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Developing a Holographic Organization Model with an Intellectual Capital Approach in the National Media

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ABSTRACT

The purpose of this study is to develop a holographic organization model with an intellectual capital approach in the context of the national media. This research, based on its objectives, is an applied-developmental study. Employing a qualitative approach and utilizing the thematic analysis technique, the study aims to propose the aforementioned model. The research population consists of experts and experienced academic faculty members from universities. The researcher employed the snowball sampling method, achieving theoretical saturation after conducting interviews with 14 elites and experts. Data collection in the qualitative phase was carried out through semi-structured interviews. The model design and identification of primary and secondary themes were performed using the Maxqda2020 software. The findings revealed the identification of five main dimensions: holographic structural capital, holographic leadership, holographic human capital, holographic relational capital, and holographic technology and knowledge. Among the extracted codes, the highest frequency was associated with codes related to smart networks, pattern analysis, and future strategies, which are central to the smart network. At the apex of the self-organization pyramid and motivational skills, while self-efficacy skills form the base of the pyramid, and organizational agility, pattern analysis, and future strategies are positioned on the pyramid's facets.

KEYWORDS: Holographic Organization, Intellectual Capital Approach, Holographic Technology and Knowledge, National Media

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1. Introduction

The concept of a holographic organization, first introduced by Morgan (1986), emphasizes a system in which each component possesses the capacity for self-organization and the ability to recreate the whole. This structure, due to its flexibility and distribution of information across all organizational components, is well-suited for dynamic and complex environments such as national media organizations. Amaya (2008) describes holographic organizations as systems with robust organizational memory and distributed capacity, where each segment can operate independently yet in alignment with the whole. However, recent studies indicate that the application of this concept in media organizations, particularly in Iran, has received limited attention due to cultural and structural complexities. For instance, a 2021 study highlighted that holographic organizations require a high level of intellectual capital to achieve organizational agility through knowledge sharing and innovation (Jacobi et al., 2024).

Intellectual capital, defined as a set of intangible assets encompassing human capital (knowledge and skills of employees), structural capital (organizational processes and systems), and relational capital (relationships with stakeholders), plays a pivotal role in enhancing the competitiveness of media organizations (Bontis, 2020; Edvinsson & Malone, 2021). Nevertheless, there is a significant theoretical gap in the literature regarding the integration of intellectual capital with holographic structures in media organizations, particularly in the context of Iran's national media. Persian studies, such as Gholichli (2021), emphasize the importance of knowledge management in knowledge-based organizations but fail to provide a specific model linking intellectual capital with holographic structures.

One of the existing theoretical gaps is the absence of localized frameworks for designing holographic organizations within the national media. Recent international studies, such as Chen et al. (2022), stress the necessity of adapting organizational models to local cultural and contextual factors, yet this issue remains underexplored in Iran due to a lack of empirical data and localized modeling. Additionally, research on intellectual capital in national media, such as Ahmadinasab et al. (2022), has primarily focused on evaluating service quality and has paid less attention to its integration with modern organizational structures. This theoretical gap underscores the need for a model that effectively incorporates intellectual capital within a holographic organizational framework.

Despite these findings, the literature does not provide sufficient insights into the impact of holographic organizations on intellectual capital (Tho et al., 2018). Furthermore, few studies have analyzed the various relationships between factors influencing and influenced by intellectual capital (Velayutham & Rahman, 2018). Additionally, the internal relationships among factors related to intellectual capital remain understudied (Autiero, 2018).

Iran's national media faces numerous challenges that justify the need for designing a holographic organization model with an intellectual capital approach. According to a report by the Islamic Consultative Assembly Research Center (2023), the audience share of the national media has declined from 85% in the 2000s to less than 60% in 2022, indicating the need for organizational restructuring and leveraging intellectual capital to produce engaging and competitive content.

Moreover, a 2020 study revealed that over 70% of national media employees expressed dissatisfaction with the lack of knowledge-sharing and innovation systems, pointing to weaknesses in structural capital.

The Islamic Republic of Iran Broadcasting (IRIB), with its extensive intellectual capital across the country, is among the largest cultural-media organizations in Iran. Therefore, the effective and efficient development of strategic intellectual capital management is a critical priority for such a large organization. The primary issue in addressing the research topic is that various segments of the organization, despite notable progress compared to the past, are managed traditionally without a comprehensive strategic model. Ideally, the organization's intellectual capital should comprise the most talented, skilled, and experienced individuals; however, there is currently a gap between this ideal and the existing reality. Given the inherent nature of media, managing intellectual capital in a large organization like IRIB is of paramount importance in achieving its objectives. Key challenges related to intellectual capital in this organization include managing human capital, structural capital, and relational capital. Consequently, to enhance the quality of its productions and improve intellectual capital management, the national media requires fundamental changes in its strategies and macro-policies regarding intellectual capital, necessitating the development of an appropriate model in this regard.

These findings indicate that without a model integrating intellectual capital within a holographic structure, the national media cannot effectively address its current challenges. The absence of such a model highlights both theoretical and practical gaps in this field, underscoring the necessity of the present study to provide a localized and practical framework. Thus, this research aims to take a step toward developing a holographic organization model with an intellectual capital approach for the national media. The study seeks to answer the overarching question: What is the holographic organization model with an intellectual capital approach in the context of the national media?

2. Theoretical Foundations and Research Background

A holographic organization is a holistic system reflected in its components, such that each part can function like the whole. To achieve such an organization, excessive specialization of its components must be avoided. The term "holographic" derives from the Greek words *holo* (meaning whole or complete) and *gramma* (meaning message). The holographic principle was initially applied in the physics of black holes, suggesting that the volume of space can be conceptualized as encoded information along its boundary with adjacent regions (Khaksar et al., 2016).

Intellectual capital refers to the knowledge, experience, and information within an organization that facilitates value creation. It is defined as intangible assets and resources within an organization that are transferred to products, services, and processes, thereby enhancing productivity and creating value (Ghayyasi et al., 2021). Intellectual capital is categorized into three main components:

1. **Human Capital**: This encompasses the skills, expertise, problem-solving abilities, and leadership styles within an organization (Mandali Zadeh, 2021).
2. **Structural/Organizational Capital**: Structural capital includes all non-human knowledge reservoirs in an organization, such as databases, organizational charts, process execution guidelines, strategies, operational programs, and anything whose value to the organization exceeds its material worth (Dehghani Soltani & Azar, 2020).
3. **Relational (Customer) Capital**: Relational capital refers to market information used to attract and retain customers (Qorbani et al., 2021).

Jacobi et al. (2024), in a study titled *The Model of Strategic Interactive Control Affected by the Characteristics of Holographic Organizations*, argued that advancements in information technology have compelled organizations to adopt new business management strategies. Their study proposed a model of strategic interactive control influenced by the characteristics of holographic organizations. Masoudi et al. (2024), in a study titled *Designing a Holographic Organizational Structure Model Based on Grounded Theory*, suggested that new structures could serve as a strategic approach to address this emerging phenomenon. Their findings indicated that medical sciences universities, by leveraging holographic structure characteristics, can align their structures with environmental changes and adopt appropriate strategies to transition away from organizational addiction. Mambani et al. (2023), in a study titled *Evaluation of the Functions of Sustainable Reporting under the Existence of Holographic Structures*, found that qualitative results identified four themes of holographic structures and five components of sustainable reporting functions. A holistic culture was identified as the most influential theme of holographic structures, contributing to the dynamism of sustainable reporting. Additionally, sustainable socialism, based on the Q_i index value, was determined to be the most affected component by holographic structure themes, particularly the holistic culture. Parmehr et al. (2021), in a study titled *The Effect of Organizational Holography on Organizational Image with the Mediating Role of Organizational Experiences and Organizational Social Network*, demonstrated that organizational holography has a significant direct effect on organizational image, organizational social networks, and organizational experiences. Moreover, the indirect effect of organizational holography on organizational image through the mediating variables of organizational social networks and experiences was also significant. Xiao Feng et al. (2021), in a study titled *Research on Holographic Image and Hierarchical Classification Evaluation of Power Suppliers Based on Intelligent System*, concluded that holographic imaging, through the evaluation of equipment quality and cost, is used to achieve intelligent supplier evaluation, supplier information system deployment, and intelligent evaluation management to establish a performance evaluation management system. Dalvand et al. (2021), in a study titled *The Effect of Intellectual Capital on Competitive Advantage and Organizational Performance with the Mediating Role of Innovation and Learning Culture Among Faculty Members*, found that intellectual capital directly impacts competitive advantage and organizational performance through innovation and learning culture. Ishkov et al. (2015), in a study titled *The Features of Students' Self-Organization Structure with a Holographic Approach*, stated that holographic organizations are characterized by a high level

of order and responsibility in both tasks and processes. Therefore, the self-organization structure of successful supervisors in the construction field must be unique. Amayea (2008) posits that holographic organizations possess remarkable memory and are organized in a decentralized manner, with capacities, specific information, and control distributed in a way that allows each element to become a vital component of the "whole." Johannessen (2007), in his article, presents a model of a holographic organization designed to learn, adapt, create, and continuously evolve with rapid environmental changes. In such an organization, each part contains sufficient information to reconstruct the entire organization. In a holographic organization, single-loop learning gives way to double-loop learning, and managerial levels become broader and fewer.

3. Research Methodology

The present study is exploratory in nature and utilizes qualitative data. The objective of this research is to develop a holographic organization model for the Islamic Republic of Iran Broadcasting (IRIB) with an intellectual capital approach. The statistical population for the qualitative phase consists of experts and experienced academic faculty members from universities. The researcher employed the snowball sampling method, achieving theoretical saturation after conducting interviews with 14 elites and experts. By applying the thematic analysis technique, this study seeks to present and validate a model for the "holographic organization in IRIB with an intellectual capital approach." To ensure construct validity in the qualitative research, the member-checking method was used. Additionally, a search for negative cases and alternative explanations was conducted. Efforts were made to select interviewees with diverse experiences and inclinations to prevent bias or personal predispositions from skewing the research topic. To achieve internal validity, after coding, categorizing, and analyzing qualitative data, an experiential model was developed and compared with the predicted model derived from theoretical themes. To ensure the reliability of the qualitative phase and theoretical saturation, the inter-rater agreement correlation matrix and dual-coder chart were utilized, which will be elaborated upon further. The analysis of results was conducted using the Maxqda 2020 qualitative analysis software.

4. Findings

This section addresses the analysis and interpretation of the collected data and the research findings. The data collection tool consisted of semi-structured interview files, and the results were analyzed using Maxqda 2020 qualitative analysis software. Data analysis was conducted based on 14 interview files. Among the 14 experts in this study, 10 were male and 4 were female. Regarding experience, 6 experts had 10 to 15 years of experience, 4 had 15 to 20 years, 1 had 20 to 25 years, and 3 had over 25 years. In terms of educational background, 2 experts held a master’s degree, and 12 held a doctoral degree. The analysis proceeded through three stages: open coding, sub-theme coding, and main theme coding, to extract primary and secondary themes. These three stages are detailed in Figure 1. Ultimately, a model titled "Holographic

Organization Model in IRIB with an Intellectual Capital Approach" was developed for this study. The coding stages are described as follows:

Open Coding: At this stage, the interview files were collected and categorized by the researcher. Notably, 14 interview files were collected and coded in this study.

Sub-Themes: Sub-theme coding occurs when the researcher assigns a code to each paragraph of the text after review. At this stage, multiple codes can be assigned to a single section or paragraph of the text.

Main Themes: At this stage, the extracted codes are displayed in the Code System window, allowing for categorization and merging of codes. This window represents selective coding (main themes), where codes can be used to categorize, organize, and arrange the codes to create a classified diagram.

In qualitative research, validity refers to concepts such as defensibility, credibility, confirmability, and even the reflexivity of the research results, ensuring that if another researcher conducted the study, they would arrive at findings similar to those obtained in the present research. One of the indicators of reliability in qualitative research is the evaluation of two or more documents with respect to their reference to a specific index. The Maxqda2020 software is equipped with such a capability. To assess reliability among the groups of interviewees and experts, the *Inter-code agreement* option in Maxqda was used to compare the extracted codes. The output yielded a Kappa coefficient of 0.391, which exceeds the acceptable threshold. This value indicates the reliability of the research. The obtained Kappa coefficient is 0.621, with a standard deviation above 0.451. According to Jiw et al. (2014), a Kappa coefficient less than 0 is considered poor, 0 to 0.2 is low, 0.21 to 0.4 is below average, 0.41 to 0.6 is average, and above 0.6 is strong. In this study, the Kappa coefficient is above average. To determine the significance of this coefficient, two criteria can be used: the t-value and the p-value. The t-value should be above 1.96, and the p-value should be less than 0.05. Since the t-value exceeds 1.96 and the obtained p-value is 0.000, which is significantly below the 5% error level, it can be claimed that the agreement test based on the Kappa coefficient is at an acceptable level.

Reliability coefficients can be calculated using one or more tests, and these tests can be applied at a single point in time or across multiple instances (Mohammad Beigi et al., 2014). For each selected theme in the present study, the level of agreement among interviewees is presented in Table 1, with an acceptable threshold of over 60%. Specifically, the intersection of the row and column for each interviewee with themselves naturally yields a value of 1. The agreement between a specific interviewee and others must be examined. For example, Interviewee 1 and Interviewee 2 have a 0.63 (63%) agreement on the selected theme. This indicates that Interviewee 1 and Interviewee 2 share a 63% commonality on the chosen theme. Other columns

and rows can be interpreted similarly. Given that the level of agreement among interviewees exceeds 60%, it can be concluded that theoretical saturation has been achieved.

Table 1. Correlation Matrix of Interviewees for Themes

Interviewees	R01	R02	R03	R04	R05	R06	R07	R08	R09	R10	R11	R12	R13	R14
Respon01	1.00	0.63	0.61	0.63	0.66	0.60	0.70	0.74	0.67	0.69	0.73	0.73	0.71	0.70
Respon02	0.63	1.00	0.74	0.61	0.63	0.60	0.62	0.61	0.62	0.63	0.69	0.69	0.63	0.62
Respon03	0.61	0.74	1.00	0.62	0.62	0.63	0.63	0.62	0.63	0.63	0.65	0.63	0.62	0.63
Respon04	0.63	0.61	0.62	1.00	0.62	0.63	0.63	0.60	0.64	0.62	0.65	0.62	0.62	0.67
Respon05	0.66	0.63	0.62	0.62	1.00	0.64	0.66	0.65	0.61	0.63	0.65	0.63	0.67	0.63
Respon06	0.60	0.60	0.63	0.63	0.64	1.00	0.62	0.67	0.63	0.61	0.66	0.64	0.69	0.72
Respon07	0.70	0.62	0.63	0.63	0.66	0.62	1.00	0.66	0.63	0.64	0.69	0.69	0.71	0.67
Respon08	0.74	0.61	0.62	0.60	0.65	0.67	0.66	1.00	0.64	0.70	0.72	0.72	0.73	0.69
Respon09	0.67	0.62	0.63	0.64	0.61	0.63	0.63	0.64	1.00	0.69	0.64	0.67	0.69	0.63
Respon10	0.69	0.63	0.63	0.62	0.63	0.61	0.64	0.70	0.69	1.00	0.68	0.65	0.77	0.61
Respon11	0.73	0.69	0.65	0.65	0.65	0.66	0.69	0.72	0.64	0.68	1.00	0.68	0.62	0.71
Respon12	0.73	0.69	0.63	0.62	0.63	0.64	0.69	0.72	0.67	0.65	0.68	1.00	0.68	0.76
Respon13	0.71	0.63	0.62	0.62	0.67	0.69	0.71	0.73	0.69	0.77	0.62	0.68	1.00	0.68
Respon14	0.70	0.62	0.63	0.67	0.63	0.72	0.67	0.69	0.63	0.61	0.71	0.76	0.68	1.00

The frequency of each main and sub-theme extracted was calculated based on the cross-tabulation of columns corresponding to each interviewee.

Table 2. Frequency Distribution of Main Theme Codes Based on Coded Segments from Interview Files

Main Themes	R01	R02	R03	R04	R05	R06	R07	R08	R09	R10	R11	R12	R13	R14	Frequency
Holographic Human Capital	3	8	6	6	6	7	5	6	5	5	8	3	6	3	77
Holographic Relational Capital	3	10	6	7	8	8	5	6	5	8	9	3	4	7	89
Holographic Structural Capital	8	11	8	7	10	8	5	7	7	9	9	5	9	13	116
Holographic Leadership	4	13	8	8	10	10	6	9	7	8	10	3	5	7	108
Holographic Technology and Knowledge	5	6	4	4	5	5	3	3	4	3	4	9	4	3	62
Total	23	48	32	32	39	38	24	31	28	33	40	23	28	33	452
Number of Documents	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14

Based on the findings, among the extracted codes, the highest frequency was associated with codes related to smart networks, pattern analysis, and future strategies, which are central to the smart network. At the apex of the pyramid are self-organization and motivational skills, while self-efficacy skills form the base of the pyramid. On the facets of the pyramid, codes related to organizational agility, pattern analysis, and future strategies are positioned.

The main themes (initial organizing constructs or dimensions) extracted for the holographic organization model in the Islamic Republic of Iran Broadcasting (IRIB) with an intellectual capital approach are as follows:

1. **Main Theme 1**: Holographic Structural Capital
2. **Main Theme 2**: Holographic Leadership
3. **Main Theme 3**: Holographic Human Capital
4. **Main Theme 4**: Holographic Relational Capital
5. **Main Theme 5**: Holographic Technology and Knowledge

The network of themes for the holographic organization with an intellectual capital approach in the national media is presented in Figure1.

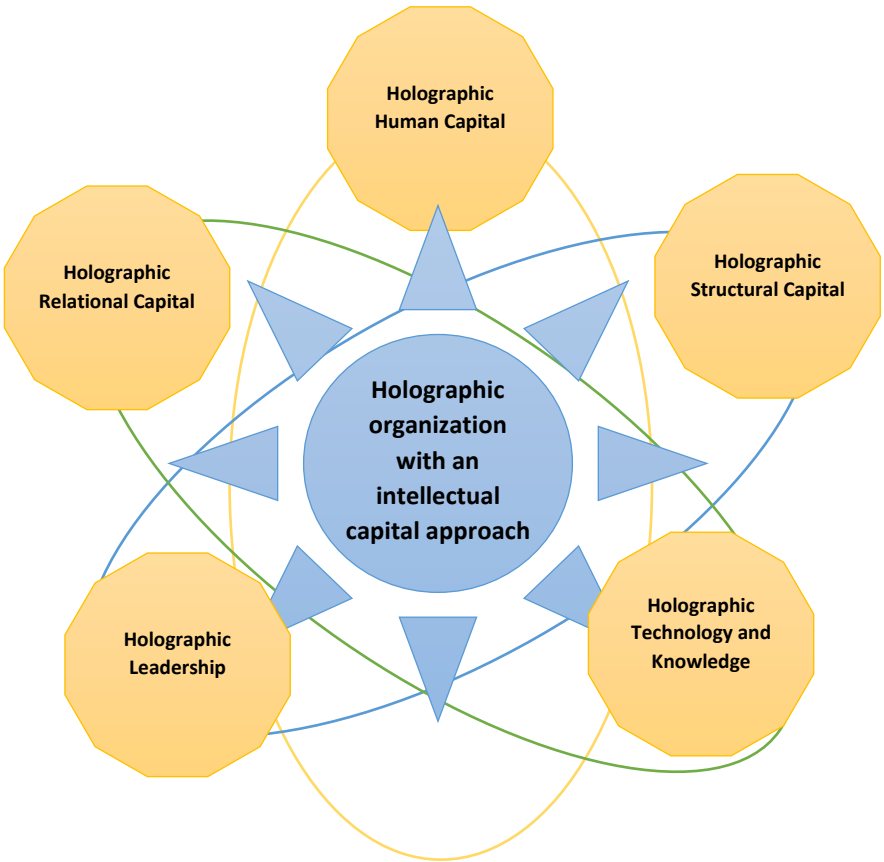

Figure1. Network of Themes for the Holographic Organization with an Intellectual Capital Approach in the National Media

5. Discussion and Conclusion

Based on the results, the main themes of the holographic organization model in the Islamic Republic of Iran Broadcasting (IRIB) with an intellectual capital approach consist of five primary dimensions: holographic structural capital, holographic leadership, holographic human capital, holographic relational capital, and holographic technology and knowledge.

Regarding the results, the main theme of **holographic structural capital** includes the sub-themes of agile structure, learning structure, flexible structure, cohesive structure, and intelligent structure. For the main theme of **holographic leadership**, the sub-themes include the leader's personality traits, holographic leadership style, managerial characteristics of the holographic leader, self-management of the holographic leader, and strategic skills of the holographic leader. The main theme of **holographic human capital** comprises the sub-themes of systemic and holistic thinking, human capital skills, holistic career paths, and human capital empowerment. For the main theme of **holographic relational capital**, the sub-themes include holographic culture, commitment and responsibility, organizational citizenship behavior, and communication skills. Finally, the main theme of **holographic technology and knowledge** includes the sub-themes of holographic technology and holographic knowledge.

These findings are partially consistent with the results of studies by Alkhatib et al. (2022), Jacobi (2015), Khademloo (2019), Khanlagh and Esmaeili Shad (2018), and Johannessen (2007). Therefore, it can be concluded that holographic structural capital refers to organizational structures, processes, and systems designed in an integrated and flexible manner to enable rapid organizational learning and adaptation. In IRIB, these structures include media archives, content production processes, and management systems, which must be continuously updated to align with environmental changes. Holographic leadership emphasizes the distribution of responsibilities and decision-making throughout the organization. Leaders in this model are not only guides but also facilitators of learning and innovation, which is critical for managing social and cultural changes in a media organization like IRIB. Holographic human capital focuses on empowering employees, developing skills, and fostering a culture of organizational learning. In IRIB, human capital includes program producers, content creators, and other employees who must continually enhance their knowledge and skills. Holographic relational capital refers to intra- and inter-organizational communication networks that facilitate knowledge exchange and strengthen collaborations. In IRIB, relationships with a broad audience and governing institutions are among these assets. Holographic technology and knowledge emphasize the use of emerging technologies and knowledge management to enhance organizational efficiency and effectiveness. In the national media, the adoption of digital technologies and modern platforms for content production and distribution is of paramount importance. This model, with its focus on integration and flexibility, enables IRIB to operate effectively in the complex and dynamic media environment and achieve its developmental goals.

Based on these findings, practical recommendations for each dimension of the holographic organization are proposed as follows:

- **Holographic Structural Capital**: Design integrated knowledge management systems using digital platforms for archiving and quick access to media content. These systems should streamline content production and distribution processes. Continuous employee training for using these systems is essential.
- **Holographic Leadership**: Develop training programs for leaders to enhance facilitation skills and distributed decision-making. These programs should focus on encouraging innovation and inter-team collaboration. Periodic evaluation of leaders' performance in this area is recommended.
- **Holographic Human Capital**: Implement specialized training workshops to enhance employees' skills in digital content production and data analysis. Encouraging a culture of continuous learning through rewards for innovation is suggested. Creating platforms for knowledge sharing among employees is also essential.
- **Holographic Relational Capital**: Strengthen communication networks with audiences through interactive platforms and social media. Developing strategic collaborations with governing institutions and international media organizations is recommended. Analyzing audience feedback to improve content is crucial.
- **Holographic Technology and Knowledge**: Invest in emerging technologies such as artificial intelligence for analyzing audience behavior and producing targeted content. Creating an organizational knowledge database for easy access to information is recommended. Training employees to use these technologies is vital.

In conclusion, the findings of this study indicate that the holographic organization model with an intellectual capital approach provides an effective framework for managing IRIB. This model, with its emphasis on five main dimensions (holographic structural capital, leadership, human capital, relational capital, and technology and knowledge), enables responsiveness to the challenges of the dynamic media environment. Comparison with previous studies highlights alignment in recognizing the importance of intellectual capital and technology, but the holographic model offers greater innovation in managing media organizations through its integrated and holistic approach. This model can serve as a guide for IRIB managers to enhance efficiency, foster innovation, and increase the organization's impact in managing social and cultural changes. It is recommended that future research test this model in other media organizations to assess its generalizability.

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ETHICAL CONSIDERATION

Authenticity of the texts, honesty and fidelity has been observed.

CONFLICT OF INTEREST

Author/s confirmed no conflict of interest.