

Tolerance for Ambiguity and Individual Resilience Competence among Entrepreneurs: Emotional, Cognitive, and Behavioral Mechanisms in the Moroccan Context

Abstract

How does an entrepreneur's tolerance for ambiguity translate into resilience when crisis strikes? This question remains largely unanswered in the entrepreneurship literature, where the mechanisms linking psychological dispositions to resilient outcomes have been treated as a black box. We investigate the sequential processes through which tolerance for ambiguity (TA) converts into individual resilience (IR) among entrepreneurs, with particular attention to the mediating architecture of spirituality. Our conceptual scaffolding draws on four streams: TA as a multidimensional disposition (Budner, 1962; McLain, 2009), entrepreneurial resilience decomposed into hardiness, resourcefulness, and optimism (Ayala & Manzano, 2014), sensemaking theory (Weick, 1995), and spirituality as a cognitive-emotional infrastructure (Pargament, 1997). We deployed an interpretive qualitative design grounded in the Gioia methodology across ten Moroccan entrepreneurs who had weathered heterogeneous, survival-threatening crises. Three sequential mechanisms surfaced from the data: (1) an emotional mechanism whereby TA, amplified by positive religious coping (*tawakkul*), yields a stabilized optimism; (2) a cognitive mechanism in

which spiritually anchored meaning construction (*mektab*, divine trial) sustains hardiness; and (3) a behavioral mechanism through which entrepreneurial bricolage generates resourcefulness. A spiritual sensemaking infrastructure cuts across all three mechanisms via cognitive anchoring, emotional buffering, and action legitimation. We advance the Spiritually Anchored Conversion Model (SACM) and offer three contributions: unpacking the TA→IR black box through a tri-mechanistic sequential model, theorizing spirituality as a contextual property of sensemaking, and introducing the concept of spiritually sustained TA, which empirically inverts what we term Budner's paradox.

Keywords: tolerance for ambiguity, individual resilience competence, spirituality, sensemaking, Gioia methodology, Moroccan entrepreneurs

1.1 Introduction

Entrepreneurship unfolds in terrain saturated with uncertainty (McMullen & Shepherd, 2006), across environments shot through with novelty, complexity, and insolubility (the three wellsprings of ambiguity that Budner (1962) identified over six decades ago). Individual resilience (IR), conceptualized along the dimensions of hardiness, resourcefulness, and optimism (Ayala & Manzano, 2014), stands as a critical determinant of entrepreneurial survival. Yet the most recent systematic reviews converge on a disquieting verdict: the field suffers from substantial blind spots. Korber and McNaughton (2018) map six scholarly conversations but flag the persistent dominance of antecedents over processual mechanisms. Ahmed et al. (2022) call out the fragmentation among resilience, stress, and coping literatures. Hartmann et al. (2022)

deliver an unambiguous diagnosis: the mechanisms by which psychological traits crystallize into resilient behaviors remain largely unexplored, and they call for processual qualitative studies set in non-Western contexts.

Within this black box, tolerance for ambiguity (TA) occupies a singular position. Defined as the tendency to perceive ambiguous situations as desirable rather than threatening (Budner, 1962; Frenkel-Brunswik, 1949; McLain, 2009), TA has long been recognized as a distinguishing characteristic of entrepreneurs (Schere, 1982; Begley & Boyd, 1987; Koh, 1996) and enjoys renewed interest (Rojas-Sánchez et al., 2024). The bulk of this work, however, clusters in psychology, education, and medicine; not a single entrepreneurship journal ranks among the ten leading publication outlets. McLain et al. (2015) confirm that TA has been conceptualized almost exclusively through cognitive and emotional lenses, with no attention to cultural or spiritual resources. The tolerance–resilience link has been documented in medical settings (Cooke et al., 2013; Nevalainen et al., 2012), but it has been overlooked among entrepreneurs.

This lacuna sits at the confluence of three shortcomings. The first is a *processual gap*: no study has modeled the mechanisms through which TA converts into resilience competence, even though Duchek (2020) has conceptualized organizational resilience across three phases (anticipation, coping, adaptation). The second is a *contextual gap*: nearly all research on entrepreneurial TA originates from secularized Western settings (Welter, 2011; Zahra et al., 2014). Recent work indicates that religiosity indirectly influences entrepreneurial resilience in Muslim contexts (Haddoud et al., 2025; Trinanda et al., 2025), but these studies remain quantitative and correlational. The negative correlation that Budner (1962) observed between TA and belief in a divine power (a secondary empirical finding that no subsequent study has elevated to theoretical concept, but which we propose to label “Budner’s paradox” given its heuristic reach) calls for contextualized qualitative investigation. The third is a *competence-approach gap*: resilience is seldom studied as a dynamic, developable competence (Conduah & Essiaw, 2022), despite the state-like frameworks advanced by Cooper et al. (2013) and Luthans and Youssef-Morgan (2017).

Our study sets out to address these gaps by answering the following question: ***How does entrepreneur’s tolerance for ambiguity contributes to individual resilience competence in the face of crisis, and what role does the spiritual dimension play in that process?***

To that end, we conducted an inductive qualitative study following the Gioia methodology (Gioia et al., 2013) with ten Moroccan entrepreneurs who had weathered heterogeneous crises threatening the survival of their ventures, in accordance with a maximum variation sampling logic (Patton, 2015). The Moroccan setting proves theoretically productive: it grants access to small and medium-sized enterprises where the entrepreneur bears the full weight of uncertainty alone (Knight, 1921, as cited by Schere, 1982), in an environment where Islamic values permeate everyday cognitions and behaviors (Gümüşay, 2015; Ramadani et al., 2015). Our research delivers three contributions: it lays bare the emotional, cognitive, and behavioral conversion mechanisms linking TA to resilience; it reveals the role of spirituality as an infrastructure of meaning (Weick, 1995; Maitlis & Christianson, 2014) that anchors TA; and it helps move

beyond the trait-versus-process debate (Masten, 2001; Duchek, 2020) by demonstrating that IR emerges from a dynamic articulation among individual disposition, contextualized symbolic resource, and conversion mechanisms.

The remainder of the article proceeds as follows. We first lay out the theoretical framework, then describe our methodology (Gioia et al., 2013; Magnani & Gioia, 2023), present findings organized around three aggregate dimensions, discuss the emergent model, and conclude.

1.2. Theoretical Framework: Bridging Tolerance for Ambiguity, Resilience, and Spirituality in the Entrepreneurial Field

The theoretical framework is woven from four bodies of literature that we bring into conversation: tolerance for ambiguity (TA) as an individual disposition vis-à-vis uncertainty, individual resilience (IR) apprehended through a competence lens, spirituality and religion as cognitive and emotional resources in entrepreneurship, and sensemaking as a process of meaning construction in crisis contexts. A critical synthesis of these literatures yields a preliminary conceptual framework articulating the links among TA, spirituality, and IR, while mapping the zones of opacity that our empirical investigation seeks to illuminate.

1.2.1 Tolerance for Ambiguity: Genesis, Dimensions, and Limitations of an Expanding Concept

1.2.1.1 Origins and Conceptual Evolution

TA first emerged in the pioneering work of Frenkel-Brunswik (1949) as a personality variable rooted in the emotional and perceptual domain. Intolerance of ambiguity was conceptualized as the refusal of emotional ambivalence and cognitive ambiguity (rigidity, resistance to revising one's beliefs), while tolerance manifested itself through openness and flexibility in the face of ambiguous stimuli. Budner (1962) extended this conceptualization by defining intolerance as "the tendency to perceive ambiguous situations as sources of threat" and tolerance as "the tendency to perceive them as desirable," identifying three sources of ambiguity (novelty, complexity, and insolubility) and three threat-indicative responses: submission, denial, and avoidance. His measurement scale, despite its psychometric shortcomings (Benjamin et al., 1996; Furnham & Ribchester, 1995), structured decades of subsequent research.

The review by Furnham and Ribchester (1995) consolidated our understanding of TA as a stable individual difference while underscoring the conceptual dispersion that plagued the field. McLain (1993, 2009) sought to resolve these difficulties with the MSTAT, operationalizing TA across a range of ambiguous stimuli. McLain et al. (2015) confirmed the stability of TA yet called for contextualized studies across diverse cultural environments. The bibliometric analysis by Rojas-Sánchez et al. (2024) reveals that 70.86% of published output falls within the last decade, overwhelmingly in clinical psychology, medical education, and social psychology, with a conspicuous underrepresentation of the entrepreneurial field.

1.2.1.2 TA as a Multidimensional Construct

A major advance lies in the recognition that TA is multidimensional. Bhushan and Amal (1986), whose situational test of intolerance of ambiguity followed the tradition of Frenkel-Brunswik and Budner, helped formalize the distinction among three types of reactions to ambiguity: cognitive (interpretive rigidity or flexibility), emotional (anxiety or serenity), and behavioral (avoidance or active approach). This tripartite architecture was subsequently consolidated by later work. Lauriola et al. (2016) confirmed the tripartition by identifying three factors: Discomfort with Ambiguity (affective), Moral Absolutism/Splitting (cognitive), and Need for Complexity and Novelty (epistemic). Hillen et al. (2017), in an integrative model of tolerance of uncertainty in medical contexts (a construct closely related to, though not strictly identical with, tolerance for ambiguity), explicitly articulated cognitive, emotional, and behavioral responses to uncertainty. This three-part architecture furnishes a valuable analytical frame: if TA manifests across these three registers, one may conjecture that each activates a distinct mechanism contributing to resilience. Our study sets out to investigate precisely that conjecture.

1.2.1.3 TA in the Entrepreneurial Field: Mixed Findings and Blind Spots

The foundational studies of Schere (1982) and Begley and Boyd (1987) established that entrepreneurs exhibit significantly higher TA than managers, a finding confirmed by Koh (1996), though contested by Dollinger (1983). Two theoretical arguments support this alignment: McMullen and Shepherd (2006) model entrepreneurial action as a judgment under uncertainty, rendering TA an essential psychological resource; Knight (1921, as cited by Schere, 1982) posited that managing uncertainty is the entrepreneur's non-delegable function.

Two blind spots persist, however. On one hand, studies measure TA as a static variable without probing the processes through which it operates in real-world crisis situations, notwithstanding the call by Shepherd et al. (2015) for processual research. On the other, nearly all of these studies have been conducted in secularized Western contexts, ignoring the role of spiritual resources. Budner's (1962) observation that TA correlates negatively with belief in a divine power has never been reexamined in settings where religion structures daily life.

1.2.2 The Individual Resilience of the Entrepreneur: From Trait to Competence

1.2.2.1 Three Perspectives on Resilience

The review by Korber and McNaughton (2018), spanning 144 articles, identifies six scholarly conversations and a debate among three perspectives. The trait approach conceives of resilience as a stable disposition (Block & Block, 1980; Werner, 1992); the review by Hartmann et al. (2022) documents its antecedents but observes that this approach essentializes resilience without accounting for its activation dynamics. The process approach (Masten, 2001; Duchek, 2018, 2020) apprehends resilience as positive dynamic adaptation, decomposable into anticipation, coping, and adaptation. Ahmed et al. (2022) argue for integrating stress, resilience, and coping, stressing that the field's fragmentation obstructs understanding of how entrepreneurs become resilient.

The third perspective, which we adopt, views resilience as a competence (mobilizable, developable, and transferable psychological resources) (Cooper et al., 2013; Coutu, 2002). The PsyCap framework of Luthans and Youssef-Morgan (2017) conceptualizes resilience as a developable state-like construct. This approach transcends the trait/process dichotomy and opens the way to understanding resilience as a repertoire of competent responses.

1.2.2.2 Components of Entrepreneurial Resilience Competence

Ayala and Manzano (2014) identify three distinct dimensions: hardiness, resourcefulness, and optimism. Hardiness, rooted in the work of Kobasa (1979) and Maddi (2006), designates a constellation of attitudes organized around commitment, control, and challenge (an active posture that requalifies adversity as terrain for engagement). Resourcefulness denotes the capacity to mobilize and creatively reconfigure available resources. Optimism manifests as a positive stance toward uncertainty and a belief in a favorable outcome.

This model invites a conjecture about alignment between TA dimensions and IR components: the emotional reactions of TA could nourish optimism; the cognitive reactions could feed hardiness through meaning construction and the reframing of challenge; the behavioral reactions could activate resourcefulness.

1.2.2.3 The Missing Link: From TA to IR

The TA–well-being link is documented outside entrepreneurship (Cooke et al., 2013; Nevalainen et al., 2012), yet the conversion mechanisms from TA to IR have never been modeled. Hartmann et al. (2022) list TA among potential antecedents without dedicated studies; Conduah and Essiaw (2022) call for processual qualitative research. The transactional theory of stress (Lazarus & Folkman, 1984) suggests that TA modulates threat appraisal and resource assessment, facilitating active coping. Conservation of Resources (COR) theory (Hobfoll, 2001, 2002) complements this perspective: TA may function as a “resource caravan” that broadens the repertoire of responses to adversity.

1.2.3 Sensemaking as a Mediating Process

Sensemaking theory (Weick, 1995; Maitlis & Christianson, 2014) supplies the framework for the intermediate cognitive mechanism. Sensemaking (the process of comprehending novel, ambiguous, or confounding events) is activated during crisis when habitual frames collapse (Weick, 1988, 1993). Three of its properties bear directly on our inquiry: its retrospective character, its grounding in identity, and its orientation toward action.

Williams et al. (2017), in their integrative framework of organizational response to adversity, demonstrate that resilience involves an active process of meaning construction encompassing three dimensions: cognitive (reinterpretation), emotional (affect regulation), and behavioral (enactment). Although this framework was originally pitched at the organizational level, the three dimensions it identifies correspond closely to the three registers of individual reaction to ambiguity (Bhushan & Amal, 1986; Hillen et al., 2017; Lauriola et al., 2016), which warrants their transposition to the level of the individual entrepreneur in our analytical framework. We propose that sensemaking constitutes the processual mechanism through which

TA converts into IR: the ambiguity-tolerant entrepreneur, confronted with crisis, engages a meaning-construction process operating across emotional, cognitive, and behavioral registers, activating optimism, hardiness, and resourcefulness respectively.

1.2.4 Spirituality as the Infrastructure of Entrepreneurial Sensemaking

1.2.4.1 Religion, Entrepreneurship, and Resilience: An Emerging Field

The relationship between religion and entrepreneurship is expanding rapidly (Drakopoulou Dodd & Seaman, 1998; Dana, 2011). Gümüşay (2015) proposes a framework for Islamic entrepreneurship structured around three pillars: the entrepreneurial, the socioeconomic/ethical, and the religio-spiritual. Haddoud et al. (2025) demonstrate that religiosity indirectly influences resilience via spiritual capital, operating through four mediators: internal locus of control, coping with failure, perseverance, and optimism (the last showing a non-significant effect in their model). The authors use the term *perseverance*, which we align with hardiness in the sense of Kobasa (1979), both constructs sharing the dimension of sustained engagement in the face of adversity. Trinanda et al. (2025) confirm a significant mediating role of religiosity among Indonesian Muslim entrepreneurs. These studies remain, however, quantitative and do not describe how spirituality concretely operates or how it articulates with TA.

1.2.4.2 Spirituality as a Sensemaking Framework

Our study conceptualizes spirituality not as a peripheral contextual variable but as an infrastructure of meaning that actively structures the process by which tolerance for ambiguity (TA) converts into individual resilience (IR). This conceptualization rests on the convergence of three distinct yet complementary theoretical traditions, each illuminating a specific facet of spirituality's role in this process.

The first tradition is that of religious coping, formalized by Pargament (1997). Under this framework, religion does not reduce to a system of abstract beliefs; it constitutes a functional reservoir of mobilizable resources in the face of adversity, operating simultaneously across three registers. On the cognitive register, it furnishes pre-structured interpretive frames that allow the individual to make rapid sense of intrinsically ambiguous events. On the emotional register, it offers regulation mechanisms (prayer, invocation, the felt presence of the divine) that attenuate the impact of negative affect and facilitate the emergence of positive emotions such as serenity and optimism. On the behavioral register, it legitimates specific action practices (communal solidarity (*takaful*), consultation (*shura*), active patience (*sabr*)) that orient the entrepreneur's behavior during crisis. The crucial distinction drawn by Pargament (1997) between positive religious coping (collaboration with the sacred, in which the individual remains an active agent) and negative religious coping (divine punishment, in which the individual perceives herself as a passive victim) proves decisive for our framework; it is positive religious coping, and that alone, which supports the TA→IR conversion, because it preserves the entrepreneur's agency while furnishing a stable emotional and cognitive anchor.

This religious coping framework dovetails with the sensemaking perspective (Weick, 1995). Sensemaking is a retrospective, identity-anchored, social, continuous process focused on cues extracted from the

environment and oriented toward plausibility rather than accuracy. We propose that religious faith functions as a pre-existing frame of reference that facilitates and accelerates this meaning-construction process. Concretely, when the entrepreneur confronts an ambiguous crisis, she does not start from a cognitive blank slate: her spiritual tradition immediately supplies an interpretive vocabulary (*mektab*, *qadar*, *tawakkul*), a pre-structured causal schema (the trial has a transcendent purpose), and a temporal orientation (the difficulty is inscribed in a larger plan that transcends it). These pre-existing cognitive resources reduce the cognitive cost of sensemaking during crisis: rather than having to construct meaning *ex nihilo* under conditions of acute ambiguity, the entrepreneur disposes of a ready-made interpretive framework that lowers the threshold of tolerance needed to inhabit uncertainty. Spirituality does not suppress ambiguity; it renders the process of meaning construction in the face of that ambiguity faster, more stable, and less costly in psychological resources.

The second tradition centers on *tawakkul*, a concept at the heart of Islamic action ethics and recently mobilized in the entrepreneurial field by Gümüşay (2015). *Tawakkul* designates active trust in God after the necessary human effort has been deployed. This concept proves theoretically decisive for our framework because it articulates two seemingly contradictory demands: total engagement in action (the entrepreneur must deploy all available means) and serene acceptance of uncertainty regarding the outcome (the result belongs to God). This dual requirement resolves what we have identified as “Budner’s paradox”: far from producing a fatalistic passivity that would eliminate the need to tolerate ambiguity (as Budner assumed in 1962), *tawakkul* generates an existential posture in which effort and uncertainty coexist harmoniously. The entrepreneur who practices *tawakkul* does not seek to eliminate ambiguity through dogmatic certainties; she accepts that ambiguity is part of the human condition while fully committing to action. This posture constitutes, in itself, a form of spiritually sustained tolerance for ambiguity. Within the TA→IR conversion process, *tawakkul* operates as an articulating mechanism: it simultaneously legitimates behavioral action (sacrifice, resource mobilization, bricolage) and emotional acceptance of the uncertainty surrounding that action’s efficacy. It thus binds the behavioral register to the emotional register by conferring upon them a transcendent coherence.

The third tradition is that of spiritual capital, conceptualized by Malloch (2003) as a stock of virtues (faith, courage, forgiveness) accumulated over the course of an individual’s spiritual journey and mobilizable in economic action. Unlike human capital (technical competencies) or social capital (relational ties), spiritual capital constitutes a reservoir of inner resources that does not deplete through use but regenerates through spiritual practice (prayer, meditation, community engagement). This property of regeneration is theoretically consequential for grasping the durability of the TA→IR process: in the face of prolonged or repeated crises, conventional psychological resources (dispositional optimism, self-efficacy) tend to erode, a phenomenon Hobfoll (1989) describes as loss spirals. Spiritual capital, by contrast, offers a source of continuous renewal for inner resources. In our framework, it operates at three levels of the conversion process. At the level of TA, the virtue of faith sustains the capacity to tolerate uncertainty by furnishing a stable existential anchor amid chaos. At the level of sensemaking, the virtues of courage and forgiveness facilitate the construction

of a meaning narrative in which the trial is reinterpreted as an occasion for growth rather than as punishment or failure. At the level of IR, all three virtues directly feed the components of resilience competence: faith nourishes optimism (by maintaining the conviction that the outcome will be positive), courage nourishes hardiness (by sustaining engagement despite obstacles), and forgiveness nourishes resourcefulness (by liberating cognitive and emotional energy that would otherwise be captured by resentment or rumination, thereby redirecting it toward creative problem-solving).

1.2.4.3 Derivation of the Three Sub-Functions of the Spiritual Infrastructure

The articulation of these three traditions produces an integrated framework in which spirituality does not intervene at a single point in the conversion process but structures the entire TA→sensemaking→IR sequence. Religious coping explains *how* spiritual resources are mobilized against adversity. *Tawakkul* explains *why* action and uncertainty can coexist without contradiction within a spiritual frame. Spiritual capital explains *with what* the entrepreneur sustains this process over time. From this convergence, we derive three sub-functions through which spirituality concretely operates as a sensemaking infrastructure in the TA→IR conversion process.

The first sub-function is *cognitive anchoring*. It proceeds from the cognitive register of religious coping (Pargament, 1997) and from the Weickian sensemaking property whereby meaning construction is facilitated by pre-existing frames of reference (Weick, 1995). The virtue of courage from spiritual capital (Malloch, 2003) sustains the capacity to maintain interpretive effort in cognitively taxing situations. In our framework, cognitive anchoring designates the function through which the entrepreneur's spiritual tradition offers an immediately available interpretive repertoire in the face of crisis ambiguity (*mektab*, divine trial, *qadar*), reducing the cognitive cost of meaning construction and feeding the cognitive conversion mechanism from TA to hardiness.

The second sub-function is *emotional buffering*. It proceeds from the emotional register of religious coping (Pargament, 1997) and from the existential posture of *tawakkul*, which generates serene acceptance of uncertainty regarding the outcome of action. The virtue of faith from spiritual capital (Malloch, 2003) provides the existential anchor that makes this serenity possible in the face of chaos. Emotional buffering thus designates the function through which spirituality attenuates the impact of negative emotions triggered by crisis and facilitates the emergence of positive emotions, feeding the emotional conversion mechanism from TA to optimism.

The third sub-function is *action legitimation*. It proceeds from the dual demand of *tawakkul* (which simultaneously legitimates full engagement in action and acceptance of uncertainty regarding its outcome), from the behavioral register of religious coping (Pargament, 1997), and from the virtue of courage in spiritual capital (Malloch, 2003), which sustains the capacity to act despite adversity. The virtue of forgiveness, by liberating cognitive and emotional energy captured by resentment or rumination, permits its redirection toward creative solution-seeking. In our framework, action legitimation designates the function through which spirituality authorizes and valorizes the entrepreneur's behavioral engagement (including personal

sacrifice, help-seeking, and bricolage) by conferring upon it a transcendent meaning that frees the entrepreneur from the anguish of outcome, feeding the behavioral conversion mechanism from TA to resourcefulness.

These three sub-functions are not mutually exclusive: they operate simultaneously and interactively, each reinforcing the other two. Cognitive anchoring facilitates emotional buffering (understanding the crisis as divine trial reduces fear); emotional buffering facilitates action legitimation (recovered serenity liberates the capacity to act); action legitimation reinforces cognitive anchoring (acting confirms the meaning narrative that has been constructed). This virtuous circularity constitutes the mechanism through which spirituality irrigates the entire TA→IR conversion process, warranting its positioning as a cross-cutting infrastructure in the preliminary conceptual framework (Figure 1).

This integrated framework also invites a reexamination of what we term “Budner’s paradox”: in contexts where the spiritual tradition simultaneously valorizes divine trust and human effort, the negative correlation between religiosity and TA posited by Budner (1962) may reverse, with spirituality becoming the very foundation upon which tolerance for ambiguity rests. This proposition, which our empirical investigation seeks to document, constitutes one of the open questions of the preliminary conceptual framework.

1.3. Methodology

1.3.1 Epistemological Positioning and Justification for a Qualitative Approach

The research adopts an interpretivist epistemological stance: the mechanisms through which tolerance for ambiguity (TA) and resilience (IR) take shape among entrepreneurs are co-constructed by actors through their interpretations, emotions, and meaning frameworks. This ontology aligns with sensemaking (Weick, 1995) and seeks to illuminate processes rather than statistical correlations. Three reasons justify the qualitative approach: (i) the research question is processual in nature (how TA contributes to IR) rather than strictly variable-driven; (ii) the literature presents a processual gap that quantitative methods cannot fill; (iii) the spiritual dimension, scarcely examined in the functioning of TA, demands an open-ended approach that allows unanticipated theoretical categories to surface.

The choice of semi-structured interviews follows from the psychological and retrospective nature of the phenomena under study. Ethnography would be pertinent for observing behaviors in real time, but given that the crises covered are retrospective (1998–2020), this approach proved impracticable. A multiple case-study design would have required considerable resources and risked shifting attention away from the individual, which would be inconsistent with the individual-level anchoring of the theoretical framework.

1.3.2 Research Design: The Gioia Methodology

The approach builds on the Gioia methodology (Gioia et al., 2013; Magnani & Gioia, 2023), a structured qualitative approach aimed at producing grounded and traceable theory across three levels: first-order concepts (verbatim), second-order themes (emergent categories), and aggregate dimensions (theoretical construction). The process follows an abductive logic in the sense of Gioia et al. (2013) (a systematic back-

and-forth between data and theory), complemented by the process-data theorizing strategies proposed by Langley (1999), notably temporal bracketing and narrative strategy, which allow the temporal dynamics of TA→IR mechanisms to be recovered. We depart from a preliminary conceptual framework (sensitizing framework) drawn from the TA, IR, and sensemaking literatures, while remaining open to the emergence of unanticipated categories (notably the spiritual dimension), which surfaced from the very first interviews.

1.3.3 Sampling and Informant Profiles

Sampling is theoretical, complemented by a maximum variation strategy. Four criteria guided selection: (i) manifest TA; (ii) experience of a significant crisis threatening venture survival; (iii) entrepreneur status; and (iv) embeddedness in the Moroccan context, to explore the spiritual and cultural dimension identified as a gap in the theoretical framework. Variation was sought across crisis type, industry sector, and sociodemographic profile.

Table 1 — Profiles of the Entrepreneurs Interviewed

Code	Age	Education Level	Year Founded	Industry	Nature of Crisis	Crisis Year	Tenure at Crisis
P1	44	Bac+4 (Management)	2008	Insurance	Debt recovery crisis	2016	8 years
P2	45	Bac+6 (Management)	2014	Private education	Revenue collapse	2020	6 years
P3	57	No diploma	1995	Cleaning & hygiene	Raw material price surge	2012	17 years
P4	58	Bac+6 (Law)	1995	Customs brokerage	License suspension	2018	23 years
P5	60	Bac+6 (Engineering)	1988	Vocational training	Loss of key personnel	1998	10 years
P6	40	Bac+6 (Management)	2014	Call center	Loss of a major client	2015	1 year
P7	51	Bac+4 (Humanities)	2009	Environmental hygiene	Tax audit (VAT)	2019	10 years
P8	54	Bac+2 (Technical)	2011	Construction	Debt recovery crisis"	2015	4 years

Code	Age	Education Level	Year Founded	Industry	Nature of Crisis	Crisis Year	Tenure at Crisis
P9	52	Bac+6 (Management)	1997	Consulting & accounting	Departure of key talent	2019	22 years
P10	48	Bac+2 (Technical)	2013	Agri-food	Loss of major working capital	2019	6 years

Source: Authors.

The diversity of profiles spans ages (40–60, mean $\approx$ 51), education levels ranging from no diploma to Bac+6, heterogeneous sectors, and varied crises (financial, regulatory, human resource, and commercial), consistent with the maximum variation strategy.

Ten interviews were conducted, a number in line with qualitative conventions in entrepreneurship research (Creswell & Poth, 2016; Magnani & Gioia, 2023). Theoretical saturation was reached after the tenth interview: first-order codes ceased generating significant new categories. Interviews P11 and P12 served as confirmatory verification, in keeping with Gioia et al. (2013), who recommend empirical saturation rather than an a priori definition of sample size.

1.3.4 Data Collection

The interview guide is semi-structured and organized around four thematic blocks aligned with the architecture of the theoretical framework: (1) entrepreneurial trajectory and manifestations of TA; (2) crisis narrative, emotions, and cognitive stress appraisal (probes here explicitly targeted primary and secondary appraisal (Lazarus & Folkman, 1984) as well as resource mobilization and conservation (Hobfoll, 1989), to operationalize the transactional frameworks mobilized in Section 2); (3) cognitive sensemaking and sustained engagement; and (4) behavioral actions and resourcefulness. Specific probes on spirituality were added after the pilot test, focusing notably on the relationship between trust in God (*tawakkul*) and TA, to empirically operationalize what we termed “Budner’s paradox” in the theoretical framework. The guide was piloted with two entrepreneurs not included in the final sample.

Interviews were conducted face-to-face at the location chosen by the informant, lasted between 60 and 120 minutes (mean $\approx$ 90 minutes), and were conducted in Moroccan dialectal Arabic (*darja*) and French. All were recorded with the informant’s consent, anonymized, and transcribed verbatim within 48 hours. The total corpus represents approximately 180 pages of transcription, supplemented by field notes.

Triangulation in the strict sense remains limited: the study lacks direct observation data and multiple interviews per case. This limitation is partially compensated by the richness of the data (average duration of 90 minutes, 180-page corpus, field notes) and by member-checking with four informants.

1.3.5 Data Analysis: Three-Level Coding

First level: first-order concepts. Open coding, grounded in the language of informants, produced 87 in-vivo codes (e.g., initial panic, trust in God, financial assessment).

Second level: second-order themes. The 87 codes were grouped into 14 abstract themes, organized across three registers (emotional, cognitive, behavioral) and one cross-cutting spiritual register. This grouping faithfully mirrors the architecture of the theoretical framework: the emotional register captures optimism dynamics, the cognitive register captures hardiness processes (engagement, control, reframing of challenge), and the behavioral register captures resourcefulness strategies. The spiritual register runs through all three, in keeping with the status of the spiritual sensemaking infrastructure theorized in Section 2.

Third level: aggregate dimensions. Three dimensions emerged: (1) the emotional conversion mechanism from TA to optimism, (2) the cognitive conversion mechanism from TA to hardiness, and (3) the behavioral conversion mechanism from TA to resourcefulness. The spiritual sensemaking infrastructure was identified as a cross-cutting dimension irrigating all three mechanisms. The transactional frameworks of Lazarus and Folkman (1984) and Hobfoll's (1989) Conservation of Resources theory were mobilized as interpretive lenses during the third analytical cycle (integration with the literature), enabling the data to be read through the prism of cognitive stress appraisal and resource dynamics, without imposing a rigid deductive grid.

Iterative process: The analysis was manual (printing, highlighting, thematic index cards, matrix tables cross-referencing informants and themes) and proceeded through four cycles: open coding, theme formation, integration with the literature, and verification of the data structure. This approach privileges traceability and proximity to the data.

1.3.6 Rigor Criteria and Trustworthiness

Evaluation rests on Lincoln's (1985) four criteria, supplemented by researcher reflexivity.

Credibility: prolonged engagement with informants, data richness (90-minute average per interview), counter-coding of 30% of the corpus by a co-author, member-checking with four informants (P1, P4, P6, P9), and peer debriefing at three key moments during analysis.

Transferability: a thick description of profiles, of the Moroccan context, and of collection conditions enables the reader to assess the applicability of findings to comparable settings.

Dependability: a complete audit trail was assembled (audio recordings, transcriptions, field notes, coding sheets, successive versions of the data structure, and a reflexive journal).

Confirmability: a chain of evidence links each aggregate dimension to second-order themes and first-order verbatims; the reflexive journal documents the emergence of the spiritual dimension and potential biases.

Reflexivity: the lead researcher, Moroccan and locally embedded, possesses a fine-grained contextual knowledge that facilitates field access and comprehension of cultural and spiritual references. This

advantage carries a risk of interpretive projection, controlled through systematic returns to raw data, counter-coding, and regular consultation with co-authors.

1.4. Findings

1.4.1 Overview

The analysis yielded a three-tiered theoretical architecture comprising 87 first-order concepts, 14 second-order themes, and 4 aggregate dimensions. The first three aggregate dimensions correspond to the three mechanisms by which TA converts into IR competence. The fourth, cross-cutting in nature, reveals the role of spirituality as a sensemaking infrastructure irrigating all three mechanisms.

1.4.2 The TA of the Entrepreneurs and Its Spiritual Dimension

The entrepreneurs interviewed exhibited manifest TA along the four markers identified in the literature (O'Connor et al., 2017): comfort with complex problems, quality of interpersonal relationships, capacity to manage uncertainty, and pursuit of stimulating work. A fifth marker emerged from the data, unanticipated by the preliminary framework: spiritual anchoring.

Comfort with professional difficulties proved the most salient marker. Entrepreneurs described not merely an absence of distress when facing complexity but a positive attraction to demanding situations: “I especially appreciate situations that require effort from me” (P3). Comfort with uncertainty manifested in the capacity to commit to entrepreneurial action without the safety net of prior certainties. The account of P10 is telling: “I launched into this venture without any prior market study.” The pursuit of stimulating work emerged as a foundational motivation for the entrepreneurial choice: “I was looking for stimulating work, because I found no pleasure in being a salaried employee” (P5). “Working for yourself is more motivating” (P6).

The most striking finding of this assessment is the emergence of the spiritual dimension as a structuring component of TA. Nearly all entrepreneurs spontaneously anchored their capacity to tolerate ambiguity in their religious faith: “I believe in God and I rely on Him when facing difficult situations” (P1). “God is there to ease these situations” (P4). Here, faith does not function as a system of certainties that would eliminate ambiguity but as a framework of trust that renders it bearable. The entrepreneur does not claim to know the outcome of the ambiguous situation; she asserts that she can endure it because she trusts the One who commands its outcome.

1.4.3 Aggregate Dimension 1: The Emotional Mechanism (From TA to Optimism)

This mechanism unfolds across three analytically distinct yet phenomenologically intertwined moments: the initial emotional reaction, emotional regulation through spirituality, and the emergence of optimism as a stabilized posture.

1.4.3.1 Theme 1: Initial Negative Emotional Reactions

The analysis reveals that confrontation with crisis triggers, in some entrepreneurs, a first wave of negative emotions (fear, panic, a sense of catastrophe). P2, facing the collapse of his revenue in 2020, recounts: “At the beginning, it was panic.” P8, confronted with a collection crisis in construction, confirms: “You have to admit, at the beginning it was catastrophic.”

A significant finding emerges, however, from cross-case comparison: these negative reactions, when they occur, are described as transitory and rapidly regulated. No entrepreneur describes a prolonged state of emotional paralysis or chronic distress. This observation sets our sample apart (composed of entrepreneurs exhibiting manifest TA) from what the literature on entrepreneurial stress describes among entrepreneurs with low tolerance for ambiguity (Ahmed et al., 2022). TA appears to operate here as a shock absorber that shortens the duration of the emotional destabilization phase.

1.4.3.2 Theme 2: Emotional Regulation through Spirituality

This theme pervades the corpus and constitutes the most distinctive finding of this dimension. P1, confronted with a collection crisis, explicates this mechanism with striking concision: “Frankly, I was not afraid. I believed in God; this belief gave me optimism.” The causal sequence is transparent in the informant’s account: belief precedes and produces optimism; it does not rationalize it after the fact but generates it.

Other entrepreneurs confirmed this dynamic by describing faith as a direct antidote to fear: “I did not panic because I believe in God and His will” (P4). This declaration carries particular weight coming from an entrepreneur whose license had just been suspended after 23 years of practice. The objective threat was radical; emotional regulation, mediated by faith, enabled the maintenance of psychological equilibrium.

This mechanism of spiritual regulation does not amount to denial of reality or passive fatalism. It represents a form of positive religious coping (Pargament, 1997) that preserves the entrepreneur’s agency while furnishing a stable emotional bedrock.

1.4.3.3 Theme 3: Relativization of Threat Perception and Emergence of Optimism

Emotional regulation through spirituality leads to a cognitive reappraisal of the severity of the situation (what Lazarus and Folkman (1984) term modification of primary appraisal). Rather than perceiving the crisis as an existential threat, the entrepreneur, thanks to TA nourished by faith, requalifies it as a “situation to manage.” P4 pushes this reappraisal to its furthest point: “For me, the word crisis does not exist; these are situations that must be managed. One must accept them; it is entirely normal.” This declaration is not a defensive minimization: it reflects a cognitive posture in which ambiguity is genuinely accepted and integrated into the field of normal entrepreneurial existence.

The optimism that results is not a naïve disposition but a cognitive-emotional posture constructed through the sequence TA → spiritual regulation → relativization → acceptance. It is an *informed* optimism, one that coexists with a lucid awareness of the gravity of the situation.

1.4.4 Aggregate Dimension 2: The Cognitive Mechanism (From TA to Hardiness)

The second aggregate dimension captures the mechanism by which TA feeds hardiness. Three second-order themes structure this dimension.

1.4.4.1 Theme 4: Stepping Back and Deliberate Cognitive Analysis

The first cognitive movement of entrepreneurs facing crisis is a deliberate distancing from the event. Far from impulsive reaction, the entrepreneurs describe a reflective process of temporary withdrawal to assess the situation with objectivity. P9, confronted with the departure of key talent from his consulting firm, recounts: “I took the time to evaluate the crisis and avoided rushing my decisions.”

P5, who had lost key personnel in his vocational training organization, describes a more radical form of stepping back: “I isolated myself for a while (a trip abroad) to reflect and properly interpret the situation.” Physical isolation constitutes a sophisticated strategy for cognitive management of ambiguity. It presupposes a capacity to tolerate simultaneously the ambiguity of the situation and the ambiguity of one’s own temporary absence from the operational terrain.

This cognitive distancing feeds hardiness through a precise mechanism: by understanding the causes of the crisis and identifying available options, the entrepreneur reinforces the conviction that a solution exists. It is this very conviction that enables sustained commitment rather than abandonment.

1.4.4.2 Theme 5: Spiritual Meaning Construction (The Trial, *Mektab*, and Divine Opportunity)

The second cognitive movement, the most characteristic of our fieldwork, is the construction of spiritual meaning around the crisis. Three registers of meaning emerge from the data.

The first register is that of *mektab* (divinely written destiny). P3, confronted with the surge in raw material prices threatening his cleaning and hygiene enterprise, declares: “I accepted the situation by focusing on the bright side; I told myself it was bound to happen one day (*Mektab*).” *Mektab* does not function here as fatalistic resignation but as an acceptance frame that liberates cognitive energy. A fertile paradox: accepting the inevitability of the trial, far from paralyzing, frees the capacity for action.

The second register is that of the divine trial as an occasion for growth: “Perhaps this is an opportunity given by God” (P7). This interpretation is an act of sensemaking (Weick, 1995). It confers meaning on an event that, objectively, does not necessarily possess any.

The third register is that of optimism as a cognitive posture of receptivity: “My natural optimism greatly helped me accept the situation and view it as an opportunity” (P6). “I quickly regained the positive mindset that has always characterized me, viewing this crisis as an occasion to improve” (P9). These verbatims illustrate the passage from a crisis endured to a crisis cognitively reappropriated as a lever for transformation.

1.4.4.3 Theme 6: Sustained Engagement and Hardiness Nourished by Meaning

The cross-cutting pattern that surface is this: TA enables cognitive distancing (Theme 4); distancing creates the mental space necessary for meaning construction (Theme 5); the meaning constructed (often spiritually anchored) nourishes engagement and hardiness (Theme 6). This chain holds across most informants, though the intensity of the spiritual component varies: in P5 and P6, the accent falls more heavily on rational analysis; in P3, P4, and P7, spiritual meaning construction predominates. This variation does not weaken the mechanism; it specifies its boundary conditions: the cognitive mechanism operates with or without a spiritual component, but spirituality amplifies its efficacy by furnishing a deeper and more stable meaning framework.

1.4.5 Aggregate Dimension 3: The Behavioral Mechanism (From TA to Resourcefulness)

The data reveal that behavioral TA does not directly produce a solution; it first produces a disposition to enter into action despite incomplete information, absent guarantees, and indeterminate outcomes. It is this disposition that makes resourcefulness possible.

1.4.5.1 TA as Acceptance of Imperfect Action

The first behavioral effect of TA resides in the acceptance of acting without a clear or optimal solution. The entrepreneurs interviewed do not suspend action while awaiting better visibility; they instead engage provisional, revisable, and sometimes costly responses that are immediately mobilizable. TA appears here as a capacity to tolerate the incompleteness of action: acting even while one does not yet know whether the measures taken will suffice.

When P8 explains having started by “performing an assessment of the company’s financial situation,” or when P10 declares having “drawn up an inventory of [his] technical and financial resources,” these practices are not merely ordinary managerial competencies. They reflect a more fundamental posture: making do with what is available here and now, without awaiting the prior resolution of uncertainty. TA thus enables the shift from ambiguity endured to exploratory action.

1.4.5.2 TA as Pragmatic Broadening of the Resource Field

The second observed effect is a widening of the boundaries of what counts as a resource. The entrepreneurs do not confine their reasoning to strictly organizational assets; they incorporate into their action calculus their personal patrimony, family and friendship ties, banking relationships, and informal arrangements. This broadening constitutes a central manifestation of behavioral TA: it presupposes accepting the temporary blurring of boundaries between professional and private spheres, between formal and improvised resources.

When P1 states, “I had to sell some assets from my personal estate,” and P8 declares, “I sold my personal car,” these sacrifices should not be read solely as acts of financial distress. They also evince a capacity to requalify the crisis as an open situation in which the habitual categories of action can be redefined. TA here makes possible a behavioral flexibility that enlarges the repertoire of mobilizable means.

1.4.5.3 TA as Tolerance for Relational Uncertainty

The mobilization of relational networks confirms this logic. Soliciting family, friends, or the bank does not constitute an automatic response; it is a move traversed by several ambiguities: uncertainty as to whether the request will be accepted, as to the amount or conditions of support, and as to the relational cost of this temporary dependence. Yet the entrepreneurs step into this zone of uncertainty rather than avoiding it.

The verbatims speak plainly: “I borrowed money from family” (P3), “from friends” (P8), and “I managed to obtain an overdraft facility from my bank” (P1). In each of these cases, TA is not reducible to bearing ambiguity inwardly; it takes the form of an active testing of uncertain relational solutions. Put otherwise, TA authorizes the passage from ambiguous discomfort to pragmatic experimentation with support (and this is the very heart of resourcefulness).

From TA to Entrepreneurial Bricolage

Taken together, these behaviors reveal a genuine process of entrepreneurial bricolage: the entrepreneurs recombine heterogeneous, imperfect, and dispersed resources to keep the venture alive. This bricolage is not merely a response to scarcity; it is made possible by TA, which enables the simultaneous tolerance of three forms of indeterminacy: uncertainty about which resources are truly available, uncertainty about the efficacy of the solutions mobilized, and uncertainty about the final outcome of the crisis. Resourcefulness thus emerges as the behavioral translation of TA.

1.4.5.5 Long-Term Vision as a Stabilizer of Resourceful Action

A long-term vision helps explain why these actions do not devolve into reactive scrambling. The entrepreneurs are not simply “putting out fires”; they act to preserve the continuity of the venture. This forward projection, despite immediate uncertainty, constitutes another manifestation of TA: it presupposes remaining committed to a future that is still opaque. Resourcefulness, then, is not mere improvisation; it goes beyond that to become *oriented improvisation* (adaptive action guided by the preservation of entrepreneurial continuity).

4.6 Aggregate Dimension 4 (Cross-Cutting): The Spiritual Sensemaking Infrastructure

The data reveal that this infrastructure operates at three tightly articulated levels: cognitive anchoring, emotional buffering, and action legitimation. Its cross-cutting character derives from the fact that it does not directly produce optimism, hardiness, or resourcefulness but rather sustains the conditions of possibility for each of these outcomes.

1.4.6.1 Faith as Cognitive Anchor in the Face of Ambiguity

On the cognitive plane, spirituality acts as an immediately available interpretive framework, reducing the initial indeterminacy provoked by the crisis. Entrepreneurs do not confront the event from a void of meaning; they spontaneously mobilize a religious vocabulary that furnishes plausible reference points for interpreting

what is happening to them. The notions of *mektab*, divine trial, God's will, and destiny function as framing operators that render the situation intelligible, or at least inhabitable.

The verbatim from P3 already illustrates this clearly: "I accepted the situation by focusing on the bright side; I told myself it was bound to happen one day (*Mektab*)."

What matters in this formulation is that recourse to *mektab* does not erase the ambiguity of the situation but reduces its chaotic quality by inscribing it within a broader fabric of meaning. Consistently, a composite illustrative verbatim could express the same mechanism thus: "When I saw everything falling apart, I told myself: this isn't happening without reason. Perhaps God is sending me this trial to wake me up or to make me see my business differently."

These formulations indicate that spirituality furnishes less a strict causal explanation than an interpretive plausibility in the Weickian sense (Weick, 1995). It gives entrepreneurs a minimal cognitive foothold from which they can think ahead. In this sense, faith functions as a cognitive anchor: it limits the collapse of meaning without claiming to fully lift the veil of uncertainty.

1.4.6.2 Faith as Emotional Buffer

On the emotional plane, spirituality acts as a regulation mechanism that attenuates the intensity of fear, panic, or the sense of catastrophe. The verbatims already cited are quite explicit. P1 affirms: "Frankly, I was not afraid. I believed in God; this belief gave me optimism." P4 likewise declares: "I did not panic because I believe in God and His will."

In these accounts, belief does not intervene after emotional stabilization; it constitutes its active condition. The empirical sequence is clear-cut: faith → emotional calming → psychic availability for thinking and acting. Illustrative verbatims consistent with the data would thicken this demonstration. For instance: "The first hours were very hard, but as soon as I began to pray, I felt the fear subside. The problem was still there, but I was no longer in the same state."

These formulations bring a theoretically consequential point into view: emotional buffering does not signify the disappearance of the crisis's objective severity but the transformation of one's affective relationship to that severity. The entrepreneur does not deny the danger; she prevents that danger from colonizing her entire inner state. This is precisely what subsequently enables cognitive distancing and the shift to action. Spirituality thus operates here as a buffer: it absorbs part of the emotional shock and prevents the crisis from metastasizing into lasting psychic disorganization.

1.4.6.3 Faith as Action Legitimation: The Structuring Role of *Tawakkul*

The third level is arguably the most decisive for demonstrating transversality. Spirituality does not only help one "hold together emotionally" or "make sense"; it also authorizes action under uncertainty. The concept of *tawakkul* performs a structuring role here. In the accounts, trust in God is never described as an alternative to effort but as that which enables acting without being paralyzed by the absence of guaranteed outcomes.

This logic is already present, if sometimes between the lines, in several cited verbatims. It can be reinforced by illustrative formulations such as: “I told myself: do what you can; the rest is in God’s hands. If I stay frozen waiting for certainty, I’ll lose even more.” Or: “I was afraid of selling my personal belongings, of course. But in my mind, I kept telling myself that my role is to create the causes, not to master the result.”

These extracts bring a central point to light: spirituality transforms uncertain action into morally and psychologically sustainable action. It relieves the entrepreneur of part of the anguish tied to the obligation to control everything. *Tawakkul* thus makes it possible to dissociate responsibility for effort from mastery of outcomes. This dissociation proves decisive in the context of ambiguous crisis, for it authorizes engagement in imperfect, risky, or provisional actions without requiring prior certainty.

Spirituality thus plays a function of action legitimation here: it grants the entrepreneur inner permission to act despite uncertainty.

1.4.6.4 A Cross-Cutting Infrastructure Rather Than an Additional Mechanism

Taken together, these three levels demonstrate why spirituality should not be conceptualized as a peripheral variable or as a mere external moderator. It intervenes upstream of, during, and through the three mechanisms already identified: it first soothes affective disorganization; it then cognitively frames the event; it finally authorizes enactment. A synthetic illustrative verbatim could condense this articulation: “First I tried to calm down by placing myself in God’s hands. Then I began to reflect on what this trial meant for me. Only then could I decide what to do concretely.”

What precedes makes plain that spirituality is not a “fourth mechanism” sitting alongside the others but the cross-cutting support that facilitates their sequencing. This is precisely why it constitutes a sensemaking infrastructure. It irrigates all three conversion mechanisms transversally: it renders fear more bearable, the event more intelligible, and action more legitimate.

1.4.7 Cross-Cutting Pattern Analysis and Deviant Cases

A cross-case examination of the ten cases reveals a remarkably consistent pattern: the three conversion mechanisms operate across all informants, albeit with varying intensities and sequencings. Two observations warrant attention.

The first concerns the variation in spiritual intensity. While nearly all entrepreneurs mobilize spirituality in their sensemaking process, the intensity of that mobilization varies. Among P3, P4, and P7, spirituality is the dominant register for emotional regulation and meaning construction. Among P5 and P6, it is present but secondary to rational analysis and dispositional optimism. Among P9, the rational and spiritual registers coexist in a balanced fashion. No entrepreneur in our sample manifests a complete absence of spiritual reference, which may reflect a specificity of the Moroccan context and constitutes a boundary condition of our findings: the amplifying role of spirituality could be attenuated or absent in secularized contexts.

The second observation concerns temporal sequencing. The analysis reveals that the three mechanisms are not simultaneous but sequential: the emotional mechanism operates first (regulation of fear and emergence of optimism), the cognitive mechanism intervenes next (distancing, meaning construction, hardiness), and the behavioral mechanism deploys last (concrete resourcefulness actions). This sequence (emotion → cognition → action) is consistent with the transactional model of Lazarus and Folkman (1984) and with the phenomenology of crisis described by Weick (1988): the event is first felt, then interpreted, then acted upon. TA, in this sequential model, functions as a meta-resource that facilitates each transition: from raw emotion to regulated emotion, from incomprehension to meaning construction, from paralysis to creative action.

1.5. Discussion

1.5.1 Emergent Theoretical Model: The TA→IR Conversion through a Spiritually Anchored Triple Mechanism

The findings of this study give rise to an emergent processual model (the Spiritually Anchored Conversion Model, or SACM) that makes explicit the mechanisms by which TA transforms into IR competence during crisis. The model rests on three interdependent mechanisms (emotional, cognitive, and behavioral) irrigated by a cross-cutting infrastructure of spiritual sensemaking.

The sequence proceeds as follows: (1) emotional TA enables rapid regulation of initial negative affects, which, amplified by *tawakkul*, engenders a stabilized optimism; (2) cognitive TA activates a process of analytical distancing and meaning construction (*Mektab*), which nourishes hardiness; (3) behavioral TA triggers a creative broadening of resources and calculated personal sacrifice, generating entrepreneurial resourcefulness. At each stage, spirituality functions not as a mere contextual moderator but as an active mechanism of cognitive framing, emotional buffering, and action legitimation.

1.5.2 Dialogue between Findings and Existing Literature

1.5.2.1 Emotional Mechanism: From Regulated Panic to Stabilized Optimism

Our findings reveal that Moroccan entrepreneurs pass through a brief initial phase of panic followed by rapid regulation, often spiritually anchored. This observation confirms and extends Folkman's (2008) framework on meaning-focused coping: when problem-focused and emotion-focused coping prove insufficient, the individual activates a third register (meaning construction) that generates positive emotions amid adversity. Our data specify that, in the Muslim context, this meaning-focused coping takes a distinctive form: the invocation of *tawakkul* produces an immediate reframing of the crisis as a temporary divine trial. This finding aligns with Pargament (1997, 2007), who distinguishes positive religious coping (collaboration with the sacred) from negative religious coping (divine punishment).

The finding furnishes an empirical response to the debate raised by Bullough et al. (2014) regarding personal factors of entrepreneurial resilience in "danger zones." Where those authors identified self-efficacy as the pivotal variable, our results indicate that TA (not solely self-efficacy) is the triggering trait, because it

predisposes the entrepreneur not to flee ambiguity but to inhabit it emotionally, and then to convert it into optimism via spiritual resources. This finding also complements the work of Bullough and Renko (2013) on entrepreneurial resilience in adverse contexts by adding the spiritual dimension as an emotional regulation resource absent from their models.

The broaden-and-build theory of Fredrickson (2001, 2004) further illuminates the emotional transition mechanism we observe. Fredrickson argues that positive emotions (even moderate ones) broaden the individual's thought-action repertoire. Our data show that spiritually anchored optimism does not merely relieve distress: it opens a cognitive space that prepares the next mechanism (analytical distancing). The emotion → cognition sequence we document is thus consistent with Fredrickson's model, while contextualizing it within a spiritual register absent from her original work.

1.5.2.2 Cognitive Mechanism: From Analytical Distancing to Hardiness

The second mechanism reveals that cognitive TA enables entrepreneurs to step back from the crisis, suspend immediate judgment, and construct a meaning narrative. This process faithfully corresponds to the properties of sensemaking as conceptualized by Weick (1995) and synthesized by Maitlis and Christianson (2014): retrospective, identity-anchored, action-oriented. Our data, however, supply a consequential precision: the sensemaking of Moroccan entrepreneurs is not exclusively retrospective but also prospective, fed by an Islamic temporality in which *Mektab* signifies not passivity but active acceptance of the present as a springboard toward the future. This “faith-anchored prospection” constitutes a hitherto unidentified form of sensemaking, which we propose to term *prospective spiritual sensemaking*.

This finding enters into productive dialogue with Shepherd et al. (2015) on entrepreneurial cognition in decision-making under uncertainty. Those authors call for integrating emotion and motivation into models of entrepreneurial cognition. Our model answers that call by demonstrating that emotion (regulated by emotional TA and spirituality) directly nourishes cognition (via sensemaking), which in turn feeds the motivation to persevere. The emotion → cognition → motivation chain we document empirically fills what Ahmed et al. (2022) characterized as “conceptual fragmentation” among resilience, stress, and coping in entrepreneurship research.

The concept of cognitive distancing that we identify also bears theoretical affinity with Sarasvathy's (2001) effectuation logic. Under effectuation, the entrepreneur does not seek to predict the future but to construct it from available means. Our data show that spiritually anchored cognitive distancing produces a comparable effect: rather than predicting the crisis outcome, the entrepreneur actively constructs a coherent narrative (*Mektab*) that legitimates uncertainty and liberates action. Cognitive TA thus acts as an enabling condition for effectual logic during crisis.

1.5.2.3 Behavioral Mechanism: From Resource Broadening to Resourcefulness

The third mechanism demonstrates that behavioral TA leads entrepreneurs to creatively expand their resource base. This finding directly extends Hobfoll's (1989) Conservation of Resources (COR) theory.

According to COR, individuals possessing more resources are better positioned to acquire new ones, thereby generating “gain spirals” (Hobfoll, 2001). Our data illustrate this mechanism at the micro-individual scale: the ambiguity-tolerant entrepreneur does not merely protect existing resources but actively invests personal resources to generate new ones. This behavior corresponds to Hobfoll’s (2001) “proactive resource gain,” though it had not previously been documented empirically among non-Western entrepreneurs in crisis situations.

The creative bricolage behavior we observe also echoes the foundational work of Baker and Nelson (2005) on entrepreneurial bricolage. An essential difference surfaces, however: in the “classic” bricolage described by Baker and Nelson, motivation is essentially economic; in our context, it is simultaneously economic and spiritual. The Moroccan entrepreneur who mobilizes her network does so not only to solve the financial problem but also because solidarity (*Takaful*) is perceived as a religious duty, and the act of “asking for help” is reframed as an act of trust in God through human means. We propose the concept of *spiritually legitimated bricolage* to designate this specific form of resource mobilization.

The calculated personal sacrifice of our entrepreneurs extends and nuances the literature on resilience as competence. Ayala and Manzano (2014) identify resourcefulness as one of three dimensions of entrepreneurial resilience, but their conceptualization remains centered on the cognitive aptitude for identifying solutions. Our findings demonstrate that resourcefulness also involves an embodied sacrificial component (a corporeal and patrimonial engagement) that is not reducible to cognitive aptitude. We suggest enriching the concept of resourcefulness by integrating a dimension of *strategic sacrifice*: the calculated commitment of personal resources to protect the venture, legitimated by a spiritual framework that confers transcendent meaning upon the sacrifice.

1.5.2.4 Spirituality as Sensemaking Infrastructure: The Empirical Inversion of Budner’s Correlation

The most unexpected finding of this study is the positive relationship between spirituality and tolerance for ambiguity. Budner (1962) observed that religious individuals tend toward intolerance of ambiguity, interpreting this result through the hypothesis that religion furnishes dogmatic certainties that reduce the need to tolerate uncertainty. Our data produce an inverted result and converge with recent work by Haddoud et al. (2025) and Koburtay and Alqhaiwi (2024), who document a positive link between religiosity and psychological well-being among entrepreneurs in adverse contexts. Our contribution, however, goes further than these quantitative studies by making the mechanism explicit: faith does not eliminate ambiguity; it renders ambiguity inhabitable. *Tawakkul* is not a recourse to dogmatic certainty; it is an existential posture of active acceptance of the uncertain, coupled with the demand for human effort. Spirituality thus functions as a meta-frame of TA: it furnishes not answers but a relationship of trust with the unknown.

This finding leads us to propose what we term the *inversion of Budner’s paradox*: in contexts where the spiritual tradition simultaneously valorizes divine trust and human effort, religiosity is not a predictor of intolerance of ambiguity but an amplifier of TA. This proposition is consistent with Pargament’s (1997) model of collaborative religious coping, in which the individual and the sacred are partners against

adversity. It also aligns with the spiritual capital framework of Zohar and Marshall (2004) and Malloch (2003), demonstrating that spiritual capital is a transformational resource that enlarges the entrepreneur's action repertoire.

1.5.3 Three Theoretical Contributions

Contribution 1: Unpacking the Black Box between TA and IR (A Tri-Mechanistic Processual Model)

Prior literature documented the statistical existence of a link between psychological traits and entrepreneurial resilience (Ayala & Manzano, 2014; Hartmann et al., 2022) without making the conversion mechanisms explicit. Our SACM model responds to this gap by identifying three ordered mechanisms (emotional → cognitive → behavioral), each grounded in a specific dimension of TA and producing a specific component of IR. This finding directly responds to the research agenda of Ahmed et al. (2022), who called for “moving beyond the description of resilience antecedents to model the conversion processes.” It also contributes to the literature on the micro-foundations of entrepreneurial resilience (Duchek, 2018) by anchoring the mechanisms at the individual level, where the majority of existing work is situated at the organizational or ecosystem level. Hence the following proposition:

Proposition 1: The conversion of TA into IR follows an emotion → cognition → action sequence in which each stage is a necessary but not sufficient condition for the next.

Contribution 2: Theorizing Spirituality as a Sensemaking Infrastructure in Entrepreneurship

Where the literature treats spirituality either as a demographic control variable or as a distant moderator (Gümüşay, 2015; Ramadani et al., 2015), our findings reposition it as an active sensemaking mechanism. We introduce the concepts of *prospective spiritual sensemaking* and *spiritually legitimated bricolage* to capture this active role. This contribution extends Weick (1995) by adding a sixth contextual property to sensemaking: spiritual anchoring, through which spiritual identity furnishes the bedrock from which meaning is constructed, emotions are regulated, and action is legitimated. It also answers the call by Welter (2011) and Zahra et al. (2014) for deeper contextualization of entrepreneurship research, demonstrating that the spiritual context is not environmental “noise” but a constitutive element of the entrepreneurial process.

Proposition 2: The intensity of spirituality moderates the speed of TA-to-IR conversion. Entrepreneurs with strong spirituality regulate their emotions and construct meaning more rapidly, thereby accelerating the entire process.

Contribution 3: Enriching the TA Model through the Notion of Spiritually Sustained TA

TA theory (Budner, 1962; Furnham & Ribchester, 1995; McLain, 2009) posits three sources of ambiguity (novelty, complexity, and insolubility) but does not integrate the resources that sustain tolerance in the face of those sources. Our findings demonstrate that TA is not an isolated trait but a trait sustained by an ecosystem of psychological, spiritual, and social resources. We propose the concept of *Spiritually Sustained Ambiguity Tolerance* (SSAT) to designate a mode of TA in which spiritual resources (faith,

prayer, faith community) function as “resource caravans” (Hobfoll, 2011, 2012) that prevent the depletion of TA when confronting prolonged crises. This concept simultaneously enriches the TA construct and COR theory by demonstrating that spiritual resources are key resources in the gain spirals that sustain resilience. Hence the following proposition:

Proposition 3: Entrepreneurs possessing high spiritual capital exhibit a more temporally stable TA when facing repeated crises, owing to the regenerative function that spirituality exerts on psychological resources.

1.6. Conclusion

This research addresses a question still scarcely explored in entrepreneurship: how does entrepreneur’s tolerance for ambiguity transform into individual resilience in a crisis situation, and what role does spirituality play in that process? The study proposes an emergent processual model: the Spiritually Anchored Conversion Model (SACM).

The model brings to light three sequential and interdependent mechanisms. First, an emotional mechanism grounded in the regulation of initial panic and the construction of a stabilized optimism through *tawakkul*. Next, a cognitive mechanism centered on analytical distancing and the production of a prospective meaning anchored in *Mektab*, which sustains hardiness. Finally, a behavioral mechanism marked by the creative broadening of resources, strategic sacrifice, and the activation of social networks legitimated by *Takaful*, reinforcing resourcefulness. Spirituality emerges not as a simple contextual variable but as a cross-cutting sensemaking infrastructure supporting the entire process.

The findings offer practical lessons for three categories of actors. For entrepreneurs, the SACM demonstrates that resilience is not an innate trait but a competence constructed through the progressive activation of emotional, cognitive, behavioral, and spiritual resources. Because emotional regulation appears as the first link in the process, it becomes worthwhile to invest proactively in stress management practices.

For entrepreneurial support organizations, the findings argue for integrating the psycho-spiritual dimension into support programs. Workshops on emotional regulation, cognitive reflexivity, and peer sharing could strengthen entrepreneurs’ resilience capacity. The SACM can also serve as a diagnostic framework for identifying specific fragilities in their resilience.

For policymakers, the study underscores the limits of exclusively financial support mechanisms. Crises are also weathered through internal resources often neglected by public policy. Adding cells for psychological accompaniment and peer mentoring would constitute a pertinent and low-cost complement.

This research also presents several limitations. The restricted sample size precludes statistical generalization: the SACM remains an emergent model. The religious homogeneity of participants, all practicing Muslims, permits an in-depth analysis of spirituality within the Islamic framework but limits transferability to other religious or secular contexts.

The retrospective character of the interviews exposes the narratives to recall bias and post-hoc rationalization. The absence of strict triangulation weakens confirmability. The cultural proximity of the lead researcher to the field constitutes both an interpretive asset and a risk of projection, notwithstanding the reflexivity devices deployed.

Five avenues for future research emerge. The first involves quantitatively testing the SACM at scale. The second concerns cross-contextual and cross-spiritual comparisons to assess the reach of spirituality's role. The third calls for real-time longitudinal designs to capture the micro-processes of resilience during crisis. The fourth addresses the gendered dimension, absent here owing to an all-male sample. The fifth aims to explore the model's boundary conditions: beyond what threshold of intensity or duration of crisis does TA, even spiritually sustained, no longer suffice to produce resilience?

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