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Designing a Search-Engine Content Optimization (SEO) Model for Official News Agencies with an Emphasis on the "First Narrative" (Case Study: IRNA)

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ABSTRACT

Official news agencies operating under platform-dominated distribution face a persistent dilemma: they must safeguard institutional authority while adapting to algorithmic ranking logics. This study develops a search-engine content optimization (SEO) model for the Islamic Republic News Agency (IRNA), anchored in the discourse of the "first narrative." The research adopts a qualitative approach using thematic network analysis. The study population comprised IRNA managers, senior editors, and information-technology specialists. Using purposive sampling with maximum variation, 20 participants were recruited until theoretical saturation was reached. Data were collected through in-depth semi-structured interviews, and the trustworthiness of findings was strengthened through credibility procedures, including participant review. The analysis yielded 20 basic themes, 8 organizing themes, and 4 global themes: (1) engineering message architecture and aligning content with search intent; (2) streamlining the publication workflow and increasing newsroom agility; (3) algorithmic validation and protecting journalistic authority; and (4) cross-sector convergence and the development of a data-driven ecosystem. The findings suggest that achieving the first narrative while maintaining organic visibility requires moving beyond the conventional speed–depth dichotomy and adopting a three-phase publishing protocol: rapid release of a news "skeleton," iterative analytical layering, and consolidating the approach through live updating. The proposed model reframes SEO from a marketing tactic into a strategic instrument for digital gatekeeping and the reproduction of media brand authority.

Keywords: *content optimization (SEO); first narrative; official news agency; algorithmic gatekeeping; IRNA.*

Introduction

The contemporary media environment is characterized by an unprecedented convergence of journalism, digital technologies, platform infrastructures, and algorithmic systems. News organizations no longer operate solely within a conventional communication model in which information is produced by professional journalists and subsequently distributed through relatively stable channels to audiences. Instead, the visibility, circulation, and social influence of news increasingly depend on computational infrastructures that organize access to information and determine which content becomes discoverable at specific moments. Search engines constitute one of the most influential

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components of this environment because they mediate a substantial proportion of users' encounters with online information and determine the relative prominence of competing sources. Consequently, journalistic effectiveness in digital environments depends not only on producing accurate and timely information but also on ensuring that such information can be efficiently crawled, indexed, interpreted, and ranked by search engines. Search engine optimization (SEO), therefore, has moved beyond its original association with commercial website promotion and has become an important component of digital communication strategy, particularly for organizations whose social influence depends on sustained visibility in highly competitive information environments (1).

SEO can broadly be understood as a systematic set of technical, structural, semantic, and content-oriented practices intended to improve the visibility of web pages in organic search results. Contemporary SEO encompasses considerably more than the mechanical insertion of keywords into digital texts. It involves understanding user search behavior, developing semantically coherent content, organizing information through appropriate headings and internal links, improving website architecture, ensuring mobile usability and technical performance, establishing source authority, and aligning content with search intent. Effective optimization therefore requires coordination between editorial content and technological infrastructure rather than treating them as separate organizational domains (2). Recent approaches similarly emphasize that successful optimization depends on an integrated framework involving on-page content characteristics, website-level technical architecture, external authority signals, and continuous evaluation of user and search-engine behavior. Such multidimensionality has encouraged researchers to conceptualize SEO as an organizational process rather than merely a collection of isolated technical techniques (3).

The importance of SEO becomes particularly evident in news production because online journalism operates under intense temporal competition. News organizations compete not only to report events accurately but also to become visible at the moment when public interest and search demand are highest. Search behavior often increases sharply immediately after significant political, economic, social, cultural, or security events, creating a limited temporal window within which media organizations can establish their content as a primary informational reference. News websites that achieve strong visibility during this period may attract substantial organic traffic, establish themselves as authoritative sources, and influence the subsequent circulation of information. In contrast, news organizations that publish accurate information but fail to optimize its digital presentation may find their reports displaced by secondary sources whose content is more compatible with search-engine ranking systems. Research focusing specifically on news websites demonstrates that SEO can substantially influence audience reach and traffic while simultaneously affecting the ways news organizations design headlines, organize stories, develop linking structures, and adapt editorial practices to platform requirements (4).

This transformation has important theoretical implications for journalism and mass communication. Traditional models of agenda-setting emphasize the capacity of mass media to influence the salience of public issues by determining which subjects receive sustained attention. Through repeated and prominent coverage, media institutions contribute to shaping the issues that audiences perceive as socially significant (5). In digital environments, however, agenda-setting cannot be understood exclusively as a function of editorial selection. Search engines, social platforms, recommendation systems, and other algorithmic intermediaries increasingly participate in determining which journalistic materials audiences encounter. A news organization may consider a particular story important and publish it prominently on its own website, yet the story's broader public influence can

remain limited if algorithmic systems fail to retrieve or prioritize it. The architecture of contemporary agenda-setting therefore involves interaction between human editorial decisions and automated systems of information selection.

This development corresponds closely with the concept of algorithmic gatekeeping. Algorithms do not merely arrange neutral bodies of information; through classification, ranking, recommendation, and filtering processes, they actively participate in determining the relative visibility of information. Their influence derives partly from their ability to make some forms of content highly accessible while rendering others comparatively invisible, thereby affecting the conditions under which public knowledge is constructed (6). Search-engine ranking is particularly important because users frequently interpret prominent results as relevant or authoritative answers to their informational needs. Consequently, media organizations are increasingly required to understand the computational criteria governing visibility while simultaneously preserving professional journalistic standards. The challenge is not simply to satisfy algorithms, but to translate credible journalism into formats that algorithmic systems can recognize, interpret, and appropriately rank.

For official news agencies, this challenge has particular strategic significance. Unlike many commercially oriented media organizations, official agencies perform functions associated with institutional communication, public information, national news coverage, and the rapid dissemination of verified information about consequential events. Their organizational legitimacy depends substantially on credibility, accuracy, attribution, and professional responsibility. Journalism is fundamentally grounded in obligations to truth, verification, independence, and service to citizens, meaning that digital adaptation cannot legitimately occur by sacrificing these principles for visibility or audience metrics (7). The central problem is therefore how official news institutions can respond to the technological logic of contemporary information distribution while maintaining their journalistic identity and institutional authority.

Within this context, the concept of the “first narrative” acquires renewed significance. In conventional journalism, temporal priority has traditionally been associated with being the first organization to report an event accurately. However, in an algorithmically mediated information environment, simple chronological priority does not necessarily guarantee communicative priority. A news agency may publish an accurate report before its competitors but subsequently lose visibility if competing outlets provide content that search engines perceive as more relevant, accessible, structured, comprehensive, or authoritative. The first narrative must therefore increasingly be understood not only as the first published version of an event but also as the first authoritative narrative that becomes effectively discoverable and accessible to users. This distinction transforms SEO from a peripheral technical consideration into an element potentially affecting the strategic success of journalistic agenda formation.

The relationship between visibility and media authority is also closely connected to organizational branding. Search-engine presence affects not only short-term traffic but also users’ perceptions of organizational expertise and credibility. Repeated exposure to the same source across relevant search queries can strengthen recognition, familiarity, and confidence in that organization. Research concerning SEO and brand equity indicates that search visibility can contribute to brand awareness and perceived authority by increasing the frequency and prominence with which audiences encounter an organization in relevant informational contexts (8). For news institutions, this relationship is especially consequential because media brands depend strongly on audience perceptions of reliability. When an official news agency repeatedly appears prominently in searches related to major events, its digital visibility can reinforce its position as an authoritative source. Conversely, persistent absence from prominent search results may weaken the practical expression of institutional authority, even if the organization retains considerable traditional prestige.

Iranian media organizations face similar pressures. Studies assessing SEO performance in Iranian news and information environments have demonstrated that the existence of a website alone does not guarantee effective online visibility. Evaluation of Iranian national newspaper websites has revealed substantial variation in compliance with SEO indicators and has highlighted deficiencies in both content-related and technical optimization practices (9). These findings are especially important because the Persian-language web environment presents distinctive challenges, including differences in orthography, keyword expression, content architecture, hyperlinking practices, and user search behavior. Organizations seeking visibility in this environment therefore require context-sensitive optimization strategies rather than simple transplantation of generic international SEO recommendations.

Content quality is central to this process. Search optimization is increasingly connected with the development of useful, original, semantically rich, and audience-oriented content. Content marketing research has demonstrated that the quality, relevance, organization, and informativeness of digital content can contribute substantially to improved search visibility (10). Although content marketing and journalism differ in objectives and professional norms, their intersection is significant because both depend on accurately identifying audience information needs and providing accessible responses. For a news organization, this does not mean transforming journalism into promotional communication. Rather, it means designing journalistic texts so that the language, structure, headings, metadata, and supporting information correspond more effectively with the ways audiences search for information.

Audience participation introduces another layer of complexity. Digital journalism is no longer organized around a strict separation between content producers and passive recipients. User comments, sharing behavior, click patterns, and other forms of engagement can contribute to the overall visibility and perceived relevance of news content. Research on SEO strategies associated with user comments on news websites illustrates the need to balance audience engagement with editorial integrity, demonstrating that interactive features can affect digital performance while simultaneously generating concerns about moderation, quality, and journalistic standards (11). For official news agencies, the challenge is particularly sensitive because engagement-oriented practices must remain compatible with institutional responsibilities and the need to preserve informational credibility.

These interconnected pressures suggest that SEO within an official news organization cannot effectively be managed as an isolated activity assigned exclusively to technical personnel after publication. Instead, optimization must become integrated with the entire newsroom workflow, including topic identification, headline formulation, lead writing, source attribution, multimedia production, internal linking, content updating, archival management, analytics, and technical infrastructure. Such integration requires organizational coordination among reporters, editors, data specialists, web developers, and decision-makers. It also requires a shift from viewing optimization as a corrective action applied to already completed content toward understanding it as part of the architecture of digital news production itself.

Nevertheless, integrating SEO into journalism generates a fundamental professional tension. Newsrooms are typically organized around speed, verification, editorial judgment, accuracy, and narrative clarity, whereas search optimization introduces additional considerations related to keywords, semantic structures, metadata, technical performance, and user intent. Excessive emphasis on optimization may encourage formulaic headlines, sensationalism, or content production driven predominantly by search demand. Conversely, rejecting optimization altogether may result in high-quality journalism becoming practically invisible in the digital environment. A sustainable model must therefore reconcile technological discoverability with journalistic independence. The

objective should not be to subordinate journalism to algorithms, but to enable verified journalism to remain competitive within systems in which algorithms already structure public access to information.

This tension is particularly important for the Islamic Republic News Agency (IRNA), whose institutional position requires both rapid dissemination of official and public-interest information and preservation of journalistic credibility. As identified in the present manuscript, IRNA's challenge is not simply the production of news, but the capacity to ensure that its first narrative remains visible within algorithmically mediated distribution systems, where publication speed and search-engine compatibility must operate simultaneously. A contextualized SEO model for such an organization must therefore account for newsroom realities rather than merely prescribing generic optimization checklists. It must consider how official language can be translated into search-accessible formulations without distorting meaning, how breaking news can be published rapidly without sacrificing structural quality, how journalistic authority can be communicated through digital signals, and how editorial and technical functions can be coordinated within a single workflow.

Developing such a model also requires an exploratory methodological orientation because the interaction among journalistic routines, institutional priorities, algorithmic technologies, and professional experiences cannot be adequately understood through isolated numerical indicators alone. Qualitative research is particularly suitable for investigating complex organizational processes when researchers seek to understand how actors interpret practices, challenges, relationships, and contextual conditions within their natural settings (12). Qualitative inquiry facilitates examination of the meanings that newsroom professionals assign to SEO, the tensions they experience between speed and optimization, and the organizational mechanisms they consider necessary for integrating algorithmic requirements into journalistic routines. More broadly, research design should be selected according to the nature of the research problem and the type of knowledge required, and exploratory questions involving processes and participant perspectives are particularly compatible with qualitative approaches (13).

The selection of knowledgeable participants is equally important when research concerns specialized institutional processes. Purposeful sampling enables researchers to identify information-rich cases capable of providing detailed insights into the phenomenon under investigation rather than relying on statistical representativeness alone (14). In the context of SEO and official news production, meaningful understanding requires the perspectives of actors occupying different positions within the production ecosystem, including newsroom managers, editors, journalists, information-technology professionals, and optimization specialists. Their combined experiences can illuminate both the editorial and technological dimensions of algorithmic visibility and reveal points of organizational convergence or conflict that would be difficult to capture through purely technical website analysis.

Despite the growing literature on SEO, important research gaps therefore remain. Existing studies have contributed substantially to identifying optimization indicators, explaining technical ranking factors, assessing website performance, exploring audience engagement, and examining relationships between SEO, traffic, and brand equity. However, fewer studies have addressed how these elements can be integrated into the real-time workflow of an official news agency whose mission includes producing and sustaining an authoritative first narrative. Much of the established literature has emerged from commercial websites, marketing environments, conventional newspaper sites, or generalized technical SEO frameworks. These perspectives provide necessary foundations but do not fully explain how search optimization should be operationalized under the simultaneous demands of rapid reporting, institutional credibility, source verification, public responsibility, and algorithmic competition.

Accordingly, the central issue is no longer whether official news agencies should engage with SEO, but how they can institutionalize optimization in a manner that strengthens rather than compromises professional journalism. A context-specific model must reconcile user search intent with editorial agenda-setting, technological discoverability with institutional credibility, speed with verification, and algorithmic performance with the normative commitments of journalism. Such an approach can reposition SEO as a strategic component of contemporary digital gatekeeping, enabling an official news organization to maintain communicative authority not only through the production of credible information but also through the effective delivery of that information within the computational systems through which contemporary audiences increasingly encounter news.

Therefore, this study aims to design a contextualized search-engine content optimization (SEO) model for official news agencies, with emphasis on strengthening IRNA's capacity to establish and sustain the "first narrative" through the integration of journalistic authority, algorithmic visibility, newsroom agility, and data-driven digital practices.

Methodology

In terms of objective, this study is classified as applied-developmental research; in terms of epistemological orientation and data collection and analysis procedures, it adopts a qualitative methodology grounded in an empirical case-study strategy (Creswell & Creswell, 2018; Merriam & Tisdell, 2016). Search engine optimization (SEO) within a state news agency—particularly when intersecting with the strategic mission of securing the "first narrative"—is neither a unidimensional algorithmic matter nor a set of mathematical formulas calculated by search crawlers. Rather, it represents a composite, multi-layered construct deeply embedded in journalistic practices, regulatory and political requirements of public media institutions, technological infrastructure constraints, and emerging news-consumption patterns across the Persian web ecosystem. Investigating this dynamic requires moving beyond variable-centric quantitative simplifications to engage directly with the lived experiences and accumulated expertise of frontline journalists and data engineers. Accordingly, conducting an empirical case study within the Islamic Republic News Agency (IRNA)—as Iran's oldest and most extensive institutional news organization—afforded an empirical context to examine semantic discoverability, publication velocity, source attribution, and search-intent alignment in a real-time newsroom setting.

The participant pool comprised key stakeholders across IRNA's web production and distribution workflow, including senior editorial managers, desk editors (politics, society, international, economy, and provincial affairs), shift editors, breaking news reporters, SEO and data-analytics specialists, and CMS infrastructure engineers. To capture comprehensive, field-grounded insights, purposive sampling with maximum variation was employed (Patton, 2015). This criterion ensured balanced representation between journalistic priorities (accuracy, credibility, and professional ethics) and computational factors (algorithmic ranking signals, audience engagement metrics, and technical site performance). Participant recruitment and fieldwork continued until theoretical saturation was reached (Saunders et al., 2018). In this iterative process, data from each session were immediately transcribed and reviewed to refine subsequent interview prompts; saturation became evident following the 20th interview (N=20N = 20N=20), as new transcripts yielded redundant conceptual patterns without expanding the emergent coding structure.

Data were gathered using in-depth semi-structured interviews guided by an exploratory protocol. The protocol centered on core operational and conceptual topics: editorial staff perceptions of search engine ranking logics; tensions between instantaneous publication of the first narrative and comprehensive textual depth; keyword framing and semantic indexing versus natural user phrasing; digital attribution and verification mechanisms for search bots;

translating bureaucratic official texts into user-oriented language; site architecture, internal linking, and live blogging workflows; and organizational friction between news desks and technical SEO personnel. Interviews were conducted either in person at IRNA's central newsroom or via secure video calls. Each session was audio-recorded, transcribed verbatim, and systematically coded.

To interpret the qualitative material, thematic network analysis was conducted following established frameworks (Attride-Stirling, 2001; Braun & Clarke, 2006). Rather than reducing findings to static codes, data were abstracted into a three-tiered hierarchical thematic network consisting of basic themes, organizing themes, and global themes. The analytic process proceeded through six sequential phases: (1) deep immersion through repeated close readings of transcripts; (2) generating initial codes grounded in discrete semantic units; (3) refining and clustering initial codes into basic themes; (4) grouping cohesive basic themes into organizing themes; (5) abstracting overarching global themes that articulate the structural, editorial, and infrastructural dimensions of the model; and (6) constructing the final thematic network and preparing the interpretive narrative.

To establish qualitative rigor and trustworthiness, the study applied Lincoln and Guba's (1985) evaluative criteria:

1. **Credibility:** To confirm interpretive congruence between the researcher and participants, member-checking was conducted by presenting coding matrices and theme definitions to four senior participants (two managing editors and two data/SEO specialists), whose feedback was integrated into the final coding scheme. Additionally, emerging findings were subjected to peer debriefing across two academic seminars attended by faculty and researchers in digital media and communication science. Prolonged engagement in IRNA's editorial newsroom further grounded data interpretation.
2. **Transferability:** Achieved through thick, detailed descriptions of the research setting, the organizational realities of a state news agency, and extensive contextual empirical excerpts within the findings. This contextual depth enables researchers in comparable institutional environments—such as public broadcasters and official regional agencies—to assess the applicability of the model.
3. **Dependability:** To maintain auditability and methodological consistency, complete procedural documentation was archived, including raw interview transcripts, codebooks linking initial codes to basic themes, analytical memos documenting category mergers, and evolving iterations of the thematic network.
4. **Confirmability:** To mitigate researcher bias and theoretical preconceptions, reflexive memoing was maintained throughout the coding process. A transparent chain of evidence directly links raw narrative excerpts, organizing themes, and global themes, ensuring every interpretive claim remains grounded in the empirical data.

Findings and Results

Systematic thematic network analysis of the qualitative interviews, following extensive iterative coding, yielded an analytical structure comprising 20 basic themes, 8 organizing themes, and 4 global themes. This four-pillar architecture indicates that operationalizing the first-narrative strategy through search engine optimization rests upon four interdependent dimensions: *Message Architecture Engineering and Semantic Search Alignment*, *Operational Workflow Streamlining and Iterative Publishing*, *Algorithmic Validation and Sustaining Institutional Authority*, and *Cross-Sectoral Convergence and Developing a Data-Driven Ecosystem*.

Table 1 presents the comprehensive thematic network—delineating global, organizing, and basic themes alongside analytical evidence derived from newsroom and data specialists—followed by an in-depth interpretive analysis of each dimension.

Table 1. Comprehensive Thematic Network of First-Narrative Content Optimization in Official News Agencies

Global Themes	Organizing Themes	Basic Themes	Empirical Evidence and Analytical Insights
1. Message Architecture Engineering and Semantic Representation	1.1. Keyword Structuring and Textual Identifiers in Headlines and Leads	1.1.1. Front-loading key entities and actors in headlines	Avoiding convoluted literary titles; placing subject, action, and key entities in the opening words to facilitate immediate parsing by search crawlers.
		1.1.2. Crisis-responsive leads that curb user bounce rate	Providing direct answers to core informational queries in the first sentence to prevent immediate user bounce back to SERPs.
		1.1.3. Standardizing orthographic variants and semantic indexing	Formulating editorial protocols for Persian spelling variations (zero-width non-joiners, loanword spellings) to capture diverse search inputs.
	1.2. Translating and Reframing Bureaucratic Official Texts	1.2.1. Intercultural translation of bureaucratic prose into natural user language	Deconstructing dense administrative prose from official press releases and rewriting it into natural user search vernacular without altering facts.
		1.2.2. Direct, structured answers to comparative and explanatory queries	Adopting FAQ frameworks and structured Q&A formats (“Why…?”, “How…?”) for high-interest public-interest events.
2. Operational Workflow Streamlining and Iterative Publishing	2.1. Three-Phase Protocol for Breaking News Coverage	2.1.1. Immediate release of verified factual core (Phase 1)	Overcoming newsroom delays by publishing a verified single-paragraph report within seconds of an event to claim the primary URL and indexing timestamp.
		2.1.2. Progressive content layering and context accumulation (Phase 2)	Layering additional quotes, background context, and analytical details within 10–15 minutes on the same persistent URL.
		2.1.3. Consolidating reports into living reference hubs (Phase 3)	Transforming breaking posts into evergreen reference hubs with multimedia, context, and cross-links for long-term organic visibility.
	2.2. Editorial Support via an Embedded SEO Desk	2.2.1. Decoupling field reporters’ velocity from technical SEO tasks	Allowing field journalists to focus exclusively on sourcing and verification without the cognitive burden of technical keyword tagging.
		2.2.2. Real-time content refinement and metadata optimization by SEO editors	Integrating specialized SEO editors into the editorial CMS to optimize headlines, metadata, and crawlability concurrently with publishing.
3. Algorithmic Validation and Sustaining Institutional Authority	3.1. Author Transparency and First-Hand Source Attribution	3.1.1. Explicit author bylines and reporter credentials	Eliminating anonymous or generic bylines (e.g., “News Desk”) in favor of named author profiles with specialized beats to reinforce E-E-A-T signals.
		3.1.2. Direct citation of primary documents and official decrees	Embedding direct hyperlinks to primary source documents and statements, moving beyond vague attribution (“informed sources”) to signal verifiable authenticity.
	3.2. Multimedia Enrichment and Visual Verification	3.2.1. Original field photography with metadata and timestamps	Deploying original photojournalism enriched with descriptive alt-text and structured EXIF data to confirm visual originality to search engines.
		3.2.2. Structured rumor debunking and fact-checking schemas	Implementing structured claim-review modules to directly capture high-volume crisis search queries regarding factual verification.
4. Cross-Sectoral Convergence and	4.1. Link Architecture and Content Lifecycle Management	4.1.1. Chain-linked internal linking and thematic clustering	Funneling internal link equity from high-velocity breaking news to deep-dive analytical dossiers and pillar pages.

Developing a Data-Driven Ecosystem		4.1.2. Repurposing evergreen archival content with persistent demand	Identifying recurring cyclical keywords (annual events, policy anniversaries) and refreshing existing high-authority URLs rather than publishing redundant pages.
		4.1.3. Geographic targeting and hyper-local search coverage	Leveraging provincial bureau networks to target localized search intents using vernacular place names and regional terminology.
	4.2. Strategic Integration of Data Analytics, Newsroom, and Infrastructure	4.2.1. Newsroom monitoring dashboards tracking real-time search intent	Integrating real-time search trends (e.g., Google Trends) directly onto newsroom monitors to detect emerging information voids before rumors spread.
		4.2.2. Bidirectional synergy between social media and search engines	Using social platforms to spark topic awareness and direct audiences to official web pages, thereby boosting branded organic search volume.
		4.2.3. Monitoring Core Web Vitals and technical performance	Ensuring low page latency, mobile responsiveness, and clean codebase architecture to secure algorithmic eligibility for primary news carousels.

Detailed Thematic Analysis

Global Theme 1: Message Architecture Engineering and Semantic Representation

This theme underscores a persistent communicative disconnect between traditional state journalistic prose and the natural search phrasing used by digital audiences. To secure the first narrative, an official news agency must architect its texts so they are concurrently intelligible to human readers and indexable by semantic search algorithms.

- **Organizing Theme 1.1: Keyword Structuring and Textual Identifiers in Headlines and Leads**

Headlines and leads serve as primary semantic signals, carrying substantial weight in search engine ranking routines for news carousels and Top Stories modules. Field findings indicate that metaphoric, convoluted, or strictly literary headlines fail in search environments; users in crisis contexts query search engines using direct, explicit terminology.

  - *Front-loading key entities and actors in headlines:* Names of central figures, locations, public institutions, and the core event must occupy the initial 3–5 words of the headline, enabling algorithmic parsers to establish topical relevance at the first level of semantic processing.
  - *Crisis-responsive leads that curb user bounce rate:* Traditional bureaucratic leads that begin with time stamps or formulaic preambles clash with hurried online reading behaviors. A responsive lead delivers the essential factual core in its opening sentence, satisfying search intent, sustaining dwell time, and reducing immediate bounce signals.
  - *Standardizing orthographic variants and semantic indexing:* The Persian web presents notable spelling complexities, including half-space inconsistencies, divergent loanword transliterations, and alternate character sets. Implementing standardized newsroom orthographic protocols that anticipate colloquial search variants alongside formal spellings ensures complete keyword retrieval coverage.

- **Organizing Theme 1.2: Translating and Reframing Bureaucratic Official Texts**

A prominent obstacle to digital discoverability is the practice of verbatim republishing of official government press releases and administrative circulars. These documents feature rigid bureaucratic phrasing that users rarely employ in search queries.

- *Intercultural translation of bureaucratic prose into natural user language:* Strategically deconstructing administrative statements and reformulating their core insights using everyday language bridges the gap between user intent and state communications without compromising legal accuracy.
- *Direct, structured answers to comparative and explanatory queries:* Search behavior is frequently framed as inquiries. Structuring content around explicit explanatory formats—such as embedded FAQ blocks and clear "How" or "Why" sections—enables the agency to capture featured snippets and Google "zero-click" position rankings.

Global Theme 2: Operational Workflow Streamlining and Iterative Publishing

The second strategic pillar resolves the long-standing newsroom tension between reporting speed and textual comprehensiveness. Empirical data demonstrate that delaying publication until a story is fully detailed cedes the information space to secondary aggregators and social platforms, permanently forfeiting initial indexing opportunities.

- **Organizing Theme 2.1: Three-Phase Protocol for Breaking News Coverage**

To manage this operational tension, an iterative, layered publishing model was formulated:

- *Immediate release of verified factual core (Phase 1):* At the onset of an event, an initial single-paragraph report containing verified facts is published with an optimized headline. The primary objective is claiming the canonical URL and securing early indexing priority.
- *Progressive content layering and context accumulation (Phase 2):* Over subsequent minutes, the original page is continuously expanded with background context, supplementary quotes, and unfolding developments—signaling dynamic content freshness to search crawlers without altering the URL.
- *Consolidating reports into living reference hubs (Phase 3):* The evolving article is ultimately developed into a comprehensive, multi-perspective dossier enriched with analytical commentary, exclusive photography, and related links, establishing an enduring authoritative record on search results.

- **Organizing Theme 2.2: Editorial Support via an Embedded SEO Desk**

Newsroom friction between field reporters and technical staff typically stems from imposing technical tagging and optimization tasks on journalists under high-pressure breaking news conditions.

- *Decoupling field reporters' velocity from technical SEO tasks:* Field reporters remain focused strictly on factual sourcing, speed, and accuracy, unencumbered by metadata entry or algorithmic keyword densities.
- *Real-time content refinement and metadata optimization by SEO editors:* Embedding specialized digital optimization editors within the newsroom allows simultaneous metadata enrichment, heading hierarchy adjustments, and semantic internal linking as soon as the raw draft enters the CMS.

Global Theme 3: Algorithmic Validation and Sustaining Institutional Authority

Search engines have evolved beyond surface-level keyword matching toward sophisticated models that evaluate source authoritativeness, expert consensus, and organizational credibility. An official news agency possesses

substantial institutional authority; however, if this authority is not articulated through standard digital markup, ranking systems may prioritize secondary or commercial sources.

- **Organizing Theme 3.1: Author Transparency and First-Hand Source Attribution**
    - *Explicit author bylines and reporter credentials:* Publishing articles anonymously or using collective tags (e.g., “News Desk”) triggers lower quality scores under modern search evaluations. Incorporating verifiable author bylines alongside their thematic beats and credentials reinforces transparent authority signals.
    - *Direct citation of primary documents and official decrees:* Incorporating explicit citations and hyperlinks to original legal decrees, official records, and primary transcripts—rather than relying on vague phrasing such as “informed sources”—provides verifiable trust signals to algorithmic evaluators.
- **Organizing Theme 3.2: Multimedia Enrichment and Visual Verification**
    - *Original field photography with metadata and timestamps:* The institutional footprint of provincial photojournalists represents an asset. Modern engines differentiate between recycled stock imagery and original visual reportage. Enriching images with descriptive alt-text, geolocation metadata, and standardized timestamps confirms first-hand field presence.
    - *Structured rumor debunking and fact-checking schemas:* In high-friction news environments, user queries routinely combine event keywords with terms such as “rumor,” “fact-check,” or “unconfirmed.” Adopting transparent fact-checking blocks positioned high within the text enables the official agency to rank as the definitive voice debunking misinformation.

Global Theme 4: Cross-Sectoral Convergence and Developing a Data-Driven Ecosystem

The final global theme establishes that search engine optimization is not an isolated post-publication routine, but an integrated operational ecosystem uniting cross-departmental coordination, continuous data analytics, and robust technical infrastructure.

- **Organizing Theme 4.1: Link Architecture and Content Lifecycle Management**
    - *Chain-linked internal linking and thematic clustering:* Methodically linking transient breaking reports to overarching pillar pages passes equity across the site architecture, preventing early field reports from decaying into digital obscurity.
    - *Repurposing evergreen archival content with persistent demand:* Numerous socio-economic indicators and commemorative events exhibit recurring annual search spikes. Systematically updating existing high-ranking URLs rather than generating redundant duplicate pages preserves accumulated page equity.
    - *Geographic targeting and hyper-local search coverage:* Utilizing the agency’s regional correspondent network to target local search queries by embedding specific district names and local terminology captures location-specific search volume.
- **Organizing Theme 4.2: Strategic Integration of Data Analytics, Newsroom, and Infrastructure**
    - *Newsroom monitoring dashboards tracking real-time search intent:* Installing real-time search analytics dashboards within the newsroom alerts editors to sudden query spikes, enabling rapid editorial mobilization before speculative narratives dominate public attention.

- *Bidirectional synergy between social media and search engines:* Crafting social media distributions to drive organic web queries elevates branded search volume, providing holistic authority signals across platforms.
- *Monitoring Core Web Vitals and technical performance:* Maintaining swift page rendering, seamless mobile responsiveness, and clean code standards ensures that editorial content passes the technical thresholds required for top-tier news rankings.

Synthesizing the four global themes yields the integrated model depicted below:



Figure 1: Strategic Thematic Network for First-Narrative Search Engine Optimization in Official News Agencies

This model shows that securing the "first narrative" online requires an active alignment among four operational poles: content must be encoded using natural user search intent (*Message Architecture*); the newsroom workflow must adopt iterative, phased publishing (*Operational Agility*); reporting credentials and primary sources must be verified through structured metadata (*Algorithmic Validation*); and editorial teams must be supported by real-time analytics and technical site architecture (*Data-Driven Ecosystem*). Within this framework, SEO functions not as an after-the-fact marketing tactic, but as a core structural reorientation of digital public-interest journalism.

Discussion and Conclusion

The present study sought to design a search-engine content optimization model for official news agencies with emphasis on strengthening the "first narrative" within the Islamic Republic News Agency (IRNA). The thematic network analysis produced four interrelated global themes: (1) Message Architecture Engineering and Semantic Representation, (2) Operational Workflow Streamlining and Iterative Publishing, (3) Algorithmic Validation and Sustaining Institutional Authority, and (4) Cross-Sectoral Convergence and Developing a Data-Driven Ecosystem.

Together, these themes demonstrate that achieving the first narrative in contemporary digital journalism is not determined merely by being the earliest organization to publish a news item. Rather, it depends on the ability to combine temporal priority with semantic clarity, technical accessibility, source credibility, continuous updating, and data-supported editorial coordination. The findings therefore reposition SEO from a post-publication technical activity to an integrated component of digital newsroom governance. This interpretation is consistent with contemporary SEO literature emphasizing that visibility results from coordinated interaction among content quality, search intent, technical structure, authority signals, and user experience rather than isolated keyword manipulation (1-3).

The first global theme, Message Architecture Engineering and Semantic Representation, showed that the linguistic and structural design of news content is fundamental to establishing the first narrative. The findings indicated that official news organizations need to front-load key entities and actors in headlines, formulate leads that immediately respond to users' informational needs, standardize orthographic variants, and translate highly bureaucratic texts into language that reflects natural search behavior. These results suggest that the effectiveness of an official narrative depends partly on whether the content can be understood simultaneously by human audiences and search-engine systems. Traditional administrative formulations may maintain institutional formality, but they do not necessarily correspond to the way citizens formulate search queries. Therefore, semantic optimization requires the newsroom to preserve factual and legal accuracy while restructuring information according to audience search intent. This finding accords with the broader proposition that contemporary SEO prioritizes meaningful alignment between information architecture and user intent rather than mechanical repetition of keywords (1). It is also compatible with Iranian research showing that weaknesses in content-level optimization can substantially reduce the online visibility of national media websites (9).

The findings concerning headlines and leads are particularly important because these elements function simultaneously as journalistic framing devices and as high-value semantic signals. From an agenda-setting perspective, media institutions shape public attention by emphasizing particular issues and interpretive priorities (5). However, in the search environment, this agenda-setting capacity becomes dependent on whether those priorities can be recognized and retrieved by algorithmic systems. The present findings imply that headline formulation must therefore satisfy two audiences: the human reader who requires immediate informational clarity and the computational system that determines topical relevance. This extends classical agenda-setting into an algorithmically mediated environment. It also supports Gillespie's argument that algorithms participate actively in determining information relevance and public visibility rather than merely serving as neutral channels (6). In practice, if IRNA publishes an accurate first account but uses a structurally opaque headline, the journalistic priority of that report may not translate into search priority.

Another important finding within the first global theme was the need to restructure bureaucratic official texts into accessible user-oriented language. This result is consistent with research emphasizing the contribution of relevant, high-quality, and semantically meaningful content to improved search performance (10). It also reinforces the view that SEO effectiveness depends on producing content that directly satisfies audience information needs rather than merely meeting formal technical requirements (2). For an official news agency, this adaptation is especially important because source material often originates from administrative statements, government documents, formal speeches, and legal or organizational announcements. If such texts are reproduced verbatim, their linguistic form may remain distant from actual user search behavior. The present results therefore support a form of "editorial

translation" in which institutional language is converted into direct, comprehensible, searchable news language without changing substantive meaning.

The second global theme, Operational Workflow Streamlining and Iterative Publishing, addressed one of the most important tensions in digital journalism: the tension between speed and completeness. The findings showed that the first narrative should not be conceptualized as a single finished article produced under extreme time pressure. Instead, the study identified a three-phase protocol consisting of immediate publication of a verified factual core, progressive layering of context and supporting information, and eventual consolidation of the report into a comprehensive reference hub. This finding is particularly significant because it provides an operational solution to the traditional conflict between publication velocity and information depth. Rather than delaying publication until a report is complete, the proposed process allows the newsroom to establish the primary URL and initial indexing position while continuing to strengthen the article as more verified information becomes available. This approach is consistent with the technical logic of contemporary search optimization, in which content freshness, updating, relevance, and accumulated page authority can contribute to sustained visibility (1, 4).

At the same time, the three-phase protocol remains compatible with core journalistic principles. The obligation to publish quickly cannot legitimately supersede verification and accuracy. Journalism derives its credibility from commitment to truth, verification, transparency, and responsibility toward citizens (7). The present findings suggest that iterative publication can reconcile these normative obligations with the temporal demands of digital news competition. The first phase should contain only verified facts; the second should expand context as additional information is confirmed; and the third should transform the report into an authoritative reference resource. In this sense, the model does not encourage premature publication. Rather, it separates the requirement for completeness from the requirement for factual reliability. The first narrative can therefore be produced rapidly without abandoning professional standards.

The operational findings further demonstrated the importance of establishing an embedded SEO desk and separating field reporting from specialized optimization tasks. Reporters working under breaking-news conditions should remain focused on sourcing, verification, and rapid communication, while specialized SEO personnel can refine metadata, headings, internal links, semantic structure, and technical discoverability. This result supports the broader view that successful SEO is organizational rather than merely individual. The complexity of modern optimization makes it unrealistic to expect reporters to simultaneously perform field reporting, verification, keyword analysis, metadata configuration, link architecture, and technical optimization. The comprehensive framework identified by Kord and Cheshmeh-Sohrabi similarly demonstrates that optimization involves multiple dimensions extending beyond isolated content practices (3). The present study advances this insight by showing that these functions should be institutionally embedded within the newsroom workflow rather than applied after publication.

The third global theme, Algorithmic Validation and Sustaining Institutional Authority, revealed that the inherent credibility of an official news agency does not automatically translate into algorithmic authority. Participants emphasized explicit author identification, professional credentials, direct attribution to primary documents, original multimedia, and structured fact-checking as mechanisms through which institutional credibility can become digitally visible. This finding is theoretically important because it distinguishes between offline authority and machine-readable authority. IRNA may possess substantial institutional legitimacy, extensive reporting networks, and privileged access to primary sources, yet search systems can only evaluate signals that are made structurally

accessible. Thus, digital authority must be represented through recognizable indicators such as named authorship, transparent sourcing, original evidence, and technically structured content.

This finding strongly aligns with the concept of algorithmic gatekeeping. Gillespie argues that algorithms shape visibility by operationalizing particular concepts of relevance, quality, and importance (6). The present results demonstrate how an official news agency can respond to this environment without sacrificing editorial autonomy: rather than attempting to manipulate ranking systems, it can translate existing journalistic strengths into verifiable digital signals. Drulă similarly found that SEO has become deeply connected with news website performance and that content optimization must operate in combination with broader authority and technical factors (4). The present study extends this conclusion by emphasizing that institutional credibility is not simply possessed; in algorithmic environments, it must also be encoded and evidenced.

The emphasis on explicit authorship and first-hand sourcing also corresponds closely with professional journalism standards. Named authorship, transparent attribution, direct access to original documents, and clear distinctions between verified and unverified information strengthen accountability and public trust (7). Consequently, optimization and journalistic ethics need not be treated as contradictory objectives. In the model developed in this study, stronger transparency simultaneously serves journalistic credibility and algorithmic validation. This is particularly important during crises or politically sensitive events, when users encounter competing narratives and may search specifically for confirmation, rumor verification, or primary documentation. Structured fact-checking and direct citation of source materials can therefore help an official news agency become the authoritative destination for verification-related queries.

The study's findings on multimedia enrichment and original visual documentation further reinforce this interpretation. Original photographs, timestamps, descriptive metadata, and first-hand field documentation can strengthen both journalistic authenticity and the distinctiveness of digital content. This becomes particularly valuable in an environment where duplicated or republished material circulates rapidly across multiple websites. Search visibility is increasingly linked to the broader informational value and originality of a page, and the present results suggest that official news agencies can leverage their field-reporting infrastructure as a competitive advantage. This finding also corresponds with the logic identified by Bernardo and Sundell, according to which sustained search visibility can contribute to stronger brand equity and audience perceptions of authority (8). When users repeatedly encounter a news agency as the source of original, verifiable, and highly visible information, digital discoverability can reinforce institutional brand strength.

The fourth global theme, Cross-Sectoral Convergence and Developing a Data-Driven Ecosystem, showed that sustainable SEO requires coordination among editorial units, analytics specialists, technical infrastructure teams, regional bureaus, and social-media operations. Participants identified internal linking, lifecycle management of evergreen content, geographic targeting, real-time monitoring of search demand, integration with social-media activity, and technical performance monitoring as mutually reinforcing components. This indicates that SEO cannot be successfully institutionalized through isolated interventions. Instead, it requires a shared organizational architecture in which data continuously informs editorial decisions and newsroom activities continuously produce new data for evaluation.

The importance of content lifecycle management is consistent with SEO literature emphasizing that website authority develops cumulatively through structured architecture, internal linking, content updating, and sustained relevance (1, 2). The study's recommendation to update and strengthen existing authoritative pages rather than

repeatedly creating fragmented content is also aligned with this logic. For a national news agency with extensive archives, such an approach can transform historical content from a passive repository into an active informational asset. Similarly, the use of regional terminology and geographic targeting can enable IRNA's provincial network to capture location-specific search behavior, thereby converting organizational scale into digital discoverability.

Real-time monitoring of search intent represents another major implication of the findings. In traditional agenda-setting, editorial organizations determine issue salience partly through professional judgment about public importance (5). The present model does not replace that professional judgment with search data; rather, it supplements editorial decision-making with evidence about emerging public information needs. Search trends can reveal information gaps, sudden uncertainty, or rapidly growing public concern before such patterns become fully visible through conventional newsroom channels. This data can then guide rapid production of verified content, enabling an official news agency to address information voids before rumors or secondary narratives dominate the digital environment. In this respect, SEO becomes not merely a distribution mechanism but also a form of audience intelligence.

The role of engagement must nevertheless be managed carefully. Previous research has shown that user-generated interactions can contribute to digital visibility, but news organizations must balance engagement with editorial integrity and quality control (11). The present findings support such a balanced approach. Social-media activity, user search behavior, and engagement analytics can be used strategically to identify information needs and reinforce branded search demand, but they should not dictate editorial priorities in ways that encourage sensationalism or weaken verification standards. For an official news agency, the strategic objective should remain the amplification of reliable public-interest information rather than the maximization of engagement for its own sake.

Taken together, the four global themes reveal that the first narrative in algorithmic journalism is multidimensional. It requires semantic accessibility, operational speed, journalistic verification, algorithmic legibility, technical performance, organizational coordination, and continuous data analysis. The findings therefore challenge a narrow conception of SEO as a marketing function. Instead, they support an institutional model in which SEO becomes part of contemporary digital gatekeeping and news governance. This conclusion is consistent with the evolving literature showing that optimization affects traffic, visibility, organizational reputation, and the accessibility of journalistic content (4, 8). It also extends Iranian research by moving beyond diagnostic assessment of SEO weaknesses toward an integrated operational framework for an official news agency (3, 9).

The qualitative character of the study was appropriate for uncovering these organizational and professional processes because the phenomenon involves perceptions, routines, interactions, and institutional tensions that are difficult to reduce to isolated quantitative variables. Qualitative inquiry is particularly valuable for understanding how participants interpret complex organizational realities and construct meaning around professional practices (12). Likewise, the use of purposive participation from different professional groups allowed the study to incorporate information-rich perspectives from actors directly involved in editorial production, SEO, analytics, and technical infrastructure, which is consistent with the logic of purposeful qualitative sampling (14). The study's design therefore enabled the development of a contextually grounded model rather than imposing a predetermined technical framework, consistent with the broader principles of qualitative and applied research design described by Creswell and Creswell (13).

Overall, the results demonstrate that the future of the first narrative depends on the ability of official news organizations to integrate established journalistic values with the realities of algorithmically mediated distribution.

Search optimization should not determine what journalists consider socially important, nor should ranking metrics replace professional judgment. Instead, SEO should ensure that credible, verified, institutionally responsible journalism remains discoverable in an environment where public access to information is increasingly structured by search systems. The central contribution of the proposed model is therefore its integration of journalistic authority and algorithmic visibility: the first narrative becomes effective not when an organization merely publishes first, but when it publishes verified information rapidly, structures it according to audience search logic, makes its authority computationally legible, continuously enriches it, and supports it through an integrated data-driven newsroom ecosystem.

This study has several limitations that should be considered when interpreting its findings. First, the research was conducted as a qualitative case study within IRNA, and the resulting model is therefore closely connected to the organizational, technological, editorial, and institutional characteristics of an official Iranian news agency. Although the participants represented diverse professional roles, including editorial, managerial, technical, and SEO-related positions, their experiences may not fully represent those of private news organizations, regional media, international agencies, or digital-native outlets. Second, the findings were based primarily on participants' professional experiences and interpretations rather than direct experimental measurement of search-ranking changes resulting from each proposed practice. Third, search-engine algorithms are dynamic and continuously evolving, meaning that specific technical practices may change even if the broader principles identified in the model remain relevant. Finally, the study concentrated primarily on search-engine content optimization and did not comprehensively examine other distribution environments such as recommendation systems, messaging applications, artificial-intelligence-generated search interfaces, and platform-specific news feeds.

Future studies can test the proposed model quantitatively by developing measurable indicators for its four global dimensions and examining their effects on organic traffic, indexing speed, keyword rankings, click-through rates, user engagement, and perceived media credibility. Comparative research across official, private, and international news agencies would also be valuable for determining which components of the model are context-specific and which can be generalized across organizational settings. Experimental and quasi-experimental studies could compare optimized and non-optimized news reports to determine the causal effects of headline structure, iterative updating, source transparency, internal linking, and multimedia enrichment on search performance. Longitudinal research is recommended to examine whether implementation of the model produces sustained changes in brand authority and search visibility over time. Future studies should also investigate the growing influence of generative artificial intelligence, AI-powered search summaries, voice search, and personalized recommendation systems on the concept of the first narrative, as these technologies may substantially transform the mechanisms through which audiences encounter and evaluate official news.

For practice, IRNA and comparable official news organizations should institutionalize SEO as an integrated newsroom function rather than treating it as a technical task performed after publication. A dedicated SEO or audience-development desk should operate alongside editorial teams and provide real-time support for headline refinement, semantic structuring, metadata, internal linking, and performance monitoring. Newsrooms should implement the proposed three-phase publishing protocol so that verified core information is released immediately, expanded progressively, and ultimately transformed into an authoritative reference page. Clear standards should also be established for named authorship, direct citation of primary sources, structured fact-checking, original multimedia, and continuous content updating. Real-time search-intent dashboards should be accessible to editorial

decision-makers, while reporters and editors should receive practical training in user search behavior and algorithmic visibility without shifting the burden of technical optimization entirely onto journalists. Finally, editorial, technical, analytics, social-media, and regional units should operate through a coordinated workflow in which data are routinely shared and translated into actionable decisions, thereby allowing the organization to secure the first narrative while preserving accuracy, credibility, and professional journalistic independence.

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Authors' Contributions

All authors equally contributed to this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

All ethical principles were adhered in conducting and writing this article.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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