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ORIGINAL ARTICLE

The Role of Communication in Urban Resilience Against Pandemic Diseases (Case Study: Hamedan City)

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EXTENDED ABSTRACT

Introduction:

The rapid expansion of urbanization, coupled with the concentration of population and resources in metropolitan areas, has engendered novel vulnerabilities. While urban density affords considerable economic advantages, it concomitantly heightens susceptibility to sudden shocks - most notably, pandemics. The COVID-19 pandemic functioned as a global stress test, exposing deep-seated fractures in urban governance, healthcare infrastructures, and social justice systems. In cities such as Hamadan, the crisis revealed that pandemic management extends far beyond medical intervention; it necessitates the coordinated administration of a complex urban system in which communication and public trust serve as critical indicators of efficacy. This research addresses the gap between policy objectives and practical capacities in Hamadan, with particular emphasis on the role of communication systems in shaping urban resilience.

The primary objective of this study is to investigate the role of communications and news media in enhancing the urban resilience of Hamadan against epidemic threats. Specifically, the research aims to:

- Identify and prioritize indicators affecting resilience across five dimensions: Institutional-Managerial, Economic, Socio-Cultural, Physical-Infrastructural, and Health-Medical.
- Analyze the contribution of news institutions to the strengthening or weakening of these dimensions.
- Evaluate the relative effectiveness of formal versus informal communication systems.

The research hypotheses posit that there exists a significant relationship between the quality of institutional communications and urban resilience, and that deficiencies in official information systems lead to the reinforcement of informal communication networks.

Method:

This study employs a descriptive-analytical approach with an applied orientation. The research process comprised two principal phases:

1. Theoretical Phase: A systematic review of the relevant literature was conducted to extract potential resilience indicators across the five aforementioned dimensions.
2. Field Phase: A survey was administered to urban elites, specialists, and managers in Hamadan—including municipal officials, public health experts, and media professionals—using a structured questionnaire.

The reliability of the questionnaire was confirmed through Cronbach's Alpha coefficient, with all dimensions scoring above 0.7. Data analysis was performed using SPSS software, employing descriptive statistics (mean and standard deviation), the Friedman test for prioritization, and the Spearman correlation coefficient to examine inter-dimensional relationships.

Findings:

The analysis prioritized the dimensions of resilience in the following manner:

- Institutional-Managerial: The findings indicated that while messages disseminated by urban management were generally clear (Mean: 4.16), there existed a significant lack of coordination among various governmental agencies (Mean: 3.33), alongside a notable failure to incorporate citizen feedback into the improvement of communication strategies.
- Economic: This dimension demonstrated a substantial impact on resilience. Transparency in communicating financial support packages to businesses was rated highly (Mean: 4.27), and communication effectively introduced innovative solutions—such as online sales platforms—to traditional business sectors (Mean: 4.09).
- Health and Medical: Official communications proved effective in explaining disease symptoms (Mean: 4.35); however, they encountered considerable difficulty in countering rumors and managing the "infodemic" (Mean: 2.47).
- Socio-Cultural: The media succeeded in promoting mask-wearing and social distancing practices (Mean: 3.94), yet failed to fully leverage the capacity of locally trusted leaders to enhance public participation (Mean: 2.58).
- Physical-Infrastructural: Timely warnings regarding high-risk and overcrowded areas constituted a notable strength (Mean: 4.25), whereas information pertaining to the safe disposal of infectious waste was found to be insufficient (Mean: 2.37).

Conclusions:

The study concludes that urban resilience in Hamadan is a product of what may be termed a "communicative duality." While formal institutional communications suffered from inconsistency,

delays, and a lack of transparency - factors that contributed to the erosion of public trust - informal networks and social media platforms played a vital role in the survival of the system. These informal channels relied on social capital and digital tools to fill the information void created by official sources. The research underscores that, in preparation for future crises, Hamadan must bridge the persistent gap between policy and practice by establishing an integrated, transparent, and multi-channel communication framework - one that simultaneously strengthens official legitimacy and reinforces local adaptive networks.

Data Availability Statement

Data available on request from the authors.

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Ethical considerations

Not applicable.

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Conflict of interest

The authors declare no conflict of interest.

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