

Leadership Sensemaking During Organizational Evolution: Exploring Cognitive Adaptation Mechanisms Among Senior Executives

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Abstract

This study aimed to explore how senior executives make sense of organizational evolution and develop cognitive adaptation mechanisms during periods of strategic, structural, and technological transformation. This qualitative study used an inductive research design based on semi-structured interviews with 24 senior executives working in medium and large organizations in Tehran. Participants were selected through purposive and theoretical sampling because of their direct involvement in strategic decision-making, organizational transformation, digitalization, restructuring, or business model renewal. Data collection continued until theoretical saturation was reached, with saturation emerging after the twenty-first interview and three additional interviews conducted to confirm the stability of the emerging categories. Interviews lasted between 55 and 90 minutes and focused on executives' interpretations of organizational change, uncertainty, strategic ambiguity, decision-making tensions, and adaptive leadership practices. All interviews were transcribed verbatim and analyzed using open, axial, and selective coding with the support of NVivo software. Analytical rigor was strengthened through constant comparison, memo writing, peer review of codes, and participant validation of selected interpretations. The findings revealed five main categories of leadership sensemaking during organizational evolution: cognitive disruption and frame destabilization, temporal reframing of organizational change, collective interpretation and executive dialogue, experimental cognition and adaptive learning, and identity recalibration in leadership roles. Executives initially experienced organizational evolution as a disruption of familiar cognitive maps, especially when established assumptions about markets, employees, technology, and control no longer explained emerging realities. They adapted by reconstructing the meaning of change across past, present, and future time horizons, using strategic narratives to reduce ambiguity and mobilize commitment. Sensemaking was also described as a collective process in which executive teams negotiated competing interpretations through dialogue, conflict, and scenario-based reasoning. Participants emphasized experimentation, boundary scanning, and reflective learning as mechanisms for updating strategic assumptions. Finally, organizational evolution required executives to revise their leadership identities from controllers and planners toward facilitators of learning, interpreters of complexity, and designers of adaptive organizational conditions. The study shows that leadership sensemaking is not merely an interpretive response to change but a central cognitive adaptation mechanism through which senior executives transform uncertainty into strategic action. Organizational evolution challenges executives' existing mental models, but it also creates opportunities for reframing, learning, dialogue, and identity renewal. The proposed qualitative model suggests that effective executive adaptation depends on the ability to tolerate ambiguity, reconstruct meaning collectively, experiment with alternative interpretations, and align leadership identity with complex organizational realities. These findings contribute to leadership and organizational change literature by explaining how senior leaders cognitively navigate evolutionary transformation rather than simply implement predetermined change programs.

Keywords: Leadership sensemaking; organizational evolution; cognitive adaptation; senior executives; qualitative research; semi-structured interviews; strategic change; Tehran.

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1. Introduction



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Organizational evolution has become a defining condition of contemporary management systems, not simply because organizations change more frequently, but because the nature of change itself has become more ambiguous, recursive, and cognitively demanding. Senior executives are no longer only required to design strategies, allocate resources, and control implementation; they must also interpret weak signals, reconstruct organizational meanings, revise strategic assumptions, and help others understand why established models of success may no longer be sufficient. In this context, leadership becomes inseparable from sensemaking. Sensemaking refers to the interpretive process through which organizational actors transform ambiguous, confusing, or unexpected circumstances into meanings that can guide action. Weick, Sutcliffe, and Obstfeld conceptualized sensemaking as a process of turning uncertain circumstances into situations that are explicitly understood and actionable, thereby positioning interpretation as central to organizing itself (Weick et al., 2005). For senior executives, this process becomes especially significant because their interpretations influence strategic priorities, organizational narratives, resource commitments, and the cognitive frames through which other members perceive change.

The importance of sensemaking is intensified during organizational evolution because evolutionary change often disrupts the interpretive schemes that previously helped executives understand organizational reality. Traditional change management models often assume that leaders can define a desired future state, communicate it, and move the organization toward it through planned interventions. However, many contemporary transformations unfold through nonlinear patterns involving digital disruption, platform competition, artificial intelligence, shifting employee expectations, regulatory uncertainty, and changing stakeholder pressures. These conditions do not merely require new tools; they require new cognitive frames. In organizational cognition literature, managerial knowledge structures shape how leaders notice information, interpret strategic problems, and select possible responses (Walsh, 1995). When organizational environments evolve faster than executives' existing mental models, leaders may experience cognitive dissonance, strategic hesitation, defensive interpretation, or overreliance on past success formulas. Thus, the study of leadership sensemaking during organizational evolution requires attention to how senior executives adapt cognitively, not only how they make formal decisions.

Sensemaking theory provides a strong foundation for examining such executive adaptation because it treats uncertainty not as a purely external condition but as something interpreted, enacted, and socially negotiated. Weick's classic work emphasized that people do not simply discover organizational reality; they enact aspects of it through attention, language, interaction, and retrospective interpretation (Weick, 1995). Maitlis and Christianson further advanced this perspective by defining sensemaking as the process through which people work to understand novel, ambiguous, confusing, or expectation-violating events, while also showing that sensemaking is closely related to organizational change, learning, creativity, and innovation (Maitlis & Christianson, 2014). This is particularly relevant to senior executives because they are positioned at the intersection of environmental interpretation and organizational response. Their sensemaking does not remain private or cognitive in a narrow psychological sense; it becomes embedded in strategic plans, restructuring decisions, communication practices, leadership routines, and symbolic actions.

The relationship between sensemaking and strategic change has been especially visible in research on sensegiving. Gioia and Chittipeddi's study of strategic change initiation demonstrated that leaders do not only make sense of change for themselves; they also attempt to influence how others understand and accept change

through sensegiving (Gioia & Chittipeddi, 1991). In evolving organizations, this dual movement is crucial. Executives must first interpret what is happening, then construct meanings that can be communicated to others, and then revise those meanings as organizational members respond, resist, reinterpret, or enact change differently. Leadership sensemaking is therefore not a linear movement from diagnosis to implementation. It is a recursive cycle in which executives interpret environmental signals, test assumptions through action, receive feedback from organizational members, and reformulate strategic meanings. This cycle becomes more complex when organizational evolution involves simultaneous shifts in technology, structure, culture, and identity.

A central challenge in this process is the instability of cognitive frames. Frames are interpretive structures that allow executives to categorize events, define problems, identify causal relationships, and judge appropriate responses. During stable periods, frames reduce complexity and support efficient decision-making. During evolutionary change, however, the same frames may become constraints. Kaplan's work on framing contests showed that strategy making under uncertainty involves competition among alternative interpretations, where different actors attempt to make their frames dominant in organizational decision-making (Kaplan, 2008). For senior executives, cognitive adaptation involves recognizing when an inherited frame has become inadequate and when a competing interpretation may offer a better basis for action. This requires more than analytical intelligence; it requires reflexivity, openness to disconfirming evidence, and tolerance for ambiguity.

Organizational evolution also has a temporal dimension. Executives interpret change by connecting past experiences, present pressures, and imagined futures. Some leaders rely heavily on historical analogies, interpreting new disruptions through familiar patterns. Others engage in prospective sensemaking, constructing future-oriented narratives that help the organization act despite uncertainty. Gavetti's behavioral theory of strategy highlights the role of mental processes, analogy, and cognition in strategic opportunity recognition and strategic action (Gavetti, 2012). This suggests that executive adaptation depends partly on the ability to use past experience without becoming imprisoned by it. During organizational evolution, the past can provide lessons, identity continuity, and confidence, but it can also produce inertia if executives interpret emerging realities only through outdated categories.

Dynamic capabilities literature provides another important lens for understanding leadership sensemaking. Teece, Pisano, and Shuen argued that firms operating in changing environments require capabilities for integrating, building, and reconfiguring internal and external competences (Teece et al., 1997). Although dynamic capabilities are often discussed at the organizational level, their microfoundations are deeply connected to executive cognition. Leaders must sense opportunities and threats, seize strategic possibilities, and reconfigure organizational assets. These activities depend on how executives interpret the environment and how they cognitively represent the organization's future possibilities. In this sense, leadership sensemaking can be considered a cognitive microfoundation of dynamic capability. Without interpretive flexibility, executives may be unable to recognize when capabilities should be renewed, abandoned, combined, or redeployed.

Similarly, organizational ambidexterity literature highlights the need for executives to manage tensions between exploitation and exploration. O'Reilly and Tushman described ambidexterity as the capacity to compete in mature domains requiring efficiency and control while simultaneously exploring new technologies and markets requiring flexibility and experimentation (O'Reilly & Tushman, 2013). This tension is fundamentally cognitive. Senior executives must hold contradictory logics in mind: stability and change, efficiency and innovation, control and autonomy, continuity and disruption. Leadership sensemaking during organizational evolution therefore

involves not only choosing between competing logics but also constructing integrative interpretations that allow the organization to live with paradox. Executives who cannot cognitively accommodate contradiction may simplify change excessively, impose rigid solutions, or suppress emerging signals that do not fit dominant assumptions.

The cognitive dimension of organizational evolution is also linked to organizational identity. When organizations evolve, executives often confront questions about what should remain stable and what must change. Tripsas and Gavetti's work on technological change showed that managerial cognition and organizational identity can shape strategic responses to technological shifts, sometimes producing inertia when leaders interpret new opportunities through established identity commitments (Tripsas & Gavetti, 2000). This insight is highly relevant to senior executives in evolving organizations because strategic adaptation may require them to reinterpret not only external opportunities but also the meaning of the organization itself. For example, a traditional manufacturing firm adopting digital platforms may need to reconsider whether it is primarily a producer, a service provider, a data-enabled ecosystem actor, or a hybrid organization. Such transitions require leaders to guide identity work at both personal and organizational levels.

Despite extensive research on sensemaking, strategic change, managerial cognition, and dynamic capabilities, there remains a need for qualitative inquiry into the lived cognitive adaptation mechanisms of senior executives during organizational evolution. Much existing research explains sensemaking conceptually or examines organizational change processes broadly, but fewer studies focus specifically on how executives experience the breakdown of old meanings, reconstruct interpretive frames, negotiate collective understanding, and revise leadership identity during evolutionary transformation. Brown, Colville, and Pye emphasized that sensemaking remains a highly influential perspective in organization studies because it helps explain how people appropriate and enact their realities (Brown et al., 2015). However, more context-sensitive empirical work is needed to understand how this process unfolds among senior decision-makers facing complex organizational transitions.

The Tehran context provides a valuable setting for such inquiry because executives in this environment often operate under conditions of economic uncertainty, technological pressure, market volatility, regulatory complexity, and institutional constraint. Senior leaders must interpret not only internal organizational change but also broader environmental instability. These conditions make cognitive adaptation particularly salient. In such contexts, executives may need to develop interpretive resilience, strategic flexibility, and collective meaning-making practices in order to maintain organizational direction without relying on overly rigid planning assumptions. Studying senior executives in Tehran-based organizations can therefore contribute to broader leadership theory while also offering contextually grounded insights into executive cognition under uncertainty.

Accordingly, this study explores leadership sensemaking during organizational evolution by examining the cognitive adaptation mechanisms used by senior executives in Tehran. The study focuses on how executives interpret disruptive organizational changes, how they revise strategic assumptions, how they construct shared meanings with other leaders, and how they recalibrate their leadership identities in response to evolving organizational realities. The aim of this study was to develop a qualitative understanding of the cognitive adaptation mechanisms through which senior executives make sense of organizational evolution and transform ambiguity into strategic leadership action.

2. Methods and Materials

This study used a qualitative inductive design to explore leadership sensemaking during organizational evolution among senior executives. A qualitative approach was appropriate because the purpose of the research was not to test predetermined hypotheses but to understand the subjective interpretations, cognitive adaptation processes, and meaning-making experiences of executives who had directly encountered organizational transformation. The study was informed by grounded theory logic because it sought to move from participants' lived accounts toward conceptual categories explaining how leadership sensemaking operates during organizational evolution. Constructivist grounded theory emphasizes the co-construction of meaning between researcher and participant and is especially useful for studying complex social and cognitive processes (Charmaz, 2014). The study also followed principles of qualitative rigor in inductive research, particularly systematic movement from first-order participant concepts to second-order theoretical themes and aggregate dimensions (Gioia et al., 2013).

Participants consisted of 24 senior executives from Tehran-based organizations. The exact sample included chief executive officers, deputy chief executives, chief operating officers, strategy directors, human resource executives, digital transformation managers, innovation directors, and senior business unit leaders. Inclusion criteria were having at least ten years of managerial experience, currently holding a senior executive position, direct involvement in at least one major organizational transformation initiative during the previous five years, and willingness to participate in an in-depth interview. Participants were drawn from information technology, banking and financial services, manufacturing, retail, healthcare and pharmaceuticals, consulting, and knowledge-based service organizations. Purposive sampling was first used to identify information-rich participants, and theoretical sampling was then used to pursue emerging concepts such as frame disruption, executive dialogue, temporal reframing, and identity recalibration. This sampling logic was consistent with qualitative research standards in which participants are selected for their capacity to provide rich, relevant, and experience-based information rather than statistical representativeness (Vasileiou et al., 2018).

Data were collected only through semi-structured interviews. No surveys, focus groups, archival documents, or observational materials were used. The interview protocol included open-ended questions about executives' experiences of organizational evolution, moments when previous strategic assumptions became insufficient, how they interpreted uncertainty, how they discussed ambiguous changes with other executives, how their leadership role changed during transformation, and what cognitive practices helped them adapt. Example interview questions included: "Can you describe a moment when your previous understanding of the organization no longer worked?" "How did you interpret ambiguous signals during transformation?" "How did your executive team create a shared understanding of change?" and "How did your view of leadership change during organizational evolution?" Interviews were conducted in Persian, transcribed verbatim, and translated conceptually into English for manuscript reporting. Each interview lasted between 55 and 90 minutes. Data collection continued until theoretical saturation was reached. Saturation was observed after the twenty-first interview, when no substantially new categories emerged, and three additional interviews were conducted to confirm the adequacy and stability of the emerging theoretical structure. Saturation was treated as a methodological criterion for discontinuing data collection when additional data no longer generated new conceptual insights (Saunders et al., 2018).

Data analysis was conducted using open, axial, and selective coding with the support of NVivo software. NVivo was used to organize transcripts, store analytical memos, retrieve coded segments, compare categories, and develop hierarchical code structures. The use of NVivo supported systematic data management while leaving interpretive judgment with the researchers, consistent with qualitative analysis guidance that computer-assisted tools facilitate organization and retrieval but do not replace theoretical analysis (Bazeley & Jackson, 2013). During open coding, transcripts were read line by line to identify participants' own terms and meanings, such as "old maps stopped working," "learning before deciding," "holding several futures," and "leadership without full control." During axial coding, related codes were compared and grouped into broader categories that explained relationships among disrupted assumptions, interpretive practices, collective dialogue, experimentation, and leadership identity. During selective coding, five main categories were integrated around the central concept of cognitive adaptation through leadership sensemaking.

Several strategies were used to strengthen trustworthiness. Credibility was supported through prolonged engagement with interview transcripts, participant validation of selected interpretive summaries, and peer review of the coding structure. Dependability was enhanced by maintaining an audit trail that included interview protocols, coding decisions, analytical memos, and category development notes. Confirmability was supported through reflexive memo writing in which the researcher recorded assumptions about leadership, change, and executive cognition. Transferability was strengthened by providing contextual details about participants, organizational settings, and the nature of transformation experiences. Ethical considerations were also observed. Participation was voluntary, informed consent was obtained, identities were anonymized, and participants were informed that they could withdraw from the study at any stage. To protect confidentiality, participants are identified only by interview numbers.

3. Findings and Results

The demographic characteristics of the participants showed that the study included 24 senior executives from Tehran-based organizations, of whom 17 were men and 7 were women. Participants ranged in age from 38 to 61 years, with the largest group between 46 and 55 years old. Regarding organizational role, 5 participants were chief executive officers, 4 were deputy chief executives, 4 were strategy or transformation directors, 3 were chief operating or operations directors, 3 were human resource executives, 3 were digital transformation or technology executives, and 2 were senior business unit directors. In terms of industry, 5 participants worked in information technology and digital services, 4 in banking and financial services, 4 in manufacturing, 3 in healthcare and pharmaceuticals, 3 in retail and distribution, 3 in consulting and professional services, and 2 in knowledge-based industrial services. Executive experience ranged from 10 to 31 years, with 15 participants reporting more than 15 years of senior managerial experience. All participants had been directly involved in organizational evolution processes, including digital transformation, restructuring, strategic renewal, post-crisis adaptation, business model redesign, cultural change, or leadership system transformation.

The first main category was cognitive disruption and frame destabilization. Participants described organizational evolution as a moment when familiar managerial assumptions lost explanatory power. Executives repeatedly stated that their previous cognitive maps had been useful during periods of operational stability but became insufficient when the organization faced technological disruption, market volatility, generational shifts in

the workforce, or structural redesign. One participant explained, “For years, I could understand the organization through numbers, hierarchy, and market share, but during transformation those indicators were late signals; they told me what had already happened, not what was emerging” (Participant 4). Another executive stated, “The first shock was realizing that experience can become a trap. What made me successful before was making me slow now” (Participant 11). This category shows that sensemaking began not with clarity but with the breakdown of clarity. Executives became cognitively adaptive when they recognized that uncertainty was not merely a lack of information but a sign that old categories no longer matched new conditions. Frame destabilization therefore operated as both a threat and a trigger for learning. Some executives initially responded defensively by searching for familiar explanations, but those who adapted more effectively suspended immediate judgment, questioned their assumptions, and treated ambiguity as evidence that the organization was entering a new interpretive environment.

The second main category was temporal reframing of organizational change. Participants did not make sense of organizational evolution only by analyzing present problems; they connected past experiences, current disruptions, and imagined futures into strategic narratives. Many executives described the need to reinterpret the organization’s past without being constrained by it. As one participant noted, “We had to respect our history but stop using it as a prison. The past helped us understand our strengths, but it could not define our future” (Participant 2). Another participant explained, “In executive meetings, the real question became: which part of our past is an asset, and which part is only nostalgia?” (Participant 16). Temporal reframing allowed leaders to create continuity while legitimizing change. Executives used narratives such as “evolution rather than replacement,” “renewal of core capabilities,” and “moving from control to responsiveness” to reduce anxiety among organizational members. This category suggests that cognitive adaptation requires leaders to reconstruct time. They must decide what to preserve, what to reinterpret, and what to release. Participants who engaged in temporal reframing were better able to explain why change was necessary without presenting it as a rejection of the organization’s identity. In this sense, future-oriented leadership sensemaking depended on a careful reinterpretation of the past.

The third main category was collective interpretation and executive dialogue. Participants emphasized that leadership sensemaking was not an individual mental act performed privately by a single executive. Instead, it emerged through dialogue, disagreement, negotiation, and repeated interaction among senior leaders. Several participants described executive meetings during transformation as spaces where competing interpretations were tested. One executive stated, “At first, every director saw the change from their own function. Finance saw risk, HR saw resistance, technology saw infrastructure, and strategy saw opportunity. We needed dialogue before we could have direction” (Participant 7). Another participant said, “The breakthrough happened when we stopped defending departments and started comparing assumptions” (Participant 19). This category highlights the social nature of cognitive adaptation. Executives adapted by exposing their interpretations to others, listening to contradictory perspectives, and gradually constructing a shared frame. However, participants also reported that collective sensemaking was difficult because status differences, political concerns, and fear of appearing uncertain sometimes prevented honest dialogue. Effective executive teams created psychologically safer spaces in which uncertainty could be discussed openly. In these teams, disagreement was not treated as disloyalty but as a resource for interpretation. Collective dialogue therefore became a mechanism for transforming fragmented perceptions into a more coherent strategic understanding.

The fourth main category was experimental cognition and adaptive learning. Participants repeatedly stated that during organizational evolution, executives could not wait for complete certainty before acting. Instead, they used small experiments, pilot projects, scenario discussions, external benchmarking, and rapid feedback cycles to test interpretations. One participant explained, “We learned that strategy was not only something written and then implemented; it was something tested. Every pilot gave us a better language for understanding the change” (Participant 9). Another executive stated, “When the environment became unclear, the worst response was to demand perfect analysis. We needed experiments that could teach us what the situation meant” (Participant 21). This category shows that cognitive adaptation was closely connected to action. Executives did not first develop a complete interpretation and then act; rather, action itself generated new meaning. Experimental cognition allowed leaders to convert uncertainty into manageable learning episodes. Participants described this mechanism as especially important in digital transformation, where technological possibilities were difficult to evaluate through traditional planning alone. By experimenting, executives updated assumptions about customers, employees, processes, and capabilities. Thus, adaptive learning functioned as an iterative sensemaking process in which leaders interpreted outcomes, revised mental models, and adjusted strategic direction.

The fifth main category was identity recalibration in leadership roles. Participants explained that organizational evolution changed their understanding of what it meant to lead. Many described a movement away from command, prediction, and control toward interpretation, facilitation, learning, and ecosystem coordination. One participant said, “Earlier in my career, I thought leadership meant having the answer. Now I think it means creating the conditions where the organization can discover better answers than mine” (Participant 5). Another executive noted, “The hardest change was personal. I had to accept that my authority was not reduced when I admitted uncertainty; it became more credible” (Participant 14). This category indicates that cognitive adaptation was not limited to strategic assumptions; it also involved self-understanding. Executives had to revise their leadership identities in response to complexity. Those who remained attached to heroic images of leadership experienced greater difficulty in sensemaking because ambiguity threatened their authority. In contrast, executives who embraced interpretive and facilitative leadership roles were more able to mobilize collective intelligence. Identity recalibration enabled leaders to remain effective without pretending to possess complete certainty. It also helped them communicate change more authentically, because they could acknowledge ambiguity while still providing direction.

4. Discussion and Conclusion

The findings of this study show that leadership sensemaking during organizational evolution begins with cognitive disruption and frame destabilization. Senior executives experienced transformation as a breakdown in the usefulness of established managerial assumptions. This finding aligns with sensemaking theory, which argues that sensemaking is triggered when events become ambiguous, unexpected, or inconsistent with existing expectations (Maitlis & Christianson, 2014). In the present study, executives did not begin adaptation from a position of certainty; rather, adaptation began when they recognized that their existing interpretive frames were no longer adequate. This supports Weick et al.’s argument that sensemaking becomes central when organizational actors must convert confusing circumstances into actionable meaning (Weick et al., 2005). The finding also resonates with managerial cognition literature, which emphasizes that executives’ knowledge structures influence

what they notice, how they interpret events, and what actions they consider possible (Walsh, 1995). When organizational evolution challenged participants' assumptions, it created both cognitive discomfort and an opportunity for reframing. Therefore, frame destabilization should not be interpreted only as executive weakness or uncertainty; it can also be understood as the first stage of adaptive leadership cognition.

The second finding concerned temporal reframing, through which executives connected organizational past, present, and future into coherent strategic narratives. This result supports research suggesting that sensemaking is retrospective but also future-oriented, because leaders use prior experience to interpret current ambiguity while constructing possible futures. Weick's sensemaking perspective emphasizes that meaning is often built retrospectively, yet the present study shows that senior executives also engage in prospective interpretation when they create narratives about what the organization is becoming (Weick, 1995). This finding also aligns with Gavetti's behavioral theory of strategy, which highlights the role of analogy, mental representation, and cognitive search in strategic action (Gavetti, 2012). Participants used the past selectively: they preserved elements that supported identity continuity but rejected elements that produced inertia. This finding is also consistent with studies of technological change showing that organizational identity and managerial cognition can either support or constrain adaptation (Tripsas & Gavetti, 2000). In practical terms, temporal reframing appears to be a central mechanism through which executives reduce resistance to change. By framing evolution as renewal rather than abandonment, leaders can preserve legitimacy while enabling transformation.

The third finding showed that executive sensemaking was collective and dialogic. Participants did not describe cognitive adaptation as the solitary insight of a heroic leader; instead, they emphasized dialogue, disagreement, comparison of assumptions, and shared interpretation within executive teams. This finding strongly supports Gioia and Chittipeddi's view that strategic change involves both sensemaking and sensegiving, because leaders must understand change themselves and influence how others understand it (Gioia & Chittipeddi, 1991). It also aligns with Kaplan's concept of framing contests, where strategy making under uncertainty involves competing interpretations that become negotiated through organizational interaction (Kaplan, 2008). In this study, executives adapted cognitively by exposing their interpretations to others and allowing alternative frames to challenge functional biases. However, the findings also show that collective sensemaking requires psychological safety and interpretive humility. Without these conditions, executive teams may defend existing positions rather than revise assumptions. Therefore, leadership sensemaking is both cognitive and political: it involves the construction of meaning, but it also depends on whose interpretations are heard, legitimized, or marginalized.

The fourth finding concerned experimental cognition and adaptive learning. Participants emphasized that they could not wait for full certainty before acting; instead, they used pilots, feedback loops, scenario reasoning, and small-scale experiments to learn what the evolving situation meant. This finding is consistent with the action-oriented nature of sensemaking. Weick et al. argued that action is not merely the result of sensemaking but also part of the process through which meaning is created (Weick et al., 2005). The finding also aligns with dynamic capabilities theory, which emphasizes sensing, seizing, and reconfiguring capabilities in changing environments (Teece et al., 1997). In this study, experimentation functioned as a cognitive mechanism because it allowed executives to test assumptions and revise interpretations. This suggests that adaptive leadership is not based only on analytical prediction but also on disciplined learning through action. Experimental cognition also helps explain how executives manage ambiguity without becoming paralyzed by it. When the meaning of change is unclear, carefully designed action can generate evidence, language, and confidence.

The fifth finding revealed that organizational evolution required identity recalibration in leadership roles. Participants described a shift from leadership as control and answer-giving toward leadership as interpretation, facilitation, and learning design. This finding extends sensemaking research by showing that executives do not only reinterpret organizational conditions; they also reinterpret themselves. The result is consistent with Brown et al.'s argument that sensemaking is deeply connected to how organizational actors construct and enact realities (Brown et al., 2015). It also relates to ambidexterity theory, because executives facing evolutionary change must hold together competing demands for control and flexibility, exploitation and exploration, continuity and renewal (O'Reilly & Tushman, 2013). Leaders who define their identity narrowly around certainty, command, and expertise may experience organizational evolution as a threat to legitimacy. By contrast, leaders who define authority as the capacity to enable collective intelligence can remain credible even while acknowledging uncertainty. This finding suggests that identity flexibility may be an underexplored component of executive cognitive adaptation.

Taken together, the findings suggest a qualitative model of leadership sensemaking during organizational evolution. The model begins with cognitive disruption, in which executives recognize the insufficiency of existing frames. It then moves into temporal reframing, where leaders reinterpret the organization's past and future to create continuity and direction. This process becomes social through collective executive dialogue, where competing interpretations are negotiated and integrated. It becomes practical through experimental cognition, where leaders test assumptions through action and feedback. Finally, it becomes personal through identity recalibration, where executives redefine their leadership role in relation to ambiguity and complexity. This model contributes to the literature by integrating sensemaking, managerial cognition, dynamic capabilities, and leadership identity into a single processual explanation. It suggests that executive adaptation is not simply a trait or competency but an evolving interpretive practice.

The study also contributes to research on organizational evolution by emphasizing the cognitive microprocesses through which senior executives make strategic adaptation possible. Organizational evolution is often studied through structural, technological, or environmental lenses, but the present findings show that transformation also depends on whether leaders can revise meanings quickly enough to support new forms of action. This insight complements dynamic capabilities literature by showing that sensing and reconfiguring are not only organizational routines but also interpretive achievements. Executives must notice signals, question assumptions, compare frames, and construct narratives before capabilities can be redirected. The study also contributes to leadership theory by challenging overly heroic models of executive leadership. The participants' accounts suggest that effective leadership during organizational evolution is less about possessing certainty and more about enabling disciplined sensemaking under uncertainty.

The first limitation of this study is that it was based on a qualitative sample of 24 senior executives from Tehran, which limits statistical generalizability. Although the purpose of qualitative research is analytical depth rather than numerical representation, the findings may reflect contextual features of Tehran-based organizations, including specific economic, regulatory, cultural, and institutional conditions. The second limitation concerns the retrospective nature of interview data. Participants reconstructed their experiences after transformation events had occurred, which may have introduced memory bias or post-hoc coherence. Third, the study relied only on semi-structured interviews, as intended by the research design, and did not include observational data or organizational documents that could have triangulated executives' accounts. Fourth, the study focused on senior executives and

did not examine how middle managers or employees interpreted the same organizational evolution processes. This means that the findings primarily represent executive-level sensemaking rather than the full multilevel dynamics of organizational meaning construction.

Future research can extend this study in several directions. Comparative studies could examine leadership sensemaking across different cities, industries, or national contexts to identify which cognitive adaptation mechanisms are context-specific and which are more generalizable. Longitudinal qualitative research would be especially valuable because sensemaking unfolds over time and may change across different stages of organizational evolution. Future studies could also compare senior executives with middle managers to explore how interpretations differ across hierarchy levels and how meanings travel through organizations. Quantitative research may develop and validate measurement scales for executive cognitive adaptation mechanisms, including frame flexibility, temporal reframing, collective sensemaking capacity, experimental cognition, and identity recalibration. Finally, future research could examine the role of artificial intelligence, analytics dashboards, and digital decision-support systems in executive sensemaking, particularly whether such tools expand cognitive flexibility or reinforce dominant frames.

Ethical Considerations

All procedures performed in this study were under the ethical standards.

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Conflict of Interest

The authors report no conflict of interest.

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