): as long as experience is not made explicit and shared, crisis memory remains fragile in the face of departures.

3.5 Transforming, Digitalizing and Coping with the Context

The analysis of post-crisis transformation reveals two trajectories. Some organizations make the crisis an opportunity for improvement, in particular when it is limited in time and clearly identified: in several telecommunications, energy or banking companies, it led to a review of procedures and a strengthening of monitoring. Conversely, in organizations facing repetitive and structural difficulties, such as certain public industrial enterprises, the crisis acts more as a factor of wear: accumulated experience is only with difficulty converted into a capacity for change.

Digital technology and artificial intelligence still appear as an emerging theme. We observe a significant gap between the most technologically advanced organizations, notably subsidiaries of international groups, which use tools for anomaly detection, data analysis or weak-signal monitoring, and public organizations for which AI remains a prospect. Even in the most mature structures, it remains a decision-support tool and not a substitute for judgment: “We cannot let an algorithm decide on a network isolation that cuts off access for thousands of customers” (E18). Three obstacles stand out: limited trust in automated decisions, the lack of specialized in-house skills and the cultural difficulty of delegating critical judgment to a technology. These findings are consistent with the idea that the value of AI depends on its integration into existing practices (Davenport & Ronanki, 2018; Raisch & Krakowski, 2021).

Finally, the Tunisian context strongly influences steering modes. Institutional instability, budgetary constraints and administrative complexity have led many organizations to develop forms of adaptation based on creativity, informal relationships and inter-organizational cooperation, which

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 38 Octobre 2026

Baker and Nelson (2005) describe as bricolage and which mobilize the social capital of actors (Granovetter, 1973; Lengnick-Hall et al., 2011).

3.6 Transversal Factors and Emerging Elements

The transversal analysis makes it possible to go beyond the initial themes and to identify three factors common to the entire corpus. The human factor dominates by a wide margin, including in the most technologically advanced organizations: “Systems can be repaired. People are more complicated” (E18). The tension between formal systems and informal practices constitutes the second factor: in a large majority of organizations, the tool actually used to coordinate an acute crisis differs from the prescribed institutional tool, for example a personal instant-messaging application rather than the official service-management tool. These exchanges allow rapid coordination, but raise questions of traceability and knowledge capture, in line with the gap between actual practices and prescribed systems described by Orlikowski (2007). Finally, the cultural factor manifests itself in hierarchical distance, which slows the upward reporting of weak signals, and in quasi-familial logics of belonging that sustain cohesion under stress.

3.6.1 Three Chronic-Crisis Regimes

Our inductive approach brought out three configurations of chronic crisis. The first is a chronic resource crisis, in which the organization develops above all a survival capacity based on internal solidarity rather than structural transformation. The second is a territorialized chronic crisis, in which the crisis becomes a permanent situation: “We almost no longer need to detect warning signs, because we have been living in a permanent background tension for so many years” (E11, public extractive-industry company). The third is a chronic crisis of transformation, linked to the gradual evolution of the organization’s model: “It is not a sudden shock, it is a slow and deep, almost silent transformation, but one that touches our very reason for being” (E12, public postal and financial services company). Not all chronic crises therefore produce the same dynamics: some strengthen adaptive capacities, while others lead to a logic of maintenance and survival (Duchek, 2020; Lengnick-Hall et al., 2011).

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 38 Octobre 2026

3.6.2 A Symbolic and Identity Dimension of Resilience

A second emerging finding concerns the symbolic dimension of resilience. Several interviews show that the capacity to withstand a crisis goes beyond procedures and tools. One manager describes the company as "a symbol of economic dignity for many families" (E09, public industrial enterprise); another associates resilience with the humanity of the organization: "What makes an organization resilient is not only procedures or tools, it is the humanity it brings to its difficult moments" (E20). We also note a "native" resilience in organizations used to managing emergencies, and the role of institutional cooperation: a public energy company has thus integrated union partners into certain crisis-management processes (E15). Resilience thus appears as a multidimensional construction, combining organizational resources, collective learning, human relationships and cultural factors.

3.7 Synthesis: A Classification and a Hierarchy of Factors

Comparing the volume of references coded per node across the whole corpus reveals a clear hierarchy: the human factor and organizational memory are the most frequently mobilized, far ahead of technological tools. The cross-tabulations between themes and transversal nodes confirm the presence of the human factor in all the dimensions analyzed, while digital technology and AI remain weakly represented. The lexical analysis, carried out independently of the coding tree, brings out three vocabulary poles (human and relational dimension, institutional constraints, memory and learning) that overlap with the thematic findings.

We propose to synthesize these findings into a classification of resilience factors in four categories, cut across by two transversal factors (Table 3). Structural factors correspond to formal systems; compensatory factors, to the informal practices that offset their limits; dynamic factors, to learning and transformation mechanisms; and contextual factors, to the characteristics specific to the Tunisian environment.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 38 Octobre 2026

Table 3: Classification of Key Organizational Resilience Factors

Category	Identified factors	Function in resilience	Associated fragility
Structural (formal)	Formalized monitoring; centralized governance; dedicated steering tools; formalized RETEX	Frame detection, decision-making and lessons capture	Slowness due to centralization; RETEX "in a drawer"
Compensatory (informal)	Informal monitoring and networks; field-level decentralization; bounded improvisation; individual tacit memory	Offset the shortcomings of formal systems	Dependence on individuals; low traceability
Dynamic (learning)	Dissemination of lessons learned; post-crisis transformation; AI subordinated to judgment	Turn experience into lasting capabilities	Partial transformation; low AI maturity
Contextual (Tunisia)	Political instability; resource constraints; hierarchical distance; emerging specificities (chronic crises, symbolic dimension, cooperation)	Define the conditions under which resilience is exercised	Wear and tear in chronic crisis; hierarchical self-censorship
Transversal	Human factor; formal–informal tension	Link the four categories	Team exhaustion; coordination outside official channels

Source: Authors' elaboration based on the analysis of the interviews.

The comparison across organizations brings out several configurations: survival resilience under constraint, resilience in the face of a territorialized crisis, resilience of gradual transformation, technical resilience under structural constraints in large public organizations, structured resilience

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 38 Octobre 2026

in subsidiaries of international groups, and agile entrepreneurial resilience in family-owned groups, based on tight governance. Above all, organizational status seems to explain differences in the maturity of crisis steering better than sector of activity: in telecommunications, the public operator displays governance mechanisms distinct from those of the two private operators, which benefit from international standards and a more formalized organization.

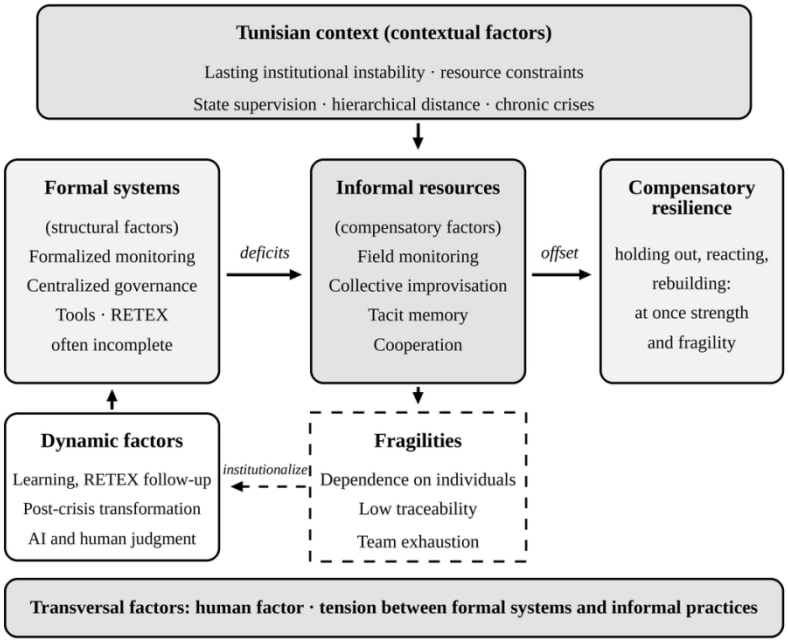
4 Discussion: Compensatory Resilience

4.1 What the Informal Compensates For, and at What Price

Our main finding is that resilience is largely compensatory. At each stage of crisis management, we observe the same pattern: a formal system exists, but it is incomplete, slowed down or insufficiently used, and it is informal resources that offset its limits. Informal monitoring substitutes for formalized monitoring; de facto decentralization, collective improvisation and cooperation compensate for the slowness of centralized governance and the scarcity of resources; the tacit memory of experienced actors substitutes for the absence of formal capture of lessons learned. This pattern extends, in the field of crisis management, Orlikowski's (2007) idea that actual practices exceed prescribed systems, and Baker and Nelson's (2005) idea that resource constraints stimulate bricolage. It also refines earlier Tunisian studies, which had noted the role of improvisation and less formalized rules during the COVID-19 crisis (Mokline & Ben Abdallah, 2022), by showing how these resources compensate, stage by stage, for incomplete formal systems when crises recur.

This compensation is nevertheless ambivalent. Informal resources are fast, flexible and suited to the unforeseen, qualities that formal systems do not always offer. But they rest on personal relationships, on the courage of a middle manager, on the memory of a few experienced people or on coordination tools outside official channels. They are therefore difficult to reproduce, poorly traceable and vulnerable to departures, team exhaustion or changes of context (Granovetter, 1973; Nonaka & Takeuchi, 1995): what makes the strength of the observed resilience also constitutes its main weakness. The resulting model is summarized in Figure 1.

Figure 1: Compensatory Resilience Model



Source: Authors' elaboration based on the survey findings.

4.2 What Differentiates Trajectories

Our study suggests that three elements differentiate resilience trajectories. The first is status and governance: subsidiaries of international groups have mechanisms (right to raise alerts, distributed governance, RETEX follow-up) that reduce reliance on informal compensation, whereas public organizations, subject to supervisory oversight and centralization, rely on it more. The second is the nature of the crisis: one-off, time-limited crises seem to foster lasting transformations, whereas chronic crises tend to produce a logic of survival, according to three distinct regimes (resource scarcity, territorialized tension, model mutation). The third is the stability of the actors who carry the learning, which points to the dependence of crisis memory on human capital. Where the crisis has durably transformed practices, some organizations seem to go beyond a return to equilibrium, but these transformations remain for the most part carried by individuals rather than by institutionalized mechanisms, which calls for caution (Duchek, 2020).

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 38 Octobre 2026

4.3 A Symbolic Dimension of Resilience

Finally, our findings bring out a dimension rarely discussed in the resilience literature: its human and symbolic dimension. Dignity, trust and a sense of belonging influence how actors assess their organization's capacity to get through a crisis, beyond operational indicators. This dimension is in line with work on the role of meaning in resilience (Lengnick-Hall et al., 2011; Weick, 1993) and invites us also to assess how people were treated.

4.4 Eight Propositions

Our findings allow us to formulate eight qualitative propositions (Table 4), not statistically generalizable, intended to be tested on a larger sample.

Table 4: Propositions Derived from the Qualitative Study

No.	Proposition
P1	In organizations with limited resources, informal networks partially compensate for the absence of formal monitoring systems and improve the early detection of crises.
P2	Decision-making centralization, especially when it involves external validation, slows the activation of crisis cells; distributed governance fosters a faster response.
P3	The existence of a RETEX is not enough to produce lasting learning; it requires effective follow-up of the actions decided.
P4	Crisis memory rests largely on the experience of a few key actors, which constitutes a fragility when it is not formalized.
P5	Hierarchical distance limits the upward reporting of weak signals; protection for those who raise alerts attenuates this effect.
P6	One-off crises foster lasting transformations, whereas chronic crises tend to produce a logic of survival.
P7	Dignity, trust and collective meaning constitute a dimension of resilience that goes beyond operational indicators.
P8	Informal cooperation is a resilience resource, but becomes a fragility when it is not institutionalized.

Source: Authors' elaboration.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 38 Octobre 2026

4.5 Managerial Implications: Ten Practical Recommendations

The concepts developed here can be mobilized by crisis-cell managers as follows.

1. **Map informal resources.** Identify the field relays and networks that feed monitoring, then recognize and protect them, for example through a formalized right to raise alerts.
2. **Reduce decision latency.** Define in advance triggering thresholds and categories that make it possible to activate the crisis cell without waiting for hierarchical validation, and provide for explicit delegations.
3. **Involve operational experts.** Integrate technical leads into the crisis cell from activation onward, in order to bring decision-making closer to the reality on the ground.
4. **Close the RETEX loop.** Assign an owner and a deadline to each action arising from a lessons-learned review, and track its completion.
5. **Codify tacit memory.** Document the practices held by experienced actors, organize transfer pairings and anticipate the departures of key people.
6. **Protect teams.** Provide for relief and recovery time to limit the decision fatigue of teams exposed to repeated crises.
7. **Frame the use of AI.** Position it as decision support, develop in-house skills and maintain human judgment over critical decisions.
8. **Institutionalize cooperation.** Formalize, through agreements or protocols, the most useful informal cooperation, in order to make it independent of personal relationships.
9. **Adapt the approach to the nature of the crisis.** Distinguish one-off crises, in which experience must be captured quickly, from chronic crises, in which the aim is to preserve cohesion, to negotiate over the long term with local stakeholders or to carry out a long-term transformation.
10. **Also assess the human dimension.** Include in lessons-learned reviews criteria relating to how the affected people were treated, beyond operational indicators alone.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 38 Octobre 2026

Conclusion

This article aimed to identify the factors on which the resilience of Tunisian organizations rests in the face of repeated crises since 2011, and to understand how these factors are articulated between formal systems and informal practices. It offers a synthesis on three levels.

On the theoretical level, the article proposes a compensatory view of resilience, which brings together work on resilience as a capability, on actual practices and bricolage, and on organizational learning in a context of chronic instability. It shows that the status of the organization, the nature of the crisis (one-off or chronic) and the stability of the actors who carry the learning differentiate trajectories, and it highlights a symbolic dimension of resilience, made of dignity, trust and belonging. The eight propositions formulated constitute a research program to be tested, and the classification into four categories, cut across by the human factor and the formal–informal tension, offers a reusable analytical grid for other organizations and other contexts of instability.

On the methodological level, the approach, grounded in an interpretivist stance and abductive reasoning, rests on purposive maximum-variation sampling (sector, status, function), on a hybrid thematic analysis in NVivo 20 and on triangulation through matrix cross-tabulations and a lexical analysis. Inductive coding brought out elements (chronic-crisis regimes, symbolic dimension) that a purely deductive grid would not have captured. These contributions remain exploratory: they shed light on plausible mechanisms in a specific context, without claiming to measure their magnitude or their validity beyond that context.

On the empirical level, twenty interviews with crisis managers show that resilience rests less on the sophistication of formal tools than on human and relational resources that offset their limits. At each stage (detecting, governing, steering, learning), a formal system exists but remains incomplete, slowed down or underused, and it is field networks, trust, collective improvisation, tacit memory and informal cooperation that make it possible to hold out. These resources are fast and flexible, but also poorly traceable, difficult to reproduce and vulnerable to departures and team exhaustion. For practitioners, the issue is therefore not to set the formal against the informal, but to institutionalize the gains of the latter without losing its flexibility (Section 4.5).

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 38 Octobre 2026

Several limitations call for caution. The coding was carried out by a single researcher, without an independent second coder, which we sought to offset through a research journal and triangulation. The data are self-reported and retrospective, and the figures reported are not audited measurements. The sample, composed mainly of large public structures and subsidiaries of international groups, poorly represents SMEs; the propositions therefore do not amount to statistical generalization and remain to be tested.

These limitations outline four perspectives: testing the eight propositions on a larger quantitative sample, including SMEs and validated measurement instruments; analyzing, through longitudinal studies, the trajectory of resilience toward forms of lasting transformation; comparing the Tunisian context with other contexts of chronic instability; and, finally, deepening the still-emerging place of artificial intelligence in crisis management.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 38 Octobre 2026

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ISSN : 2658-9311
Vol : 03, Num 38 Octobre 2026

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