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Designing a News Evaluation Model in Crisis Management

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Original Article

Abstract

INTRODUCTION: Our country, Iran, is vulnerable to various disasters and the national media plays an important role at the time of accidents and disasters as the public pays attention to the media at such times. In this regard, the present study aimed to achieve and design a news executive model for crisis management.

METHODS: This research used a mixed approach and was conducted in two phases, namely qualitative and quantitative. The first phase was performed using the qualitative method based on the grounded theory and the next one was carried out based on the quantitative research method using a researcher-made questionnaire. The statistical population of the research in the qualitative section included managers, and media and crisis experts who were interviewed using purposive sampling and saturation (n=25). The statistical population of the quantitative section also included 196 managers, experts, and media and crisis experts of the country (Red Crescent Society and Crisis Management Organization).

FINDINGS: Based on the findings, it can be said that categories, such as the nature and unprofessional coverage of news, biased news organization, lack of media independence, and ultimately public distrust and tendency towards alternative media as the requirements for designing news executive model in crisis management were coded as causal conditions. In the theory analysis process, the MAXQDA software (version 2020) was used, which identified a total of 120 concepts and 20 categories. Afterward, in the quantitative part, Smartpls3 software was used to obtain the relationship of these categories to explain the news in crisis management.

CONCLUSION: According to the results, the categories of accountability of officials, social cohesion and increase of resilience, improvement of media performance, and achievement of public trust were the consequences of using appropriate strategies for the development of news in crisis management. The results showed that there is a positive and significant relationship between the nature and unprofessional coverage of news with the design and explanation of crisis management news as well as the public distrust and tendency towards alternative media with the inappropriate design of crisis management news.

Keywords: Crisis; Crisis Management; Culture; Culture Building or Culturalization; News.

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Introduction

According to the World Risk Report, Iran is classified as a high-risk country with an adaptation capacity deficit index of 80.35% and a moderate level of vulnerability of 47.78%. In addition, Iran with a population of 40 million people affected in the years 1994-2013, has been among the top 10 countries in this regard (1). Today, the number and scale of disasters, including natural or man-made ones, is increasing in the world, which has caused many concerns and damage to communities and their economies. According to the National Earthquake Information Center, about 12,000-14,000 earthquakes occur each year around the globe (2).

Due to the vulnerability of Iran to various

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natural disasters, the role of the media in disasters and crises is very important since Iran is one of the most disaster-prone countries in the world, among which the most common disaster is earthquake followed by flood. It constitutes 61% of the total natural hazards of the country in recent years. However, there is no complete and comprehensive plan in the country to deal with this hazard. Given the extent of Iran and the severity and frequency of different disasters, the need for a codified structure for the disaster management system is one of the basic needs of the country. Disasters are events that occur unexpectedly and sometimes inevitably and are beyond the capacity of communities to adapt due to their widespread impacts on material and human resources. Moreover, they interrupt the natural process of life and sometimes lead to human catastrophes without national and international assistance (3).

In general, the media coverage of the crisis is very common as crises are significant sources of news. According to empirical analysis, more than 25% of all media coverage is related to natural disasters, political, technological, and other crises. The media is usually the only reliable source of information for individuals during crises and natural disasters (4)

A study was conducted by Shams et al. in 2019 entitled "News coverage of the crisis in the IRIB news (case study: the crisis of the Plasco building on the NEWS Channel)". According to the findings, highlighting the local-national view of the incident and unambiguous expression of related news were the positive points of News Channel during the Plasco crisis news coverage. However, not providing enough news in the form of news packages, paying attention to the news elements of "why" and "how", paying more attention to hard news compared to soft news, not observing neutrality, not receiving a proper response from officials and ignoring their responsibilities has also been the most important weaknesses of this news coverage (5).

In his doctoral dissertation, Todd D. Harcek (2018) studied "The impact of executive slogans, communication strategies, media coverage, and time on crisis management and public perception during oil spills." The aforementioned study evaluated media coverage and crisis response strategies in the event of an oil spill from three major tankers, Exxon Valdes, the American Trader, and BP Gulf Oil. Its purpose was to promote participants, researchers, and others in crisis in terms of the impact of media coverage on the past, present, and future crises, how this news coverage along with communication strategies of organization in times of crisis can affect public awareness and understanding, and how some crises become a reference over time and can be linked to other crises. The above-mentioned study showed that crises can spread or be overshadowed by other crises or become echoes that last for years (6).

Nejatbakhsh Esfahani and Bagheri (2016) in their research entitled "The role of mass media in crisis prevention" acknowledged that the current era, which is called the era of information explosion, the flourishing of knowledge and the expansion of mass media, is pregnant with countless events. The development of technology, the impact of communication, and the use of various intelligent systems have created a critical atmosphere in the environmental conditions of the world community. Hence, the media, with their serious role and responsibility, are obliged to inform the world public opinion at all times about the conditions prevailing in the world around them and the effect of unwanted social crises. In the aforementioned article, the literature and crisis media were reviewed, the theories of communication sciences and the comments of related scientists were used, and the destructive effects of the crisis on other parts of the country were examined. Moreover, appropriate strategies were proposed to prevent and deal with the crisis by presenting a conceptual model and evaluating a questionnaire. In addition, due to the need to be prepared for dealing with critical conditions, analysis and appropriate solutions in this field should be presented by addressing the causes and reasons for the existence of crisis (7).

Hosseini and Memari (2014) investigated the views of crisis managers on how the media acts in crisis management. Their findings showed that from the viewpoints of crisis managers, sensitizing society to get acquainted with issues related to crisis management is the most important role of the media in the field of crisis management. Crisis managers also considered the unfamiliarity of the media with the principles of crisis management as the most important challenge and introduced education and information provision about crisis management

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issues as the most important feature of the media in this field (8).

Salavatian (2011) in his research "Studying the role of media in crisis management" believed that today the crisis has become an inevitable reality in contemporary societies that human beings face every day in various fields. Crisis disrupts the order of the main system or parts of it and if not properly managed can cause irreparable damage. On the other hand, the increasing growth of communication technologies has not only changed the concept of crisis but also changed its appearance from an epistemological point of view, giving it a pluralistic, multidimensional, and fluid face. Given this fact, it is important to examine the role and functions of the media in the crisis management process. Since the pre-crisis stage as the most critical and crucial stage in the crisis management cycle is often overlooked, in the above-mentioned article, the role of mass media in pre-crisis stage management was examined based on the butterfly model of media role in crisis management, in proportion to the three tasks of pre-crisis management, namely prediction, prevention and preparedness, the five functions of the media, including environmental monitoring, education, guiding public opinion, informing and creating public solidarity were explained (9).

Assarian (2011) in her master's thesis entitled "Towards the development of a favorable model for the IRIB to cover news in critical situations" based on the results of her research on crisis management in the news has emphasized these components. They include identifying the dimensions of the crisis and crisis conditions, recognizing the media and crisis factors, building trust, attracting audience participation, experts, time management, having a correct analysis of the current situation. Usage of popular figures, active management, allocating funds for crises, getting help from popular institutions, media pluralism, demanding from responsible institutions, examining the negligence of responsible institutions, fair allocation of TV time to officials, paying attention to religious beliefs people (10).

Given the role of the media in Iran in dealing with natural disasters and crises at various stages, the researchers decided to provide solutions to those in charge of this matter by designing a news implementation model in times of crisis and crisis management. The media is a powerful and efficient tool in crisis management, and most of the time this ability is not used properly. This is especially necessary for the official media to take a clear and codified path in the face of natural disasters and crises, which may play a role in reducing the subsequent damages and problems.

It must be acknowledged that the media is the watchful eye of society in times of crisis and events, and must provide the necessary information to the people in the shortest possible time by providing accurate, documented, and up-to-date information. Therefore, the existence of an information and communication gap between the media and the people in crises and the current state of the national media indicate the lack of a proper news executive model in crisis management. Hence, this study aimed to answer this question, what is the appropriate implementation model of news in times of crisis and crisis management? In this study, we tried to obtain important and effective indicators in the performance of news in times of crisis and crisis management.

Methods

This mixed-type data study was applied in terms of purpose and in terms of collecting qualitative information with an exploratory approach using Grounded Theory. Data were collected in two phases, namely qualitative and quantitative, using interviews and researcher-made questionnaires.

In this study, data were collected by semi-structured interview technique in the qualitative part. In this technique, the researcher prepares the necessary topics to collect the required information before the scheduled interview. The interview process relies heavily on questions that arise spontaneously from the interaction between the interviewer and the interviewee. The study population of the present research in the qualitative section included managers, experts, and university professors of Iranian Red Crescent Society, Crisis Management Organization, and IRIB in the field of media and crisis and sampling was done by snowball method. In this method, firstly, one of the managers, university professors, and management experts is interviewed. Thereafter, that interviewee will be asked to introduce friends, acquaintances, or people who may be suitable for the assessment. In this study,

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data collection reached saturation after 25 interviews.

In the quantitative part, data collection was done through a researcher-made questionnaire, and 196 managers, elites, and media and crisis experts formed the statistical population of this study who were selected by purposive sampling.

The Grounded Theory method was used to analyze the qualitative data of the research, which has unique advantages for researchers among the qualitative and interpretive methods since it has a high capacity for the interpretation, evaluation, and description of complex phenomena in their natural context. There is a theoretical gap in the field of research topic, i.e. the design of crisis news in the media, and in other words, there is no specific theory in this field, especially in the case of news in crisis management. Therefore, the researchers decided to collect research data through interviews with experts as well as media and crisis experts and by analyzing their content in the form of coding with an inductive approach to prepare and design a model in this regard. The designed model with the grounded theory technique was validated.

In Grounded Theory, data analysis is performed through coding, and interview and textual data are encoded. Information coding consists of three steps: open, axial, and selective coding. In the process of conducting this research in open coding, by referring to the initial codes extracted from the interviews (coding of key points), they created codes with a common theme of grouping and concepts, which were also determined by comparing and classifying them. Finally, a total of 120 concepts and 20 categories were specified.

Maxqda software (version 2020) was used to organize the qualitative data. In the axial coding stage, a paradigm model was used to relate the main categories to the subcategories to identify the causal conditions, axial phenomena, contextual factors, interfering variables, strategies, and consequences that are the components of axial coding. Afterward, through selective coding based on the identified relationship pattern between categories and subcategories in open and axial coding, the categories were related and the relevant system was presented.

Descriptive and inferential statistics were used to analyze the quantitative data. Descriptive and inferential statistics were used to analyze the quantitative data. Descriptive statistical methods, relative frequency distribution table, and percentage charts were used in the descriptive part of the research. On the other hand, structural equation modeling was used in inferential statistical analysis.

Findings

Description of the studied variables and interview questions

To obtain the data that could meet the objectives of the research, semi-structured interviews were conducted with professors, managers, and experts of media and crisis.

Open coding

Open coding is performed in two stages of primary and secondary coding. Primary coding can be conducted by line-by-line, phrase-by-phrase, or paragraph-by-paragraph coding of data. A concept or code is attached to each of them. In secondary coding, after concept extraction, similar and common codes are organized in a single category by comparing concepts. Therefore, a mass of data (codes-concepts) is reduced to a certain and limited number of major categories.

In open coding, the researcher extracted the specific concepts and coded them by line-by-line revision of interviews using MAXQDA qualitative data analysis software (version 2020). In total, 120 different concepts which were repeated 1174 times in the interviews were extracted in the first stage. In Table 1, an attempt was made to replace similar and common concepts with a single category and identify the main categories of research (Table 1).

Axial coding

In axial coding, the researcher selects a core category from the open coding stage and positions it at the center of study (as a central phenomenon or category); thereafter, other categories are related to it. According to the main topic of the interview and the subject under study, the central aim of the research was to design a news evaluation model in crisis management. It should be mentioned that the causal conditions were categories that affect the central phenomenon.

In the present study, among the non-professional nature and coverage of the news, biased organization of news, a tendency towards alternative media, and lack of media independence were regarded as requirements for designing a news evaluation model in crisis

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management and were axially coded in causal conditions. In other words, designing a news evaluation model in crisis management is one of the basic requirements for achieving these items.

The appropriate news coverage, information, principles, and organization of crisis management, education, and culturalization were the four main categories of the current research and were selected as the main strategies for designing a news evaluation model in crisis management. Media literacy of the audience, maintaining media authority, and media performance are three categories that influence strategies as intervening variables. Moreover, the effective and continuous evaluation of news in disasters and crises is an underlying category affecting the design of news in disasters and crisis management.

Consequences are the output of appropriate strategies employed to design a news evaluation model in crisis management and their continuous

Table 1. Categorization of codes

Categories	Related Concepts
Nature & unprofessional news coverage	lack of knowledge/unprofessional reporters/unprofessional performance/being traditional/political nature /lack of transparency/surprising/delay in information transfer/weakness in reporting the crisis/competition and haste for breaking the news/contradictory and vague news/fake news and rumors/forgetting the crisis
Lack of media independence	authoritarianism and exclusivism/partial speakers/media dependence on the government
Biased organization of news	selective coverage/censorship in crisis/political orientations/factional and ideological perspective/magnification or minimization/exaggeration in news/checkered movement
Tendency to alternative media	public distrust/public tendency towards alternative media
Crisis recognition and strategic preparedness	correct definition and understanding of the crisis/understanding and supporting managers/ /research and development skills/enhancement/preparedness/creating a crisis system or program/organization and mobilization of forces
Training of experts	crisis psychologists/professional and independent journalists/acquisition of experts/crisis experts/professionals/professional spokesperson/popular presenters and celebrities/ training of journalists and professional experts/training of IRIB staff
Control of public opinion	energizing/calming/avoiding indifference/avoiding public incitement/directing public opinion
Infrastructures	provision and development of facilities/specialized channel or studio related to crisis /provincial channels
Interactive media communication	executive arm/interactive approach/media interaction with other departments/free broadcast of Red Crescent training
Policy-making council	leading council/health policy-making council/working group of crisis management
Appropriate news coverage	live news coverage from the scene/complete and ethical coverage/transparency/justice and fairness/avoidance of factionalism/impartiality/honesty/responsibility/acting on time/up-to-date news/speed of publication/moment-by-moment news/accuracy/reliable source/accurate statistics and information/proper content production/media verification
Information	alerts/awareness/unbiased information/subtitles/cyberspace activities
Education & culturalization	education and awareness/first aid education/continuing education/pre-, during, and post-crisis education/safety culture/culturalization
Principles and organization of crisis management	cooperation with the crisis management organization/crisis and disaster management/crisis management organization/news agencies in crisis
Audience's media literacy	demanding/interviewing experts/public media literacy
Maintaining media authority	monitoring/supervision/unity of procedure/advocacy/preservation of authority
Media performance	de-escalation instead of crisis/identifying the needs of the audience/forgetting the crisis/reviewing and changing media behavior/the pivotal role of IRIB in crisis management
Accountability of officials	observance of professional principles/receiving feedback/accountability of officials
Social cohesion & increasing resilience	using experiences/documentation to transfer experiences/reconstruction and rehabilitation/social cohesion/increasing resilience
Improving media performance & gaining public trust	criticism/analysis/connection between people and officials/challenge/transparency/truth-finding/pursuing the crisis/citizen reporter/broadcasting popular support/paying attention to the injured/gaining public trust/challenging

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and effective evaluation. In the current study, the employment of appropriate strategies for designing a news evaluation model in crisis management resulted in the following consequences: crisis recognition and strategic preparedness, control of public opinion, infrastructure, interactive media communication, policy-making council, as well as training of skilled experts.

Selective coding

Selective coding is the process of integrating and improving categories. In this stage of coding, the theory of data processing forms a theory of the relationships between the categories in the axial coding model (Figure 1).

Description of the studied variables and questionnaire items

To describe the variables, central and dispersion indices were used as discussed below (Table 2).

The items of the questionnaire were rated on a five-point Likert scale (1 to 5), and several items were set for each variable. Given that the Likert scale varied within the range of 1-5, the numerical range of all variables must also be within this range (1-5). As presented in Table 2, all variables were scored within the range of 1-5, signifying that the data were entered correctly.

Inferential statistics

Kolmogorov-Smirnov test

Firstly, the data normality test should be performed to use the appropriate test to assess the hypotheses. Normal distribution means that the distribution of variables is symmetric about the mean. To test the hypotheses, parametric tests are used for normally distributed data, while non-parametric tests are applied for non-normally distributed data. Kolmogorov-Smirnov test is used to test data normality. In this test, $P<0.05$ indicated that our variable does not follow a normal distribution, while a p-value higher than 0.05 is suggestive of data normality. The significance level of all the studied variables in the research is calculated to be less than the chosen alpha level (0.05). Therefore, it can be concluded that the data distribution of these variables does not follow the normal statistical distribution. As a result, we should consider non-parametric methods, such as the partial least squares-structural equation modeling method using smartpls3 software.

The Kaiser-Meyer-Olkin index and Bartlett's test

This test assesses sample adequacy to do the factor analysis. The Kaiser-Meyer-Olkin (KMO) values closer to 1 are indicative of a better sample size. Bartlett's Test of Sphericity is also used to confirm patterned relationships among the variables. Bartlett does not have a value in itself; nonetheless, it is confirmed due to its Chi-Square significance, and the Sphericity of the relationship is confirmed (Table 3).

In the abovementioned table, since the value of

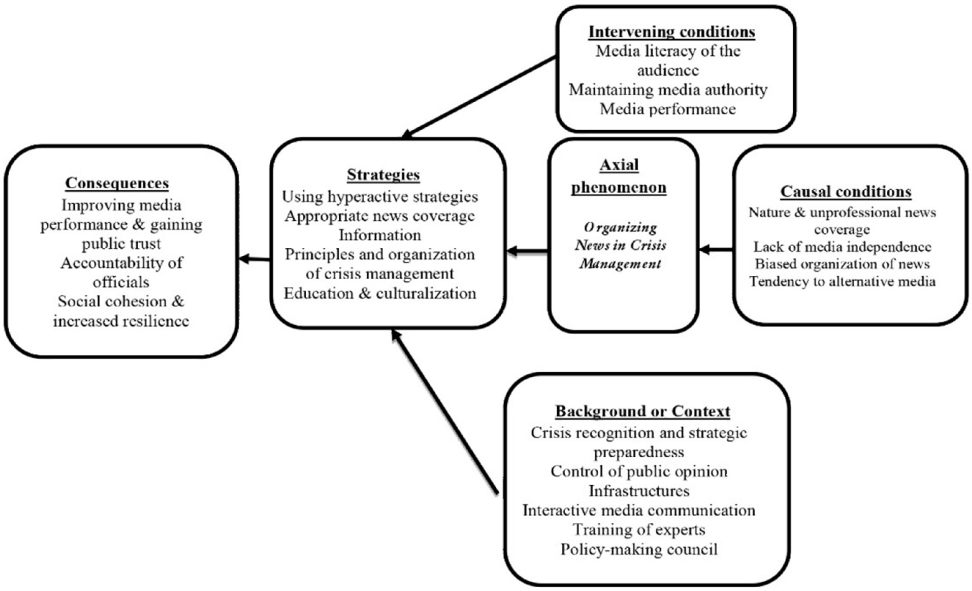

Figure 1. Final model for designing a news evaluation model in crisis management

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Table 2. Descriptive indicators of the studied variables

Variable	Maximum	Minimum	SD	Mean
Unprofessional nature and coverage of the news	5	1.6	1.039	3.997
Biased news organization	5	2	0.674	3.815
Lack of media independence	5	2	0.867	3.723
Tendency towards alternative media	5	2	0.675	3.994
Crisis recognition and strategic preparedness	4.76	2	0.759	3.201
Training of experts	5	1.5	0.806	3.108
Control of public opinion	5	2	0.581	3.862
Infrastructure	5	1	1.037	3.199
Interactive media communication	5	1	1.052	3.653
Policy-making council	5	1	0.94	3.704
Appropriate news coverage	5	1.33	0.894	3.276
Information	5	1	0.687	3.792
Education and culturalization	5	1	0.864	3.728
Principles and organization of crisis management	5	1	0.78	3.787
Media literacy of the audience	5	1.5	0.781	3.612
Maintaining media authority	5	1	1.118	3.638
Media performance	4.75	1.5	0.755	3.699
Accountability of officials	5	1	1.135	3.696
Social cohesion and increasing resilience	5	1	1.086	3.697
Improving media performance and gaining public trust	5	1.75	0.838	3.791

the KMO statistic is 0.793 (>0.7) and Bartlett's test is significant, it can be inferred that the adequacy of our sample size is confirmed.

Structural equation modeling

Structural models are evaluated after analyzing the measurement model. The structural model considers the relationships between the latent independent (exogenous) and dependent (endogenous) variables. Structural equation modeling only examines the hidden variables and the relationships among them. The criteria for structural modeling analysis are as follows:

1. Path coefficients (beta) and their significance (t-values)
2. Coefficient of determination (R2) endogenous latent variables

The first criterion for examining the fit of the structural model is the significance of the T-statistic. If the obtained value is greater than 1.96, that hypothesis is confirmed at a 95% confidence level (Table 4). As illustrated in Table 4, the calculated t-values between all independent and dependent variables in the model are greater than 1.96 and significant at a 95% confidence level.

Goodness of fit indicators for the tested model

The relationships between observant and latent variables are considered and measured in a measurement model. All the tests related to the measurement model in PLS software are reviewed in this section. The following criteria were used to evaluate the fit of measurement models:

1. Reliability test (Cronbach's alpha and composite reliability (CR) coefficient)
2. Convergent validity (significance of factor loadings, homogeneity, average variance extracted (AVE), and comparison between CR and AVE
3. Reliability tests (Cronbach's alpha and composite reliability coefficient)

According to the data analytic algorithm in PLS, after measuring the factor loadings of the indicators, Cronbach's alpha and composite reliability coefficient need to be calculated and reported. According to the definition of Cronbach's

Table 3. Kaiser-Meyer-Olkin and Bartlett's test

Indicators		Values
Kaiser-Meyer-Olkin value		0.793
Bartlett's test	Chi-square value	3105.964
	Degrees of freedom	190
	Significance level	0.000

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Table 4. Coefficients standardized factor loadings and t-value among the latent variables

Path name	Path Coefficient	t-value	Path name	path Coefficient	t-value
Causal conditions -> unprofessional nature and coverage of the news	0.38	4.162	Strategies -> Appropriate news coverage	0.801	22.695
Causal conditions -> Biased organization of news	0.879	49.103	Strategies -> Information	0.917	47.819
Causal conditions -> Lack of media independence	0.699	13.103	Strategies -> Education and Culturalization	0.792	16.461
Causal conditions -> Tendency to alternative media	0.88	45.299	Strategies -> Principles and organization of crisis management	0.774	17.006
Causal conditions -> Strategies	0.361	7.405	Strategies -> Consequences	0.517	11.651
Background or context -> Crisis Recognition and Strategic Preparedness	0.659	8.972	Intervening conditions -> Strategies	0.198	3.903
Background or context -> Training of experts	0.449	5.528	Intervening conditions -> Audience Literacy	0.923	53.936
Background or context -> Controlling public opinion	0.544	4.345	Intervening conditions -> Maintaining Media Authority	0.406	3.838
Background -> Infrastructure	0.736	14.624	Intervening conditions -> Media Performance	0.854	28.002
Background or context -> Interactive media communication	0.755	17.396	Consequences -> Accountability of officials	0.793	27.384
Background or context -> Policy-making Council	0.483	4.492	Consequences -> Social cohesion and increasing resilience	0.807	21.672
Background or context -> Strategies	0.51	12.389	Consequences -> Improving media performance and gaining public trust	0.879	53.973

A t-value of >1.96 confirms the relationships

alpha, the more the items are positively correlated, the higher the alpha coefficient. On the other hand, if the items are less strongly associated, the alpha coefficient will be lower. It is evident that the closer Cronbach's alpha coefficient is to 1.0, the greater the internal consistency of the items, and consequently, the more homogeneous the items. Based on Cronbach's alpha, reliability coefficients of 0.45, 0.7, and 0.95 were regarded as low, moderate and acceptable, and high, respectively. Since this index is very strict, a more modern criterion called Composite Reliability (CR) is used to check the internal consistency of the measurement model in the PLS method. It can be calculated using the following formula:

The optimum CR value in exploratory research varies from 0.6-0.7, while it is between 0.7 and 0.9 in more advanced research. The results of these two criteria are shown in Table 5.

As displayed in Table 5, Cronbach's alpha coefficients and the composite reliability are acceptable for all research constructs.

$$CR=\frac{\text{Sum of the factor loads of all the indicators of a construct}}{(\text{Sum of factor loadings of all indicators of a construct})+(\text{Sum of error variance of all indicators of a construct}}$$

Average mean extracted and its comparison with composite reliability coefficient

In PLS modeling, another suitable criterion for evaluating the measurement model is that the construct should have the most common variance with its marker variables. The last confirmatory criterion for convergent validity is the comparison between the composite reliability and average mean extracted. To confirm convergence validity, the CR must be higher than the average mean extracted (AVE) (Table 6).

The appropriate value of AVE is 0.5. As presented in Table 7, AVE was >0.5 in all variables; therefore, the convergent validity was confirmed using this index. Moreover, CR was >AVE in all latent variables, and the fourth required condition of

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convergent validity was met. According to the performed tests, it can be concluded that the research model has good convergence validity.

Coefficient of determination (R2) of the endogenous latent variables

It is the second criterion for assessing the structural model, indicating the effect of an exogenous variable on an endogenous variable. The three values of 0.19, 0.33, and 0.67 are regarded as weak, moderate, and high coefficients of determination. The higher R^2 of the endogenous variables demonstrates the better fit of the model. According to Hensler et al. (2009), if in a model, an endogenous construct is affected by one or two exogenous constructs, the $R^2 \geq 0.33$ indicates the strength of the relationship between that construct and endogenous constructs. The presence of more

Table 5. Results of Cronbach's alpha and composite reliability coefficient

Variable	Alpha>0. 7	CR>0. 7
Unprofessional nature and coverage of the news	0.886	0.916
Biased news organization	0.782	0.86
Lack of media independence	0.861	0.915
Tendency to alternative media	0.755	0.849
Crisis recognition and strategic preparedness	0.791	0.876
Training of experts	0.915	0.939
Control of public opinion	0.765	0.851
Infrastructure	0.938	0.961
Interactive media communication	0.981	0.987
Policy-making council	0.896	0.95
Appropriate news coverage	0.925	0.942
Information	0.736	0.851
Education and culturalization	0.945	0.965
Principles and organization of crisis management	0.9	0.938
Media literacy of the audience	0.82	0.917
Maintaining media authority	0.963	0.982
Media performance	0.729	0.844
Accountability of officials	0.94	0.962
Social cohesion and increasing resilience	0.987	0.989
Improving media performance and gaining public trust	0.892	0.925

Table 6. Results of assessing convergent validity based on the average mean extracted criterion

Variable	AVE	CR	CR>AVE
Unprofessional nature and coverage of the news	0.687	0.916	OK
Biased news organization	0.607	0.86	OK
Lack of media independence	0.783	0.915	OK
Tendency to alternative media	0.591	0.849	OK
Crisis recognition and strategic preparedness	0.702	0.876	OK
Training of experts	0.793	0.939	OK
Control of public opinion	0.592	0.851	OK
Infrastructure	0.89	0.961	OK
Interactive media communication	0.963	0.987	OK
Policy-making council	0.905	0.95	OK
Appropriate news coverage	0.73	0.942	OK
Information	0.659	0.851	OK
Education and culturalization	0.901	0.965	OK
Principles and organization of crisis management	0.836	0.938	OK
Media literacy of the audience	0.847	0.917	OK
Maintaining media authority	0.964	0.982	OK
Media performance	0.593	0.844	OK
Accountability of officials	0.893	0.962	OK
Social cohesion and increasing resilience	0.949	0.989	OK
Improving media performance and gaining public trust	0.755	0.925	OK

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Table 7. Coefficient of determination of dependent variables

Dependent variables	R^2	Description
Strategies	0.784	Three values of 0.19, 0.33, and 0.67 are regarded as weak, medium, and strong R^2
Consequences	0.267	

independent variables increases R^2. Therefore, a higher R^2 is required for model fitting when the number of independent variables which explain a dependent variable is higher (Table 7). The R^2 value for the endogenous variables of the model was calculated to be 0.377 and 0.544, respectively

Assessment of general model (Goodness of fit index)

After evaluating the measurement and structural models, the general model (sum of measurement and structural models) was also assessed. For this purpose, Tenenhaus et al. (2004) introduced the goodness of fit (GOF) index. This index is calculated by $GOF = \sqrt{\overline{Communalities} \times \overline{R^2}}$ formula, and three values of 0.01, 0.25, and 0.36 are considered weak, medium, and strong values. In fact, when this value is closer to 1, the general model is more strongly validated. This index is the mean square of the mean shared values (communality) and the mean coefficient of determining (R Square Average).

As displayed in Table 8, the GOF standard value was 0.593 (>0.36), suggesting the strong fit of the overall model of the research (Table 8).

Table 8. Results of general fitting of the model using the goodness of fit criterion

Goodness of fit index	R^2	CommunalitY	Variable
0.593	0.784	0.670	Strategies
	0.267	0.669	Consequences

Discussion and Conclusion

Due to the specific conditions of the country, out of 40 different types visible in natural disasters, 31 cases have been identified in Iran (11). This is due to the geographical location and topographic characteristics of Iran and the high vulnerability of structural and non-structural structures of society that lead to death, countless injuries, and its subsequent adverse consequences (12).

In times of crisis, public opinion undergoes many changes that, if mismanaged, crises can become complex and uncontrollable. The task of the media is to "raise awareness", "provide accurate information", and "reflect reality" in times of crisis and non-crisis. It must be emphasized that providing timely and accurate information reduces public concern and the audience's precise action at the moment. Therefore, it must be acknowledged that the media plays a key role in crisis management and certainly in controlling the crisis as a strong arm of the executors. Meanwhile, the role of citizens in dealing with crises is so important that it can be considered a determining factor in the success or failure of society in crisis management. Optimal use of the potential of the people's forces in times of crisis requires the necessary preparations before the crisis, and the main pillars of readiness are recruitment, training, and organization (13).

The media have very important functions in various dimensions of the crisis and their participation is essential for the optimal management of the crisis (14). Today, people receive the information they need through the media. The activity of the media in the fields of education, information, entertainment, and propaganda has made it a central factor in shaping public opinion and an integral part of social life. Moreover, crises are an integral part of human life; hence, a kind of interactive model can be considered between them (15)

Public education about the crisis, warning about the hazards, collecting and transmitting information about the affected areas, informing the government institutions and relief organizations about the special needs of the affected people, providing the opportunity to discuss the correct way to prepare and respond in the event of a crisis at the community level are the important functions of the media in crisis management. Through its environmental monitoring and interpretation function, the media can also identify potential and emerging crises in the national environment in the pre-crisis stage and warn officials and agents (16).

Most of the interviewees, in expressing their experiences, considered it important to design a model for crisis news in crisis management and stated that this will help the IRIB and other

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organizations involved in the crisis, including the Red Crescent Society and the Crisis Management Organization, act in a unified manner and move in the same direction during events and crises with consensus and effective interaction. They believed that having a common and knowledgeable spokesman, accepted by all the organizations involved, could be a turning point in this regard.

The IRIB, as a reference that is trusted by the majority of the people in times of disasters and crises, should employ and train skilled and experienced manpower, as well as skills and strategies that create a border between information and panic resulting from mass news dissemination and basically engineering public opinion with regarding principles to protect the rights of the audience and the psychological security of public opinion. In addition, it should be kept in mind that the speed of news transmission in virtual networks is often ahead of it in most cases and the extensive use of new communication technologies, attracting mass audiences, participation in the process of shaping public opinion, and also its important role in raising awareness, guiding public opinion, reducing crises, reducing public anxiety, public education, public mobilization, giving awareness, and national cohesion must be considered as the solution and be accepted.

Design and presentation of a news implementation model in crisis management was the main purpose of this study. Based on the findings, news performance in crisis and its management during disasters includes factors, including education and culturalization, prompt and accurate timely information, and advocacy of people's rights.

In this study, according to the main topic and the central phenomenon, it was found that factors, such as the nature and unprofessional coverage of news, biased news organization, lack of media independence, and ultimately public distrust and tendency towards alternative media are factors that are related to the infrastructure and require executive model design. Crisis news is one of the basic requirements for achieving this model in crisis management.

The results obtained from the analysis of the model obtained using PLS software show that there is a positive and significant relationship between the nature and non-professional coverage of news with crisis news design in crisis management. There is also a link between public distrust and the tendency towards alternative media with well-designed crisis news in crisis management.

The results of the quantitative analysis also emphasize the positive and significant relationship between the media literacy of the audience, maintaining the authority of the media, and the media performance with the appropriate design of the news. That should be kept in mind that all these conditions must be done in the context of proper evaluation and design of news in crisis.

According to this research, the obtained strategies include appropriate news coverage, information, principles, and organization of crisis management, education, and culturalization. These can be achieved with the help of these strategies and the outcome can lead to results, such as improving media performance and consequently, gaining public trust, accountability of officials, social cohesion, and increasing resilience.

To increase the public trust and reliance, most of the interviewees acknowledged that the national media should be a reference without specific political orientation, emphasized the importance of accuracy and transparency of the news and professional and prudent news coverage in the crisis, and pointed out that the national media should accompany the factors involved in crisis management until the end of the crisis. Moreover, these factors create a suitable culturalization for all stages before, during, and after the crisis.

The results of the quantitative analysis emphasized the positive and significant relationship between each of the strategies with the appropriate design of news in crisis. This means that each of the strategies can be an effective step towards achieving and designing appropriate news in a crisis.

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Conflict of Interests

The authors declare that there is no conflict of interest in this study.

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