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ORIGINAL ARTICLE

Identification of Dimensions and Components of Cloud Archive from the Perspective of Experts at the Ministry of Culture and Islamic Guidance

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EXTENDED A B S T R A C T

Introduction

The transformations resulting from digitalization and the expansion of cloud computing have altered the patterns of managing, preserving, and accessing information resources within organizations. In this context, archives have evolved from static structures into dynamic, network-based systems that play a key role in knowledge management and institutional memory (Brøglund, 2015; McLeod & Grimley, 2018). One outcome of this evolution is the emergence of the Cloud Archive, which, relying on cloud computing architecture, enables the storage, widespread access, and integrated management of archival resources (Izmir & Vijayanthi, 2022).

Research indicates that a cloud archive is not merely a technological solution but also encompasses the managerial, legal, security, and human dimensions of organizations (Duranti, 2019; Pilen & Vakhart, 2023). Neglecting data policies, intellectual property rights, and the digital competencies of employees can reduce its effectiveness (Sobczak, 2015; Aqobousham et al., 2023).

In cultural and artistic institutions, the importance of cloud archiving is magnified, as these bodies deal with a high volume of cultural data, and cloud computing can enhance the quality of information services and user access (Damenik et al., 2020). Overall, the cloud archive is part of an organization's digital transformation strategy and requires an understanding of the interaction between technology, management, and information policymaking (Brøklund, 2015; Duranti, 2019).

With the expansion of information technology, access to digital versions of documents has become possible (Izadi et al., 1399 [2020/2021]). However, the speed of these changes has challenged some disciplines in achieving full adaptation (Aramaz, 1381 [2002/2003]). Researchers have proposed solutions such as utilizing cloud computing to overcome the challenges of digital archiving (Miller, 2008; Duranti, 2017; Liaghat, 1390 [2011/2012]). Users of archives within the Ministry of Culture and Islamic Guidance also express a desire to use this technology.

Cloud computing reduces hardware and software costs and facilitates rapid access and service expansion anytime and anywhere (Aghajani & Badi', 1403 [2024/2025]).

Methodology

This research is applied in terms of purpose and adopts a mixed documentary–qualitative approach, including meta-synthesis, semi-structured interviews, and thematic analysis. The participants consisted of managers and experts of the Ministry of Culture and Islamic Guidance, who were selected through purposive sampling based on having six to ten years of relevant professional experience and appropriate educational background. In total, 20 experts were interviewed. Data were collected through note-taking, review of previous studies, semi-structured interviews, and thematic analysis.

Findings
The findings indicate that cloud archives in the cultural and artistic centers of the Ministry of Culture and Islamic Guidance encompass multiple dimensions, including security management, digital capabilities and skills, copyright, strategies and objectives, service management, content and resource management, organizational digital culture, and technology management (hardware, software, and network). Analysis of experts' perspectives reveals that some of these dimensions emerge as more prominent themes in terms of their role in the design and implementation of cloud archives, as reflected in the experts' experiences and perceptions. Based on the interpretation of the qualitative findings, strengthening human capital, developing digital skills, employing professional digital archivists, and addressing cultural and organizational requirements play a significant role in ensuring the sustainability and effectiveness of cloud archive design.

Research Questions

What are the main dimensions (axes) and components of the Cloud Archive model?
From the perspective of experts at the Ministry of Culture and Islamic Guidance, how can the dimensions and components of the Cloud Archive model be explained in terms of their importance and role in shaping the conceptual model?

A study of the concepts of "Electronic Archive," "Digital Archive," and "Cloud Archive" in domestic and international research shows that the transformation in the archive domain is not merely technological; rather, it has led to a redefinition of the role of human factors, organizational culture, and managerial structures. Research related to "Cloud Archive" is categorized into four analytical axes: Technological and Infrastructural, Managerial and Organizational, Data Rights and Institutional Trust, and Cultural and Human Capital. Each of these points to the main questions of the present research and the design of the conceptual model for the Ministry of Culture and Islamic Guidance.

In the Technological Axis, studies by Brøglund, Sobczak (2015), Pilen & Eckhardt (2023), Izmir & Vijayanthi (2022), Damenik et al. (2024), and also Khazanah et al. (1396 [2017/2018]) emphasize standardization, data security, and the overlapping of information layers in cloud environments. This collection forms the technical foundation of the Ministry of Culture's Cloud Archive model, but it serves as a conceptual support for the managerial and cultural dimensions.

In the Managerial Axis, Aqobousham et al. (2023) and Izadi et al. (1399, 1400 [2020/2021, 2021/2022]) explain the role of management structures, interaction, security, and infrastructure, while Aghajani & Badi' (1403 [2024/2025]) stress the importance of digital human resource management; these studies provide the theoretical basis for the Strategic Management dimension of the Cloud Archive.

In the Data Rights and Institutional Trust Axis, Sasoubili & Vencatsu (2021), Duranti (2017, 2019), Guha et al. (2016), and McLeod & Grimley (2016, 2017) emphasize document authenticity, data ethics and transparency, and the role of institutional trust in the sustainability of archives, which forms the basis of the Legal-Trust dimension of the current model.

In the Cultural Axis, research by Hashemi Banjar et al. (1400 [2021/2022]), Khademizadeh et al. (1403 [2024/2025]), and Izadi et al. (1399 [2020/2021]) identified the weakness of digital culture and training as major obstacles to the development of cloud archives, asserting that technical success cannot be sustained without a robust digital culture.

The combination of these approaches indicates that while the technical foundation is crucial, the managerial, cultural, and institutional trust dimensions have not been sufficiently institutionalized within Iran's archiving systems. The research gap in the present study lies in the absence of an indigenous Cloud Archive model that can simultaneously address data management, organizational culture, and trust rights. The goal is to offer an indigenous blueprint for a Cloud Archive, utilizing a hybrid approach derived from the perspectives of experts at the Ministry of Culture and Islamic Guidance.

The present research is applied and qualitative, executed in two complementary stages:

Stage One, employing a qualitative meta-synthesis approach, was conducted to answer the first research question ("What are the dimensions and components of a Cloud Archive?"). In this phase, through systematic searching across scientific databases (retrieving 355 documents and resulting in 21 final articles) and using content analysis with MAXQDA2022 software, after open, axial, and selective coding, eight main theoretical dimensions (such as Security Management, Digital Culture, and Technology Management) were extracted. The inter-coder agreement coefficient achieved was 0.84.

Stage Two, aimed at answering the second question ("What are the experts' views on the components?"), was carried out using purposive sampling of 20 experts from the Ministry of Culture and Islamic Guidance. This stage utilized semi-structured interviews based on the output of the meta-synthesis stage. The data from this phase were analyzed using Thematic

Analysis to leverage the experts' interpretive insights for completing and enriching the conceptual framework. However, the final summary noted that this stage was also focused on quantitatively determining the weight and priority of the components, leading to the results of statistical analyses to solidify the conceptual structure derived from the qualitative phase.

The research findings were initially obtained through the meta-synthesis method, which led to the preliminary identification of dimensions. Subsequently, through the thematic analysis of the qualitative interviews with the 20 experts, these dimensions were conceptually explained, deepened, and refined. This qualitative process resulted in the merging of overlapping concepts and the finalization of the theoretical framework in the form of 8 main dimensions with 49 associated components for the Cloud Archive, achieved without any statistical measurement.

Table 4. Explained Dimensions and Components of Cloud Archive Based on Thematic Analysis of Expert Interviews

Index component	dimension
Standards and rules	Security Management (Laws and Standards)
Lack of knowledge in the field of electronic archives	Digital ability and skills
Preserving producers' works in the digital archive	copyright
Creating a systematic approach to creating a digital archive	Strategies and goals
Virtual reference services	Service management
The value of content management systems	Content and resource management
The necessity of archives as organizational culture	Digital culture of the organization
Compressing the original files	Technology management (hardware, software, and network)

Paragraph 1 (Methodology Refinement):
The research began with the identification of 11 theoretical dimensions and 57 components through meta-synthesis. Subsequently, the thematic analysis of expert qualitative interviews led to the conceptual integration and refinement of these findings, reducing the final framework to 8 main dimensions with 49 components. These dimensions encompass aspects such as security management, services, content, and organizational digital culture.

Discussion and Conclusion

This research was conducted with the aim of explaining the indigenous conceptual model of the Cloud Archive within the Ministry of Culture and Islamic Guidance. Initially, 11 dimensions and 57 components were extracted from the literature, which, in the second stage, were refined down to 8 dimensions and 49 components through the qualitative analysis of experts. The findings indicate that the success of this transition is dependent less on technical aspects and more on qualitative-managerial dimensions such as security, policy-making, organizational digital culture, and human skills. Consequently, the final model interprets the Cloud Archive as a managerial-cultural system.

K E Y W O R D S
Archive Design, Cloud Archive, Cloud Computing, Cultural and Artistic Centers, Ministry of Culture and Islamic Guidance.