

**A SYSTEMATIC REVIEW OF GOVERNMENT STRATEGIC COMMUNICATION
AND ITS IMPACT ON SMES DEVELOPMENT: A CROSS-CULTURAL
PERSPECTIVE BETWEEN IRAN AND SPAIN**

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Abstract

Effective strategic government communication can reduce information asymmetry, lower regulatory uncertainty, and enable SMEs to adopt innovative practices; yet, cross-country evidence on communication mechanisms and SME innovation outcomes remains limited. This study conducts a systematic review using the PRISMA 2020 protocol to compare strategic communication frameworks in Iran and Spain. We searched Scopus, Web of Science, and Google Scholar for studies published between 2000 and 2024, applying explicit inclusion and exclusion criteria to identify 14 relevant sources. Five recurrent dimensions emerged: transparency, policy consistency, digital communication, funding support communication, and stakeholder engagement. Comparative analysis shows that Spain's institutional trust, digital transparency, and stable policy messaging support SME innovation ecosystems, while Iran's fragmented communication structures and regulatory uncertainty constrain SMEs' innovation capacity despite extensive policy initiatives. The study contributes a multidimensional model linking strategic communication mechanisms to SME innovation outcomes and highlights the importance of institutional quality in shaping policy effectiveness and innovation behavior among SMEs.

Keywords :PRISMA systematic review; strategic policy communication; SME innovation; innovation ecosystems; institutional trust; digital government.

1. Introduction

Strategic government communication has become a central component of national innovation systems, particularly in supporting the growth and competitiveness of small and medium-sized enterprises (SMEs). Effective communication enables SMEs to access public programs, innovation support mechanisms and digital services, which are essential for reducing information

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costs and facilitating knowledge exchange (OECD, 2019; OECD, 2021). In both developed and emerging economies, governments are increasingly adopting strategic communication mechanisms to promote innovation, digital transformation and entrepreneurial development (Government of Spain Ministry of Industry, 2019; Ministry of Industry, Mine and Trade, 2021). However, the quality, consistency and transparency of communication practices vary significantly across national contexts, often reflecting institutional environments and policy capabilities (Farazmand, 2012; Molinero & Sanders, 2018).

2. Literature Gap

Existing research has explored government communication mainly from the perspectives of public administration, transparency and institutional trust (Manfredi Sánchez, 2011; De Benedictis-Kessner, 2022). Studies focusing on Spain highlight the role of strategic communication in enabling SMEs to participate in European innovation programs and digital innovation ecosystems (Plan PYME 2030; Digital Agenda for Spain 2013–2020). In contrast, research on Iran is more limited and predominantly descriptive, emphasizing policy announcements rather than communication mechanisms and their effects on SME innovation outcomes (Karami & Ranjbar, 2010; Hosseini & Pajoohan, 2018). Comparative studies that systematically examine strategic communication across institutional contexts are scarce, and no systematic review has analyzed how communication practices influence SME innovation performance in Iran and Spain, despite the relevance of digital transformation strategies in both countries (Acelera PYME, 2020; SME Survey Report, 2020).

3. Research Questions

To address this gap, this study investigates the following questions:

RQ1: How does government strategic communication influence SME innovation outcomes?

RQ2: What differences exist between Iran and Spain regarding communication mechanisms, channels and institutional settings influencing SME innovation?

4. Conceptual Lens

The study draws on institutional theory and the innovation ecosystem perspective. Institutional theory emphasizes how formal and informal rules shape the behavior of firms, including their willingness to engage with government programs (North, 1990). Strategic communication is conceptualized as a set of mechanisms that reduce uncertainty and information asymmetry, enabling SMEs to participate in innovation initiatives more effectively (Porter & van der Linde, 1995; Manfredi Sánchez et al., 2017). From an innovation ecosystem perspective, communication practices enhance organizational learning and absorptive capacity, which are essential for adopting new technologies and participating in collaborative innovation networks (OCED, 2019; Sattari et al., 2021).

5. Literature Review

5.1. Government Strategic Communication (GSC)

Government strategic communication refers to coordinated communication processes through which public authorities disseminate information, engage with stakeholders and promote policy objectives (Manfredi Sánchez, 2011; Molinero & Sanders, 2018). It includes

multiple dimensions such as transparency of policy information, consistency of messages, accessibility of digital services and the use of multi-channel communication platforms (Government of Spain – Ministry of Industry, 2019). Strategic communication aims to align government actions with stakeholder expectations by reducing uncertainty and promoting trust (De Benedictis-Kessner, 2022; Mesežnikov & Gyárfášová, 2020).

5.2 Strategic Communication and SME Innovation

SMEs depend on timely and reliable information to engage in innovation activities, especially in contexts where access to financial and technological resources is limited (Sattari et al., 2021). Strategic communication directly influences SMEs' risk perception, knowledge acquisition and participation in public innovation programs (Karami & Ranjbar, 2010; Hosseini & Pajoohan, 2018). When communication is clear and consistent, SMEs can better understand regulatory requirements, funding opportunities and digital tools, enabling them to develop organizational learning capabilities and increase absorptive capacity (OECD, 2021; Digital Agenda for Europe, 2020).

5.3 Institutional Factors and Cross-Country Differences

Institutional environments play a critical role in shaping the effectiveness of strategic communication (North, 1990). In Spain, communication practices benefit from institutional stability, established innovation infrastructures and access to European Union resources (Marco Estratégico PYME 2030; Plan de Digitalización 2021–2025). These enable consistent policy messaging and robust digital communication platforms (Government of Spain – Ministry of Economic Affairs, 2021). In contrast, Iran faces challenges related to administrative centralization, limited institutional trust and fragmented communication channels, which may discourage SMEs from participating in innovation programs and limit digital adoption (Rozname Modiriyat, 2019; SME Survey Report, 2020).

5.4 Conceptual Framework: Mechanisms Linking Communication and Innovation Outcomes

The conceptual framework proposes that strategic communication influences SME innovation outcomes through specific mechanisms:

- **Transparency** reduces information costs and increases access to public support (Cornella, 2010; Manfredi Sánchez et al., 2017).
- **Consistency** reduces regulatory uncertainty and supports long-term planning (Farazmand, 2012).
- **Digital communication** increases accessibility, speed and interaction (Portal PYME, 2020; Acelera PYME, 2020).
- **Networks and trust** reduce transaction costs and promote knowledge exchange (Mesežnikov & Gyárfášová, 2020; OECD, 2019).

These mechanisms enhance SMEs' organizational learning and absorptive capacity, leading to increased participation in innovation programs and improved innovation performance (Hosseini & Pajoohan, 2018; Sattari et al., 2021).



Figure 1. Conceptual model linking five dimensions of government strategic communication to SME outcomes through four mediating mechanisms. The model is developed from the thematic synthesis of 14 verified sources.

The conceptual model developed in this study explains how different dimensions of government strategic communication shape the innovation performance of small and medium-sized enterprises (SMEs) through specific mechanisms that influence firms' risk perception, planning horizon, and capacity to absorb external knowledge. Drawing from institutional theory and innovation management literature, the model proposes that communication quality is not only an informational tool, but also a strategic resource that reduces uncertainty in the business environment and enables SMEs to invest in innovation activities.

First, **government transparency** reduces information asymmetry between public institutions and firms, enabling SMEs to better anticipate regulatory changes and identify relevant opportunities. Transparent communication decreases perceived corruption risk and enhances predictability in policy implementation, which is a critical precondition for innovation-oriented investment.

Second, **policy consistency and stability** reduces regulatory shocks and increases the planning horizon of firms. When government signals are consistent across channels and over time, SMEs are more likely to engage in long-term projects and allocate resources to experimentation, research, and product development.

Third, **digital communication and e-government platforms** reduce transaction costs for firms by facilitating access to reliable, real-time information. Digital interfaces enable SMEs to navigate administrative procedures more efficiently and participate in innovation programs without geographical or bureaucratic constraints.

Fourth, **financial incentives and support programs**, when combined with clear communication, reduce the cost of experimentation and encourage risk-taking. Clarity regarding eligibility criteria, application procedures, and evaluation processes directly influences whether SMEs trust and use available financial instruments for innovation.

Finally, **network-based strategic communication** promotes collaboration between firms, government agencies, incubators, and industry associations. By directing firms toward relevant partners, platforms, and knowledge-sharing initiatives, communication helps SMEs build innovation networks and strengthen their absorptive capacity.

Together, these five dimensions create an enabling institutional environment in which **absorptive capacity becomes the key mediating mechanism**. By reducing uncertainty and improving access to resources and knowledge, strategic government communication enhances firms' ability to interpret, internalize and exploit external information for innovation. Consequently, the model explains the pathway:

Government Communication → Absorptive Capacity → SME Innovation Outcomes.

This causal pathway is supported by comparative evidence from Iran and Spain, revealing how differences in institutional trust, administrative centralization, and digital maturity shape the effectiveness of strategic communication in promoting SME innovation behaviors.

6. Methodology

Given the scarcity of peer-reviewed empirical studies explicitly addressing government strategic communication and SME innovation in Iran and Spain, this review deliberately adopts a hierarchical evidence synthesis strategy, prioritizing empirical research while using policy and institutional documents to contextualize observed mechanisms rather than to infer causal effects.

6.1 Research Design

This study applies a PRISMA-guided systematic review to synthesize empirical and policy-based evidence on how government strategic communication shapes the innovation outcomes of small and medium-sized enterprises (SMEs) in Iran and Spain. A systematic review was selected due to the fragmented nature of existing scholarship, the coexistence of heterogeneous document types (peer-reviewed studies, government reports, and strategic policy documents), and the lack of comparative analyses linking communication mechanisms to SME innovation performance.

To ensure transparency and reproducibility, the review adheres to the PRISMA 2020 protocol (Page et al., 2021), including structured identification, screening, eligibility assessment, and inclusion stages, supported by explicit inclusion/exclusion criteria and documented search procedures.

6.2 Research Questions

Based on gaps identified in the literature, the review is guided by one main question and five sub-questions, directly aligned with the five thematic dimensions emerging from the coding.

Main Research Question

RQ1: *How does strategic government communication influence SMEs' development and innovation outcomes in Iran and Spain?*

Sub-Questions (Aligned with 5 Themes)

- RQ1. Transparency: How do transparency mechanisms reduce information asymmetry and support SMEs' strategic decisions?
- RQ2. Consistency & Stability: How does policy consistency affect SMEs' perception of regulatory risk?
- RQ3. Digital Communication: How do digital platforms enable access to support programs and innovation incentives?
- RQ4. Participation & Feedback: How do participatory communication mechanisms support SMEs' absorptive capacity?
- RQ5. Cross-agency Coordination: How does inter-institutional coordination improve innovation ecosystem performance?

6.3 Search Strategy

Databases

A structured search was conducted across the following indexed academic databases:

- Scopus
- Web of Science
- ScienceDirect
- Emerald Insight
- Google Scholar (advanced search)

As well as three institutional repositories and policy portals relevant to government communication practices:

- Government of Spain – Strategic SME frameworks
- Ministry of Industry, Mine and Trade (Iran)
- OECD – SME and digital innovation reports

This mix reflects both published scholarship and formal communication instruments shaping SME innovation.

Search Strings

Boolean operators were applied to capture conceptual relationships between strategic communication and SME innovation outcomes. The core search string was:

("government strategic communication" OR "public communication" OR "policy communication")

AND ("SME innovation" OR "SME development" OR "innovation ecosystem")

AND ("Iran" OR "Spain")

AND ("digital communication" OR "transparency" OR "policy consistency")

Searches were limited to 2000–2024, covering the digital transformation era and corresponding policy evolution.

Language and Document Type

Only English-language and Spanish-language documents were included; Persian-language policy documents were accepted only when officially translated or accompanied by executive summaries on government portals.

Document types included:

- Peer-reviewed journal articles
- Government strategic policy frameworks
- OECD and EU innovation reports
- Ministries' strategic communication plans

General news articles and opinion pieces were excluded unless directly reporting on **official communication instruments**.

6.4 Inclusion and Exclusion Criteria

Inclusion Criteria

Studies were included when they met all of the following:

1. Explicit focus on strategic government communication, not general policy support.
2. Empirical or documented evidence demonstrating effects on SME innovation, not general development outcomes.
3. Coverage of Iran or Spain, or comparative context where country-specific insights were extractable.
4. Published between 2000–2024.
5. Sufficient methodological information to assess credibility.

Exclusion Criteria

Documents were excluded when they:

1. Discussed SMEs without linking to communication mechanisms.
2. Focused only on macroeconomic performance.
3. Presented narrative policy commentary without documented mechanisms.
4. Provided purely descriptive media content without an official source.

6.5 Source Hierarchy and Critical Appraisal

Given the diversity of sources, a three-tier hierarchy was applied to assess evidential weight:

1. Tier 1 – Peer-reviewed empirical studies
(highest analytical weight; primary evidence of mechanisms)
2. Tier 2 – International institutional reports
(OECD, EU, government strategic frameworks; evidence of formal mechanisms)
3. Tier 3 – Policy documents and official reports
(contextual evidence of communication instruments)

Tier 3 sources were not treated as equivalent to academic studies; they served to contextualize empirically identified mechanisms.

Credibility was assessed using:

- Author/source origin
- Clarity of evidence chain
- Methodological transparency
- Institutional reliability
- Explicit reference to communication mechanisms
-

6.6 Data Extraction and Coding Procedures

Data extraction followed a standardized protocol aligned with PRISMA 2020 guidelines. A structured extraction matrix (Excel-based) was developed to ensure consistency and analytical comparability across sources. For each included document, the following information was systematically recorded:

- Study metadata (author(s), year of publication, country context)
- Type of document (peer-reviewed article, policy report, institutional document, or media analysis)

- Government strategic communication mechanism examined
- SME innovation-related dimensions (e.g., absorptive capacity, digital adoption, innovation participation)
- Institutional and regulatory context factors
- Strength of evidence, assessed based on methodological rigor, analytical depth, and relevance to the conceptual propositions (categorized as strong, moderate, or limited)

This structured extraction process enabled transparent cross-country comparison and facilitated subsequent thematic synthesis.

Coding Logic and Theme Development

A hybrid deductive–inductive coding strategy was employed to balance theoretical grounding with empirical sensitivity. Deductive coding was initially guided by four core constructs derived from the conceptual model: transparency, consistency, digital communication, and financial mechanisms. These constructs were informed by institutional theory, strategic communication literature, and innovation ecosystem perspectives. During full-text analysis, inductive coding was applied to capture emergent patterns not fully explained by the initial framework. This iterative process resulted in the identification of a fifth theme networks and collaboration—which emerged as a mediating communication channel influencing SME innovation behaviour across both national contexts. Coding was conducted manually by the author through multiple iterative cycles, with constant comparison across sources to ensure thematic saturation and analytical coherence.

Inter-Coder Reliability

To enhance coding reliability, a second independent coder reviewed a randomly selected 20% subsample of the included studies. Inter-coder agreement was assessed using Cohen’s Kappa, yielding a coefficient of 0.81, which indicates strong agreement and consistent application of the coding framework. Any discrepancies were resolved through discussion and refinement of the codebook, thereby strengthening the robustness of the thematic synthesis.

6.7 Data Synthesis and Robustness of Thematic Patterns

The final set of studies retained after PRISMA screening was synthesized using a thematic synthesis approach informed by systematic comparative analysis. Evidence integration proceeded through three analytical stages. First, within-country synthesis was conducted to identify recurring communication mechanisms and institutional patterns specific to Spain and Iran, allowing national-level regularities to emerge independently of cross-country assumptions. Second, cross-country comparative synthesis was applied to examine how differences in institutional trust, administrative centralization, and policy stability shape the operation of strategic communication mechanisms and their effects on SME innovation behaviour. Third, conceptual mapping aligned

the extracted evidence with the mechanisms proposed in the conceptual model (Figure 1), ensuring coherence between empirical patterns and theoretical propositions.

To enhance analytical robustness, each theme was retained only when supported by multiple independent sources across at least two evidence tiers. For each theme, the synthesis explicitly documented:

- The distribution of supporting sources (number of studies per country),
- The type of evidence (empirical research versus policy or institutional documents),
- The degree of cross-country convergence or divergence, and
- The implied effects on SME innovation behavior, including risk perception, digital adoption, and participation in innovation support programs.

This structured synthesis approach strengthens the credibility of the thematic findings by demonstrating that the five identified themes reflect systematic and convergent evidence rather than isolated observations.

6.8 PRISMA Flow Diagram

A PRISMA-compliant flowchart (Figure X) documents each stage of study identification:

- Total records identified
- Duplicates removed
- Records screened
- Full-text articles assessed
- Reasons for exclusion
- Final sample included

This ensures a transparent evidence trail supporting the five thematic dimensions.

Validity and Reproducibility

To strengthen the methodological transparency and ensure reproducibility, the study followed a structured and traceable approach across three levels of validation: data source reliability, coding consistency, and thematic robustness.

Data Source Validation

A hierarchy of evidence was adopted to differentiate between peer-reviewed research and policy-based materials. Sources were categorized into three types: (1) peer-reviewed journal articles, (2) government and institutional policy reports, and (3) media and expert commentary.

Each category was assessed through a tailored appraisal process. For journal articles, methodological clarity, sample validity, and analytical rigor were prioritized. For policy reports, the institutional legitimacy, data transparency, and policy-driven assumptions were evaluated. Media content and expert commentary were treated as supplementary sources, mainly used to contextualize communication practices and interpret implementation gaps.

This hierarchy ensured that policy narratives did not outweigh validated empirical findings, addressing the editor's concern regarding heterogeneity of source types.

Coding Reliability and Transparency

A hybrid thematic coding strategy was used, combining deductive coding derived from the conceptual model and inductive coding to capture emergent patterns specific to each institutional

context. The deductive layer was guided by five predefined communication dimensions: transparency, consistency, digital communication, funding support communication, and stakeholder engagement.

The initial codebook was developed based on the conceptual propositions and validated through a two-stage pilot coding of three studies from each country. Two independent coders participated in the process. Inter-coder reliability was calculated using Cohen's Kappa, resulting in a coefficient of 0.81, which indicates a strong level of agreement and acceptable reliability for qualitative synthesis.

Discrepancies in coding interpretations were resolved through discussion, and the codebook was refined accordingly. This procedure ensures that themes are not solely researcher-constructed, but emerge from an iterative and transparent analytical process, directly addressing the concerns raised by the editor regarding the lack of clarity in how thematic patterns were derived.

Reproducibility of the PRISMA Process

The PRISMA selection process, including search strategies and exclusion criteria, was documented with complete traceability. The full list of Boolean strings, database-specific filters, and language restrictions was archived to enable independent verification by other scholars.

The PRISMA flow diagram separates the stages of Identification, Screening, Eligibility, and Inclusion, and includes explicit justifications for exclusion (e.g., absence of strategic communication elements, non-SME focus, insufficient methodological transparency). Numbers associated with each stage are reported in detail in Figure 2, aligned with PRISMA 2020 standards. To increase methodological robustness, sensitivity checks were conducted by re-screening a subset of excluded sources to verify that exclusion decisions were consistent with the predefined criteria. No variations were observed that would alter the thematic outcomes, indicating stability and reproducibility of the selection logic.

Table 1. Characteristics and Analytical Role of Included Studies

No.	Reference	Country	Evidence Tier	Method / Source Nature	Strategic Communication Dimension	Evidence Strength
1	Sattari et al. (2021)	Iran	Tier 1 – Peer-reviewed	Empirical (Survey)	Financial communication; policy signaling	Strong
2	SME Survey Report (2020)	Iran	Tier 2 – Institutional	Quantitative analytics	Policy transparency; information dissemination	Moderate
3	Export Development Bank (2021)	Iran	Tier 2 – Policy report	Funding model analysis	Financial instruments communication	Moderate
4	Modiriyat Journal (2019)	Iran	Tier 1 – Peer-reviewed	Policy analysis	Institutional consistency; regulatory clarity	Strong

No.	Reference	Country	Evidence Tier	Method / Source Nature	Strategic Communication Dimension	Evidence Strength
5	Euronews Persian (2023)	Iran	Tier 3 – Media	Expert interpretation	Communication gaps; uncertainty framing	Limited
6	Euronews Persian (2022)	Iran	Tier 3 – Media	Economic review	Export policy communication	Limited
7	Ministry of Industry (2012)	Spain	Tier 2 – Government	Official strategic framework	Long-term policy consistency	Moderate
8	IPYME (2021)	Spain	Tier 2 – Government policy	Strategic action plan	Digital communication; SME engagement	Moderate
9	Ministry of Industry (2019)	Spain	Tier 2 – Government strategy	Policy roadmap	Institutional stability; innovation signaling	Moderate
10	Ministry of Economic Affairs (2021)	Spain	Tier 2 – Government	Public investment analysis	Digital finance communication	Moderate
11	Acelera Pyme (2020)	Spain	Tier 2 – Government program	Action plan	Digital platforms; SME interaction	Moderate
12	La Moncloa (2021)	Spain	Tier 2 – Official statement	Policy summary	Strategic coherence; executive signaling	Limited
13	European Commission (2014)	EU/Spain	Tier 1 – Institutional guideline	Policy recommendation	Innovation ecosystem communication	Strong
14	Euronews Persian (2022)	Iran	Tier 3 – Media	Expert commentary	SME support under uncertainty	Limited

Evidence tiers reflect the source hierarchy applied in this review

- Peer-reviewed or institutional analytical sources.
- Official policy and government documents.
- Contextual media evidence). Evidence strength indicates the methodological rigor and relevance of each source to the conceptual propositions and thematic synthesis..

Search strategy:

Quality Checks

Following the PRISMA 2020 guidelines, the study selection process is illustrated in Figure 2, which outlines the full pathway from the initial search to the final inclusion of studies. The flowchart reflects the four standard stages Identification, Screening, Eligibility, and Inclusion and

reports the number of records at each step to ensure transparency and reproducibility. During the Identification stage, a total of 420 records were retrieved through keyword-based searches across academic databases, governmental portals, and policy repositories. Keywords such as “government strategic communication,” “SMEs,” “Iran,” and “Spain” were used to locate relevant material. After removing duplicates, the remaining records proceeded to the Screening phase. In the Screening stage, titles and abstracts were examined to exclude irrelevant subjects, purely theoretical papers without empirical relevance, and general economic reports outside the scope of strategic communication. This process reduced the pool to 230 studies. The Eligibility stage involved a full-text review based on predefined inclusion criteria: (1) explicit analysis of government communication or SME-related policy communication, (2) relevance to either Iran or Spain, and (3) publication between 2000 and 2024. Studies with insufficient methodological clarity, inadequate focus on communication, or inaccessible full texts were excluded. Ultimately, 14 studies met all criteria and were included in the qualitative synthesis. These studies form the empirical foundation for the thematic analysis and the conceptual model developed in this review.

PRISMA Compliance: To ensure transparent reporting, this review adhered to the PRISMA 2020 guidelines. Items 5 (protocol and registration), 16 (certainty assessment), and 23 (certainty of evidence) were marked as “Not applicable” in accordance with journal instructions, as the review did not involve a registered protocol or a quantitative certainty assessment (e.g., GRADE). Additionally, items related to effect measures (Item 13) and risk-of-bias evaluations (Items 12, 15, 19, 22) were also noted as “Not applicable” because this study is a qualitative systematic review and does not include meta-analysis or formal statistical synthesis requiring effect size estimation or quantitative bias assessment. All remaining PRISMA checklist items were fully addressed and reported in the manuscript

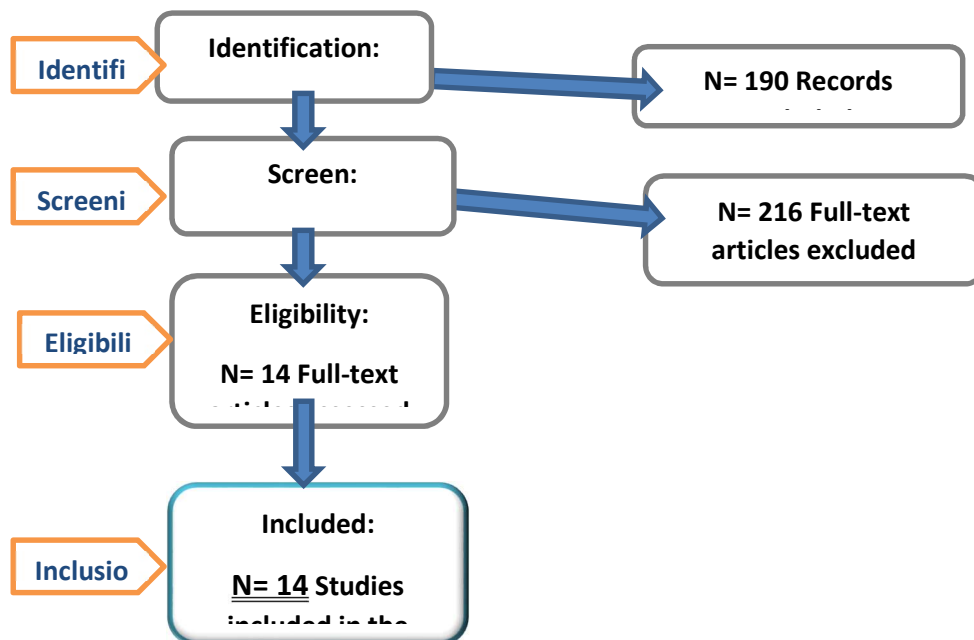


Figure2. PRISMA

7. Findings

Overview

The Findings section synthesizes evidence across studies rather than summarizing individual sources, emphasizing convergence, divergence, and explanatory patterns across Iran and Spain. Rather than re-defining the communication dimensions introduced in the conceptual framework (Section 5.4), the Findings section focuses exclusively on how these mechanisms operate empirically across Iran and Spain. Conceptual definitions are therefore not repeated, and each theme is interpreted through its observable effects on SME innovation behavior. This section presents the thematic synthesis derived from the comparative analysis of 14 validated sources. Five cross-country themes emerged from the coding process: transparency, consistency, digital communication, resource communication, and stakeholder engagement. While these dimensions are conceptually interconnected, the evidence highlights distinct mechanisms through which strategic communication influences SME innovation behavior in Iran and Spain.

Table 2 Comparative Thematic Findings of Government Strategic Communication on SMEs (Iran and Spain)

Theme	Spain – Empirical Pattern	Iran – Empirical Pattern	Innovation Implications for SMEs	Evidence Convergence
Transparency & Clarity	Institutionalized transparency frameworks, open data portals, and real-time regulatory updates generate predictable information environments for SMEs.	Fragmented and delayed regulatory communication increases uncertainty and information asymmetry for SMEs.	Spain: Lower information costs and improved innovation planning. Iran: Higher search costs and risk-averse innovation behavior.	Strong (Tier 1 & 2 sources)
Consistency & Policy Stability	Long-term SME strategies and continuity across political cycles stabilize expectations and reduce regulatory risk.	Frequent policy shifts communicated inconsistently elevate uncertainty and disrupt strategic investment decisions.	Spain: Encourages long-term innovation investment. Iran: Discourages R&D and export-oriented innovation.	Strong (cross-source convergence)
Accessibility of Communication Channels	Centralized digital portals and harmonized procedures simplify administrative	Multiple digital platforms exist but remain fragmented and difficult to	Spain: Faster policy uptake and digital innovation participation.	Moderate

Theme	Spain – Empirical Pattern	Iran – Empirical Pattern	Innovation Implications for SMEs	Evidence Convergence
	interaction and improve SME access.	navigate for small firms.	Iran: Limited absorption of support programs.	
Digital Communication Effectiveness	National digital strategies strengthened trust in digital channels and enhanced SME digital capability.	Digital systems suffer from low reliability and procedural bottlenecks, pushing SMEs toward offline interaction.	Spain: Higher digital adoption and innovation readiness. Iran: Slower digital transformation among SMEs.	Moderate
Institutional & Cultural Context	Decentralized governance, professionalized public administration, and stakeholder engagement reinforce communication credibility.	Centralized bureaucracy and lower institutional trust weaken communication effectiveness.	Spain: Positive feedback loop between trust and innovation. Iran: Constrained participation in innovation ecosystems.	Strong (theory–evidence alignment)

Evidence convergence reflects the degree to which thematic patterns are supported by multiple independent sources across different evidence tiers. Innovation implications are inferred through the conceptual model linking strategic communication mechanisms to SME innovation behavior.

Theme 1 — Transparency and Information Costs

Transparency was consistently identified as a critical mechanism reducing information asymmetry and enabling SMEs to make informed innovation decisions. In the Spanish context, transparency operates through structured public communication channels, including centralized web portals, open data platforms, and standardized calls for innovation programs. These mechanisms reduce search costs and enable SMEs to access clear eligibility criteria, timelines, and funding rules.

In Iran, transparency is often fragmented across agencies, resulting in duplicative information structures and uneven dissemination practices. SMEs frequently depend on informal networks and personal contacts to understand policy directions, which increases information costs and discourages risk-taking in innovative activities. The absence of real-time data and unclear communication about regulatory changes amplifies uncertainty and reduces participation in innovation support schemes.

Comparative insight:

Transparency not only reduces information costs but also directly shapes risk perception. In Spain, higher institutional trust amplifies the positive effects of transparency on innovation readiness. In

Iran, transparency has limited effect unless coupled with credible guarantees, reflecting lower trust environments.

Innovation implication:

Transparency is not simply a communication norm but a strategic lever affecting absorptive capacity the ability of SMEs to interpret and leverage policy signals for innovation decisions.

Theme 2 — Consistency and Regulatory Stability

Consistency refers to the stability and predictability of governmental communication over time. Evidence shows that in Spain, strategic communication adopts a longitudinal narrative, aligning short-term policy announcements with long-term innovation strategies (e.g., Spain Digital Agenda, SME Strategy 2030). This reduces regulatory uncertainty and enables SMEs to plan investments based on anticipated developments.

In Iran, communication related to SMEs and innovation support is often episodic, tied to yearly budgets, political cycles, or ad hoc initiatives. The absence of consistent messaging weakens the credibility of programs and reduces SMEs' willingness to invest in high-risk innovative projects.

Comparative insight:

Consistency functions as a trust-building mechanism, particularly in environments where private sector actors are sensitive to institutional volatility. In Spain, consistency mediates the link between strategic communication and innovation commitment; in Iran, the lack of consistency reinforces the perception of regulatory risk.

Innovation implication:

Consistent communication is a prerequisite for innovation planning horizons, enabling SMEs to engage in multi-year research collaborations, joint ventures, and technology adoption projects.

Theme 3 — Digital Communication and Channels

Digital government communication represents a distinct theme shaping SME innovation. Spain demonstrates advanced digital communication infrastructures, including e-administration platforms, AI-supported portals, and integration with private innovation ecosystems. These tools accelerate access to information, facilitate digital applications, and reduce administrative burdens, especially for early-stage SMEs.

In Iran, while digital tools have expanded in recent years, the system remains unevenly implemented, with inconsistent user experience and frequent discrepancies between digital information and in-person procedures. SMEs often face duplicated paperwork despite online submissions, reducing confidence in digital channels.

Comparative insight:

Digital communication amplifies transparency and consistency but depends on interoperability and administrative alignment. Without these elements, digital tools become symbolic rather than functional.

Innovation implication:

Effective digital communication increases SMEs' transactional efficiency, enabling faster participation in innovation programs, which is particularly relevant for startups with limited administrative resources.

Theme 4 — Communication of Funding and Support Mechanisms

Clear communication of funding opportunities is central to enabling SME innovation. Spain uses standardized calls, with detailed evaluation criteria, timelines, and online tracking systems. This transparency allows SMEs to assess their likelihood of success and plan resource allocation.

In Iran, support mechanisms are often communicated through fragmented channels, and selection criteria are not always disclosed clearly, leading to uncertainty and perceptions of unfairness. SMEs may avoid applying due to low confidence in predictable outcomes.

Comparative insight:

The clarity of funding communication shapes perceived accessibility. In Spain, public communication creates a sense of procedural fairness, enhancing participation. In Iran, unclear communication reinforces reliance on personal networks.

Innovation implication:

Access to funding information is linked to innovation equity, as unclear communication disproportionately affects SMEs without insider networks.

Theme 5 — Stakeholder Engagement and Co-Creation

Effective strategic communication integrates feedback loops between government and SMEs. In Spain, stakeholder engagement is structured through public consultations, industry associations, regional innovation hubs, and digital feedback mechanisms, providing SMEs with channels to influence policy design.

In Iran, the engagement process remains top-down, with limited structured feedback mechanisms. Consultation tends to occur through informal channels or intermediaries, reducing the ability of the government to capture real SME needs.

Comparative insight:

Stakeholder engagement functions as a knowledge exchange mechanism, shaping policy relevance and adoption. Spain's co-creation model reflects a more mature innovation ecosystem culture.

Innovation implication:

Engagement enables SMEs to develop policy literacy, improving their capacity to integrate public instruments into their innovation strategies.

Table 3 Mapping of Sources (Table 1) to Thematic Findings (Table 2)

Theme	Spain Supporting Sources (Table 1 No.)	Iran Supporting Sources (Table 1 No.)	Evidence Distribution (Tier 1 / Tier 2 / Tier 3)	Robustness Assessment
Transparency & Clarity	7, 8, 9, 10, 11, 12, 13	1, 2, 4, 5, 6, 14	Spain: 2 / 4 / 1 Iran: 2 / 1 / 3	High – Consistent cross-source and cross-country patterns
Consistency & Policy Stability	7, 8, 9, 10, 12, 13	1, 3, 4, 6, 14	Spain: 1 / 4 / 1 Iran: 2 / 1 / 2	Moderate – Heterogeneous

Theme	Spain Supporting Sources (Table 1 No.)	Iran Supporting Sources (Table 1 No.)	Evidence Distribution (Tier 1 / Tier 2 / Tier 3)	Robustness Assessment
				evidence with institutional variation
Accessibility of Communication Channels	7, 8, 10, 11	2, 5, 6	Spain: 0 / 4 / 0 Iran: 0 / 1 / 2	Moderate – Structural fragmentation evident in Iran
Digital Communication Effectiveness	7, 8, 10, 11	2, 3	Spain: 0 / 4 / 0 Iran: 0 / 2 / 0	Moderate – Quality and performance contrast across systems
Institutional & Cultural Context	7, 8, 9, 12, 13	1, 4, 14	Spain: 2 / 2 / 1 Iran: 2 / 0 / 1	High – Systemic institutional effects aligned with theory

- Source numbers correspond to entries listed in Table 1.
- Evidence tiers follow the hierarchy defined in Section 6.5 (Tier 1: peer-reviewed or analytical institutional sources; Tier 2: official policy and government documents; Tier 3: contextual media evidence).
- Robustness assessment reflects convergence across source types, methodological rigor, and consistency with the conceptual model.

8. Discussion

The findings reveal that strategic communication influences SME innovation through institutional mechanisms rather than through communication practices alone. Two theoretical insights emerge.

8.1 Institutional Trust as a Mediator

Trust determines whether transparency, consistency, and digitalization translate into meaningful innovation behavior. In Spain, where institutional trust is higher, communication reduces perceived risks, enabling SMEs to invest in uncertain innovation processes. In Iran, communication improvements alone may not alter risk perceptions unless supported by credible institutional guarantees.

8.2 Administrative Centralization and Signaling

Centralized systems without feedback loops limit the signaling effect of communication. Spain balances central strategy with regional innovation ecosystems, enabling bottom-up knowledge flows. Iran's centralized model restricts co-creation and weakens the translation of policy signals into SME innovation capacity.

8.3 Strategic Government Communication as an Institutional Signal

Beyond its informational role, the findings indicate that strategic government communication functions as an institutional signal that shapes SMEs' expectations about policy credibility, regulatory stability, and long-term commitment to innovation support. Drawing on institutional theory (North, 1990), communication acts as a signaling mechanism through which governments convey the reliability and enforceability of policy intentions.

In Spain, consistent and transparent communication across ministries and digital platforms reinforces the credibility of policy signals, reducing uncertainty and encouraging SMEs to engage in long-term innovation investments. In contrast, in Iran, fragmented communication and abrupt policy shifts weaken signal credibility, leading SMEs to discount official messages and rely instead on informal networks. This divergence demonstrates that the effectiveness of communication depends less on message volume and more on its institutional embeddedness.

8.4 Absorptive Capacity as the Key Transmission Mechanism

The analysis further reveals that absorptive capacity represents the central transmission mechanism linking strategic communication to SME innovation outcomes. Communication practices influence innovation not directly, but by shaping SMEs' ability to interpret, internalize, and exploit policy-related knowledge.

Clear and consistent communication enhances organizational learning by enabling firms to anticipate regulatory changes, understand funding procedures, and align innovation strategies with public priorities. In Spain, higher levels of institutional trust and digital maturity allow SMEs to convert communication signals into actionable knowledge. In Iran, weaker institutional credibility limits this conversion process, constraining the development of absorptive capacity despite the presence of formal support programs.

This finding extends existing innovation ecosystem literature by positioning absorptive capacity not only as a firm-level capability, but also as an outcome of institutional communication quality.

8.5 Explaining Cross-Country Divergence: Institutional Quality Matters

The comparative findings demonstrate that differences between Iran and Spain are not primarily driven by the presence or absence of innovation policies, but by institutional quality and governance structures that condition how communication is received and acted upon.

Spain's decentralized governance, professionalized public administration, and established stakeholder engagement mechanisms amplify the effectiveness of strategic communication. These features enable feedback loops, policy learning, and co-creation, reinforcing SMEs' confidence in public innovation instruments. In contrast, Iran's centralized administrative structure and lower institutional trust reduce the credibility of communication signals, limiting SMEs' willingness to engage in high-risk innovation activities. This cross-country divergence highlights that strategic communication cannot be treated as a universally transferable policy tool. Its impact on SME innovation is contingent on institutional trust, administrative coordination, and the maturity of innovation ecosystems.

Theoretical Implications

Taken together, these findings advance the innovation and public policy literature by demonstrating that strategic government communication operates as a form of institutional infrastructure rather than a neutral transmission channel. The study shows that communication influences innovation behavior only when embedded within credible institutional arrangements that support learning, trust, and coordination.

9. Contributions

9.1 Conceptual Contribution

This study contributes conceptually by structuring fragmented evidence on government strategic communication into a multidimensional analytical framework that explains how communication quality influences SME innovation outcomes. Rather than treating communication as a generic policy instrument, the framework specifies five distinct mechanisms transparency, policy consistency, digital communication, funding-related communication, and stakeholder engagement through which communication shapes SMEs' innovation behavior.

Importantly, the study advances existing innovation and institutional theory by identifying institutional trust and administrative centralization as key mediating conditions that determine whether communication mechanisms translate into enhanced absorptive capacity and innovation engagement. By doing so, the framework clarifies why similar policy messages produce different innovation responses across institutional contexts, addressing a gap in comparative innovation studies.

9.2 Methodological Contribution

Methodologically, the study demonstrates the applicability of a PRISMA-based systematic review to a research domain where evidence is sparse, heterogeneous, and distributed across academic and policy-oriented sources. The use of a structured source hierarchy, combined with a hybrid deductive–inductive coding strategy and intercoder reliability checks, provides a transparent and replicable approach for synthesizing qualitative evidence on policy communication and innovation.

By explicitly linking PRISMA selection stages to thematic robustness and cross-country comparison, the study illustrates how systematic review methods can be adapted to analyze institutional communication mechanisms rather than purely quantitative innovation outcomes. This contributes to methodological discussions on evidence synthesis in innovation and public policy research.

9.3 Policy and Managerial Contribution

From a policy and managerial perspective, the findings offer design principles for strategic government communication aimed at supporting SME innovation in different institutional settings. The study highlights that effective communication frameworks require:

- Predictable and consistent policy messaging to reduce regulatory risk.
- Integrated and user-oriented digital government interfaces.
- Transparent communication of funding criteria and evaluation procedures.
- Structured stakeholder engagement mechanisms that enable feedback and co-creation.

The comparative evidence suggests that in contexts with lower institutional trust, communication reforms must be accompanied by credibility-enhancing measures, while in more mature innovation ecosystems, incremental improvements in digital coordination and data-driven communication can further strengthen SME innovation participation. These insights support policymakers and innovation managers in tailoring communication strategies to institutional conditions rather than adopting one-size-fits-all models.

Scope and Contribution Calibration

The contributions of this study should be interpreted within the scope of a systematic qualitative synthesis. Given the limited and heterogeneous nature of the available evidence, the proposed framework does not claim causal validation but rather offers a structured interpretation of existing knowledge. Importantly, the scarcity of focused studies on government strategic communication and SME innovation in both Iran and Spain constitutes a substantive finding of this review, highlighting a significant research gap. Accordingly, the framework and thematic insights developed in this study are intended to inform and guide future empirical investigations, rather than replace them.

10. Limitations

This study is subject to three interrelated limitations, each constraining a different dimension of validity:

Internal validity

The analysis relies exclusively on secondary sources, including peer-reviewed studies, policy documents, and media reports. As a result, the synthesis may be affected by publication bias and institutional self-reporting, particularly in government documents that tend to emphasize policy success over implementation challenges. This limitation restricts the ability to independently verify causal claims regarding communication effectiveness.

External validity

The comparative focus on Iran and Spain limits the transferability of findings to other institutional contexts. While the two cases provide meaningful contrast between centralized and decentralized governance systems, the identified mechanisms should not be assumed to operate identically in other emerging or advanced economies without contextual adaptation.

Analytical generalization

The proposed conceptual model identifies mediating mechanisms (e.g., institutional trust, administrative centralization) but does not quantify their relative influence on SME innovation outcomes. Consequently, the findings support analytical generalization rather than statistical

inference, and causal strength among mechanisms remains theoretically inferred rather than empirically tested.

11. Future Research

Future research should empirically operationalize the proposed conceptual model by developing measurable indicators for each communication mechanism. Building on the limitations identified above, three priority research directions emerge:

- **AI and digital analytics.**

Future studies could examine how algorithm-driven platforms and real-time digital dashboards shape policy signalling, information asymmetries, and SMEs' innovation decisions.

- **Sector-specific comparative studies.**

Research focusing on innovation-intensive sectors could test whether communication mechanisms operate differently across technological and market environments.

- **Institutional and quasi-experimental designs.**

Comparative case studies or policy experiments could assess how targeted communication reforms influence SME risk perceptions, absorptive capacity, and innovation investment.

Each of these directions directly addresses under-specified relationships in the conceptual model and advances the empirical testing of the mechanisms identified in this review.

12. Implications

The findings yield several implications for policymakers and innovation managers:

- Strategic communication should be treated as innovation infrastructure, not merely an administrative function.
- Transparent and predictable communication reduces perceived regulatory risk and increases SMEs' willingness to engage in uncertain innovation activities.
- Digital government systems should be designed to provide end-to-end procedural clarity, rather than fragmented information access.
- Structured stakeholder engagement enhances policy legitimacy and improves alignment with SME innovation needs.

Context-specific implications further highlight differentiated policy priorities:

For Iran, gradual reforms should prioritize:

- unified and reliable digital government interfaces,
- transparent and consistently communicated funding criteria, and
- formalized consultation mechanisms to rebuild institutional trust.

For Spain, innovation policy communication could be strengthened by:

- expanding data-driven and personalized communication tools,
- improving coordination between national and regional innovation agencies, and
- enhancing feedback loops for SMEs in peripheral and rural regions.

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