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Research Article

Personnel Awareness on Cultural Data Management in Municipalities: The Sample of Ankara Metropolitan Municipality*

*Haydar GEZER*** , *Semanur ÖZTEMİZ****

Öz

This study aimed to reveal personnel awareness of cultural data management processes and to examine institutional performance evaluations in municipalities, using a sample from the Ankara Metropolitan Municipality. In this research, a quantitative method was used, and data were collected through a questionnaire with four sections. The findings indicate that the cultural data management awareness among personnel is at a level that can be improved. Most of the respondents evaluated the institution's performance regarding cultural data management as moderately adequate. The study found a statistically significant relationship between awareness of cultural data management and perceived institutional performance. The results also showed that personnel awareness on cultural data management do not differ by age, gender, educational status, or title. This study is expected to promote further research on cultural data management in local governments and to contribute to the existing literature on the subject.

Keywords: *Personnel awareness, institutional performance, cultural data, cultural data management, municipalities, Ankara, Türkiye.*

* This study is based on Haydar Gezer's doctoral thesis entitled "Management of Cultural Data in Metropolitan Municipalities in Türkiye: A Policy Proposal," supervised by Assoc. Prof. Dr. Semanur Öztemiz.

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Araştırma Makalesi

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Abstract

Bu çalışmada, Ankara Büyükşehir Belediyesi örneğinde, belediyelerde çalışan personelin kültür verisi yönetimi süreçlerine ilişkin farkındalıklarının ve kurumsal performans değerlendirmelerinin ortaya konulması amaçlanmıştır. Araştırmada nicel bir metodoloji kullanılmış ve veriler dört bölümden oluşan bir anket aracılığıyla toplanmıştır. Bulgular, personel arasında kültür verisi yönetimi farkındalığının geliştirilebilir düzeyde olduğunu göstermiştir. Katılımcıların çoğu, kurumun kültür verisi yönetimi konusundaki performansını kısmen yeterli olarak değerlendirmiştir. Çalışmada, kültür verisi yönetimi farkındalığı ile algılanan kurumsal performans arasında istatistiksel olarak anlamlı bir ilişki bulunmuştur. Sonuçlar ayrıca, personelin kültür verisi yönetimi farkındalığının yaş, cinsiyet, eğitim durumu ve unvana göre farklılaşmadığını göstermiştir. Bu çalışmanın, yerel yönetimlerde kültür verisi yönetimi konusunda yapılacak daha fazla araştırmayı teşvik etmesi ve konu hakkındaki mevcut literatüre katkıda bulunması beklenmektedir.

Anahtar sözcükler: *Personel farkındalığı, kurumsal performans, kültür verisi, kültür verisi yönetimi, belediyeler, Ankara, Türkiye.*

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Introduction

Public institutions produce large amounts of data through their services and activities (Topçu and Işık, 2019). Public data serves as evidence and a guide for the operations of both central and local governments in solving citizens' problems. Different types of data include geographical and spatial data, socio-economic data, numerical data, financial data, transportation data, security data, health data, mobile application and internet data, agricultural data, energy data, population data, education data, and cultural data (Borgman et al., 2012). Cultural data is part of the public data produced and reused by central and local administrations (Golub and Lund, 2021). This data forms important parts of national identity, creativity, development, innovation, urban growth, and overall prosperity for governments. In today's world, where digital transformation influences public administration at both the central and local levels, cultural data includes components from large online digital collections as well as from physical sources (Yıldız, 2023). The content of cultural data can consist of various media types such as photographs, videos, theatrical performances, works of art, books, audio recordings, and more. Golub and Lund (2021, p. 129) state that "cultural data is data on cultural events and the offer thereof, music, the relationship between the offer of cultural events, service, and their use and development of society." Cultural data can be used to analyze cultural patterns, trends, changes, and relationships. Additionally, cultural data collected and preserved in digital environments by researchers and institutions in the cultural sector can be crucial for creating and maintaining cultural memory (Manovich, 2017).

In local governments, concepts like data, data management, cultural transfer, and digitalization offer new opportunities for citizens to access information and services (Hou et al., 2020). The development of these concepts over time and across different areas has especially transformed municipal services (Gemici, 2024) and has assigned new areas of responsibility to personnel working in municipalities regarding the process from the production of data to its reusability. To support this change, it is important to analyze the contact points with an evidence-based data management approach, measure risks, predict threats, identify problems, and evaluate the awareness and performance of relevant personnel. Protecting local identity and fostering cultural creativity by making cultural data reusable is closely related to the effective management of cultural data at all levels of governance, including municipalities. In the literature, although many studies have examined data management (Khatri and Brown, 2010; Mao et al., 2021; Thompson et al., 2015), open data (Feyzbakhsh et al., 2021; Janssen et al., 2017), and cultural heritage and data management (Grincheva, 2024; Terras, 2015; Wang et al., 2021), no study has addressed cultural data management in the context of personnel awareness and performance in local governments. To analyse cultural data with a strong data management approach and make it reusable for urban development purposes, it is important to determine the awareness and performance

evaluation of personnel working in the relevant units of the municipality and to reveal which variables (such as age, gender, education level, and title) affect these. With this motivation, this study aims to reveal the personnel's awareness and institutional performance evaluation regarding cultural data management processes that will ensure the sustainable protection, accessibility, and reusability of cultural data. In this study, Ankara Metropolitan Municipality was selected as the case study because of its dual significance: it is both the capital of Türkiye and one of the country's largest municipalities, responsible for a wide range of cultural services. As such, it plays a central role in shaping national and local cultural policy, making it an appropriate and relevant setting for investigating personnel awareness of cultural data management. Examining Ankara provides insights not only into the practices of a major metropolitan authority but also into challenges likely shared by other large municipalities in Türkiye.

It is believed that this study will draw attention to the fact that cultural data management is a process that requires separate planning in local governments, and that training and support are necessary to develop personnel in this area, as well as policies to regulate the process. It is expected that the study will encourage the investigation of cultural data management in local governments, utilizing different samples, and contribute to the existing literature on the subject.

Literature Review

Data volume, variety, and velocity have increased significantly in the twenty-first century, and organizations have begun using data creatively to gain new insights and resources (Frizzo-Barker et al., 2016). Using data creatively and creating new value from data can be achieved through effective data management. Data management encompasses the entire process, from data collection to data reuse (Demir, 2021). It is essential to define each stage of the data management process, specify objectives, and set policies and regulations for efficient use that meet the needs of both organizations and individuals (Carlson, 2014; Ünal and Kurbanoğlu, 2018).

The issue of data management has mainly been studied in the literature within the context of public data and at the level of central governments. Related studies (Cowan et al., 2014; Karaca and Özsalmanlı, 2022; Kim et al., 2023; Kucera and Chlapek, 2014; Topçu and Işık, 2019; Ubaldi, 2013) examined various forms of data provided to citizens, including institutional business processes, associated risks, control measures, service inventories, records, patent and trademark information, procurement data, meteorological and legal data, social data, and transportation data. Some studies emphasized the current state of government data and provided new insights to help policymakers. In this context, Mao et al. (2021), whose suggestions were especially noteworthy, proposed a new framework based on the concept of a data middle

platform tailored to the specific needs and characteristics of a government's data governance.

In recent years, studies on data management at the government level have mainly focused on open data. Some studies (Bensghir, 2017; European Commission, 2021; Feyzbakhsh et al., 2021; Mu and Zhao, 2024; Mutlusen, 2018; OECD, 2020; Özbilgin, 2015) highlight the principles of open data in public institutions. They also emphasized the economic and social impacts of open data for organizations. Feyzbakhsh et al. (2021) aimed to develop an open-data management strategy to promote creative information flow in knowledge-based businesses. However, it is important to note that public institutions show significant resistance to open data. Li and Chen (2021) pointed out how public institutions resist open data to avoid disadvantages within the institution, to prevent increased workload, and to avoid taking the initiative.

Cultural data is also among the data types expected to be managed at the central or local government level (Golub and Lund, 2021). Protecting local identities and promoting cultural creativity through data reusability are closely connected to effective cultural data management at all levels. Studies (Feyzbakhsh et al., 2021; Mu and Zhao, 2024) focused on the central government were not enough to explain managing cultural data as a specific type within government data.

On the other hand, it is essential for local governments, especially municipalities, to adopt transparent and accountable management practices and to implement their data management processes accordingly. However, relatively few studies addressed data management at the local government level. These studies (Tavares and Cruz 2020; Genereux, 2007; Heras-Barros et al., 2012) mainly focused on topics such as open data, transparency, data management, accountability, open access, digitalization, cultural heritage, and information policy. They examined the impact of strategic data management and big data to develop concrete solutions and provide explanatory information about big data. Nonetheless, they lack insights related to managing cultural data, which is a key data type for municipalities. Most research focused on cultural and artistic activities organized by municipalities, including the budgets allocated to these initiatives and cultural expenditures (Benito et al., 2013; Lopez et al., 2017). However, no study has yet examined awareness of cultural data management or the institutional performance of personnel working in municipal cultural units. In the literature, studies have also been undertaken to increase the level of transparency in municipalities and other public institutions, providing citizens with easier access to information (Tavares and Cruz 2020; Kessy, 2020; Krah and GeMertens, 2020; Lalinde, 2022). Although these studies highlight the importance of an information-oriented approach in developing cultural policies, they do not address personnel awareness or institutional

performance in managing cultural data. This study focused on personnel employed at the Department of Culture and Social Affairs of Ankara Metropolitan Municipality, who have been implementing plans and programs related to data management since the last local elections held in Türkiye in 2024. Among the main motivations for selecting the Ankara Metropolitan Municipality in this study were its status as the capital of Türkiye and its status as one of the country's largest municipalities. Furthermore, the Ankara Metropolitan Municipality was chosen as the case study because it provides a wide range of cultural services. Within Ankara Metropolitan Municipality, the Department of Culture and Social Affairs is the unit responsible for developing cultural policies and coordinating cultural activities.

Cultural Data Management in Ankara Metropolitan Municipality

Within the Ankara Metropolitan Municipality, the Department of Culture and Social Affairs is the unit responsible for developing cultural policies and coordinating cultural activities. The administrative organization chart of the Department of Culture and Social Affairs, which is an indicator of the existence of the institution's cultural data management, has been prepared in the manner foreseen in the relevant laws included in policy documents such as strategic plan, performance program, activity report, and budget, and has been implemented and shared on the municipality's website in a way that internal and external stakeholders can access. However, there is currently no written policy text specifically guiding cultural data management in Ankara Metropolitan Municipality. While the 2019-2023 Strategic Plan includes some objectives indirectly related to cultural activities- such as supporting disadvantaged groups through cultural events and promoting cultural heritage- there are no strategic objectives directly addressing cultural data collection, management, or evaluation (Ankara Metropolitan Municipality, 2020). This gap highlights the limited institutionalization of cultural data management at the municipal level.

Table 1 summarizes cultural data content across service areas in Ankara Metropolitan Municipality (see Table 1).

Table 1

Cultural Data Content by Service Area

Service Area	Tasks	Data Content
Cultural Services	Carrying out the activities of the Capital Theatres	Theatre play attendance numbers, budget details, and satisfaction surveys
	Carrying out the activities of the City Orchestra	Concert attendance statistics, artist performance data, and budget details
	Organizing artistic and musical courses	Course attendance numbers, course content, and duration, instructor performance
	Organizing festivals, fairs, and similar organizations	Organization attendance numbers, budget details, and social media analyses
	Creating and sustaining general and contemporary art groups	Art groups' activities, member numbers, and performance analyses
Education Services	Carrying out the activities of BELMEK	BELMEK (Vocational Training and Manual Skills Courses) course attendance data, instructor performance, and budget details
	Carrying out the activities of BELTEK	BELTEK (Vocational Technical Training Course) project progress, budget analyses
	Libraries	Library visit numbers, book lending statistics, and library activities
Tourism Services	Tourism Introduction Offices	Visitor numbers, acquaintance office activities
	Fair and Festival Procedures	Fair and festival attendance statistics, cost, and income analyses
	Promoting the Historical and Touristic Values of the City	
	Interaction analyses of promotional campaigns, tourist place visit numbers, and social media posts	

Table 1 presents cultural data content, including theatre, orchestra, festivals, educational courses, libraries, and tourism promotion. Despite the absence of a formal framework, several platforms and initiatives provide partial access to cultural data. For example, Transparent Ankara, the municipality's open data platform, offers information on cultural projects, special day events, museums, theatres, and tourism activities. At the same time, inconsistencies remain; for instance, while Transparent Ankara hosts

valuable cultural data, the "Kültür Ankara" section of the Başkent Mobil application currently contains no content. These examples suggest that cultural data are produced and stored but not managed systematically under a coherent policy.

This institutional context provides an important rationale for the present study. The absence of formal cultural data management policies and the fragmented nature of existing practices make personnel awareness and institutional performance especially critical for ensuring that cultural data are collected, used, and sustained effectively. Thus, investigating the personnel awareness in Ankara Metropolitan Municipality is directly linked to both identifying current gaps in cultural data management and generating insights that may inform future improvements in municipal governance more broadly.

Methodology

This study was conducted using a quantitative research method with a descriptive survey model to reveal the awareness and institutional performance evaluations related to cultural data management of personnel working at the Department of Culture and Social Affairs of Ankara Metropolitan Municipality. The descriptive survey model is a method that examines the current situation in detail, seeking answers to the questions "what is it?" and "what is happening?" (Ural and Kılıç, 2013). In this study, the following questions were answered:

Q1: Do personnel's awareness of cultural data management in municipal units where cultural data is intensively produced and used differ according to age, gender, education level, and title?

Q2: Do the institutional performance evaluations of personnel regarding cultural data management in municipal units where cultural data is intensively produced and used differ according to age, gender, education level, and title?

Q3: Is there a statistically significant relationship between awareness of cultural data management and institutional performance evaluation?

The population of the study consisted of 615 personnel working within the Department of Culture and Social Affairs of Ankara Metropolitan Municipality. The sample size was calculated with a 95% confidence interval using the following formula:

$$n=Nt2pq/(d2(N-1)+t2pq)$$

where:

N = 615 (Population size)

n = Sample size

t = 1.96 (z-value for 95% confidence)

p = 0.5 (estimated proportion)

q = 0.5 (1 - p)

d = 0.05 (margin of error)

According to this formula, the minimum required sample size was determined as 236 participants. The sample was selected using a simple random sampling method. Participants included personnel working within the Ankara Metropolitan Municipality Department of Culture and Social Affairs.

Data were collected using a questionnaire developed by the researcher based on the literature (Tavares and Cruz 2020; Genereux, 2007; Heras-Barros et al., 2012). The questionnaire consists of four sections:

1. Demographic Information: Variables such as gender, age, educational status, job title, and length of service.
2. Cultural Data Management Processes: Types of data produced in the institution, methods of data acquisition, role in the data process, and received training.
3. Awareness Section: Comprised of 9 Likert-type items (1 = Strongly Disagree, 5 = Strongly Agree).
4. Institutional Performance Scale: A 10-item, 5-point Likert-type set of items (1 = Very Poor, 5 = Very Successful).

Before the main study, a pilot test was conducted with 30 participants to assess the clarity of the items and the reliability of the instrument. The Cronbach's Alpha coefficient was calculated as 0.908, indicating high reliability (Taber, 2018). Furthermore, factor analysis applied to the awareness items yielded a KMO value of 0.896 and a significant Bartlett's test result ($p < 0.001$), confirming sampling adequacy and construct validity.

Data collection was carried out between August 5-31, 2024. The purpose of the study was explained to all participants, and confidentiality and voluntariness were ensured. The collected data were analyzed using SPSS 26.0 software. The analyses included:

- Descriptive statistics: frequency, percentage, mean, and standard deviation.
- Normality tests: examination of skewness and kurtosis values within the ±1 range.
- Independent samples t-test: comparisons between two groups.
- One-way ANOVA: comparisons among three or more groups.
- Factor analysis: verification of construct validity of the dimensions.

Results

When the distribution of the participants was examined within the framework of their demographic characteristics, it was observed that of the 236 participants in the study, 44.9% were female and 55.1% were male. Regarding age distribution, 0.9% of participants were aged 18-24, 18.7% were 25-34, 46.1% were 35-44, 27.8% were 45-54, and 6.5% were 55 years and older. According to educational status, 4.24% of participants had completed secondary education, 20.8% had a high school diploma, 20.8% had an associate degree, 41% had a bachelor's degree, 11.87% had a master's degree, and 1.27% had a PhD degree.

According to the survey results, the respondents were company personnel (35.7%), civil servants (22.5%), master instructors (19.8%), artists (16.9%), technical personnel (1.9%), experts (1.4%), contracted officers (0.9%), and managers (0.9%). When examining the departments where participants worked, 57.6% were in the Culture Events Branch Unit, 13.1% in the Women and Family Services Branch Unit, and 29.3% were in other units. These features show that there is diversity in the participant structure.

Tables 2, 3, and 4 present participants' roles, cultural data provision methods, and training backgrounds.

Tablo 2

Distribution of Participants' Roles in Cultural Data Management

Defined Role	n	%
Data Editor	79	25.5
Data Provider	71	22.9
Data Archivist	75	24.2
Data Analyst	59	19.0
Reporter	26	8.4
Total	**310**	**100.0**

Table 2 reveals that participants often fulfil multiple roles in cultural data management, with 310 total role assignments among 236 participants. This situation suggests that personnel with multiple competencies are assuming more roles in relevant tasks. Most commonly, staff serve as data editors (25.5%) and data archivists (24.2%), while fewer function as data analysts (19.0%) or reporters (8.4%). This finding indicates that municipal cultural data activities prioritize data organization and storage over analysis and reporting functions.

Tablo 3

Providing Cultural Data

	n	%
Digital media	110	46.6
Events-courses	36	15.3
Survey results	27	11.4
Requests to the Blue Table (Mavi Masa) *	24	10.2
Annual/monthly reports	21	8.9
Physical media	18	7.6
Total	**236**	**100.0**

Note: It is a service unit where citizens can convey their opinions and demands (https://mavimasa.ankara.bel.tr/).

Table 3 shows the way cultural data is provided in the Ankara Metropolitan Municipality. Participants could select multiple responses regarding how cultural data is provided within the municipality. Almost half of the participants (46.6%) emphasized that they provide data from digital media, while a smaller portion (7.6%) stated that they provide data through physical media. This situation brings digital platforms to the forefront in the Ankara Metropolitan Municipality, as a major metropolitan municipality. The fact that data is mostly provided from digital media suggests that digitalization in data processes is considered important in the municipality. However, it is still seen that data is accessed through physical media at a much lower rate.

Tablo 4

Training Given on Cultural Data Management

Training	n	%
In-service training and seminar	25	10.6
Branch training	21	8.9
No training	190	80.5
Total	236	100.0

Most participants (80.5%) reported receiving no training in cultural data management, while only 19.5% had participated in either in-service training (10.6%) or branch-specific training (8.9%). This lack of institutional training support may explain challenges in data standardization and management practices identified elsewhere in the study.

Table 5 includes the answers reflecting personnel awareness of cultural data management processes (see Table 5).

Tablo 5

Personnel Views on Cultural Data Management

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	Total	Mean	Standard Deviation (SD)
Collection	11 (4.8%)	29 (12.1%)	37 (15.6%)	122 (51.9%)	37 (15.6%)	236	3.61	1.04
Identification and Classification	7 (3.0%)	35 (14.7%)	38 (15.9%)	121 (51.3%)	35 (15.1%)	236	3.61	1.0
Storage	9 (3.9%)	19 (8.2%)	39 (16.4%)	126 (53.4%)	43 (18.1%)	236	3.74	0.98
Access	19 (7.9%)	18 (7.5%)	50 (21.2%)	111 (47.1%)	38 (16.3%)	236	3.56	1.09
Protection and Security	17 (7.4%)	27 (11.3%)	50 (21.1%)	102 (43.3%)	40 (16.9%)	236	3.51	1.12
Funding	29 (12.2%)	46 (19.6%)	49 (20.9%)	87 (36.9%)	25 (10.4%)	236	3.14	1.21
System Design	19 (7.9%)	48 (20.5%)	45 (19.2%)	100 (42.4%)	24 (10.0%)	236	3.26	1.13
Interaction with Stakeholders	9 (3.9%)	30 (12.6%)	55 (23.5%)	108 (45.7%)	34 (14.3%)	236	3.54	1.01
Legislation	26 (11.0%)	30 (12.8%)	60 (25.6%)	91 (38.3%)	29 (12.3%)	236	3.28	1.17

Table 5 shows the agreement with the propositions regarding cultural data management processes (data collection, identification and classification, storage, access, protection and security, funding, system design, interaction with stakeholders, and legislation). Accordingly, most of the personnel responded that they agreed or strongly agreed that they were knowledgeable about the components of the cultural data management process. When examining personnel awareness, relatively higher awareness is found in storage, with lower awareness in funding and legislation. A factor analysis was conducted for personnel awareness, which asked participants to self-assess their knowledge of the business and management stages in cultural data management processes (see Table 6). As a result of the factor analysis, it was seen

that the personnel awareness assessment questions were gathered in a single factor subgroup.

Tables 6a, 6b, and 6c show the results of the factor analysis regarding personnel awareness.

Tablo 6a

KMO and Bartlett's Test of Sphericity

Test	Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO)	0.896
Bartlett's Test of Sphericity (Approx. Chi-Square)	1388.673
df	36
p-value	<0.001

As a result of the factor analysis of personnel awareness, sample adequacy and significance values were calculated (KMO = 0.896; Bartlett's Test = 1388.673, p <0.001). According to Table 6a, it can be said that the data are suitable for factor analysis (Field, 2024).

Tablo 6b

Factor Summary

Factor	Eigenvalue	Explained Variance %	Cumulative Variance %
Personnel Awareness	5.755	63.941	63.941

As shown in Table 6b, the eigenvalue is 5.755. An eigenvalue greater than one is considered significant and indicates that more than one common variance is explained by this factor (Shrestha, 2021). The explained variance is 63.941%, and the cumulative variance is also 63.941%. These findings illustrate that the personnel awareness factor explains approximately 64% of the total variance.

Tablo 6c

Factor Loadings (Personnel Awareness)

Variables	Factor Loading
Data Collection/Provision	0.776
Data Identification and Classification	0.853
Data Storage	0.672
Data Access	0.853
Data Protection and Security	0.840
Financing Support	0.739
System Design	0.805
Interaction with Stakeholders	0.858
Legislation	0.781

Table 6c shows that the factor loading is close to 1 for each variable. This situation indicates a strong correlation between the observed variables and the factor (Tang, Boker and Tong, 2025).

Tablo 7

Test for Normality of Distribution

Variable	**n**	**Skewness**	**Std. Error**	**Kurtosis**	**Std. Error**
Personnel Awareness	236	-0.536	0.167	-0.077	0.332

In Table 7, since the skewness value (-0.536) indicated a normal distribution, significant differences in personnel awareness for demographic characteristics were analyzed using t-tests and one-way analysis of variance (ANOVA).

Tablo 8

Independent Sample T-Test on Personnel Awareness by Gender

Variable	**t**	**Degrees of Freedom (df)**	**Sig. (2-tailed)**	**Gender**	**Mean (M)**
Personnel Awareness	-1.410	236	0.160	Female	3.37
				Male	3.54

According to Table 8, it is evident that there is no statistically significant difference between male and female participants in terms of personnel awareness ($p > 0.05$). In other words, being a woman or a man does not affect personnel awareness. However, when the averages are examined, it can be said that men find personnel awareness

relatively more successful than women. In the personnel awareness factor, the average score for female participants was 3.37, and the average score for male participants was 3.54 (see Table 8). Accordingly, personnel awareness is generally at an average level.

Tablo 9

Personnel Awareness According to Educational Status

	df	F	Sig.
Intergroup	5	1.712	0.133

Table 9 shows that there was no significant difference between education status and personnel awareness level (p>0.05). Mean and standard deviation values according to education level are shown in Table 10 (see Table 10).

Tablo 10

Average Values of Personnel Awareness by Education Status

	n	Mean (M)	Standard Deviation (SD)
Secondary School	10	3.56	0.44
High School	49	3.67	0.85
Associate Degree	49	3.47	0.84
Bachelor's Degree	97	3.38	0.86
Master's Degree	28	3.50	0.82
PhD	3	2.37	1.41
Total	236	3.47	0.85

When looking at the average values of personnel awareness according to education level, the average of secondary school graduates is approximately 3.56, and the average of high school graduates is approximately 3.67 (see Table 10). The average of associate degree graduates is approximately 3.47, the average of bachelor's degree graduates is approximately 3.38, the average of master's degree graduates is 3.50, and the average of PhD degree graduates is approximately 2.37. Accordingly, personnel awareness appears to decrease slightly with higher education levels, though this should be interpreted cautiously due to small group sizes.

Tablo 11

Personnel Awareness by Title

	df	F	p
Between Titles	7	1.216	0.295
Within Groups	229		
Total	236		

According to the results of one-way ANOVA (see Table 11), there is no statistically significant difference in personnel awareness levels across different titles ($F(7, 229) = 1.216$, $p = 0.295$). Mean and standard deviation values are presented in Table 12 (see Table 12).

Tablo 12

Average Scores of Personnel Awareness by Title

	n	Mean (M)	Standard Deviation (SD)
Company Personnel	84	3.39	0.97
Master Instructor	53	3.43	0.84
Artist	47	3.61	0.63
Contracted Officer	5	4.80	0.45
Civil Servant	40	3.40	0.82
Technical Personnel	3	3.64	0.60
Manager	2	3.94	0.24
Expert	2	3.89	0.19
Total	236	3.47	0.85

Note: Small sample sizes in some groups (e.g., Contracted Officer, Manager, Expert) limit the reliability of group comparisons.

When examining the average personnel awareness scores by title, it is observed that the values are generally close, ranging from approximately 3.39 to 4.80 (see Table 12). The highest average awareness is seen in the contracted officer ($M = 4.80$); however, this group has a small sample size ($n = 5$), which limits the reliability of this finding. Titles such as manager ($M = 3.94$) and expert personnel ($M = 3.89$) also show relatively higher awareness levels, whereas company personnel ($M = 3.39$), master instructors ($M = 3.43$), and civil servants ($M = 3.40$) have somewhat lower averages. Due to the small sample sizes in some groups and the overall similarity of means, no definitive trend can be established regarding awareness levels about hierarchical position or proximity to central management.

Tablo 13

Personnel Awareness by Age

Variable	Pearson Correlation	Sig. (2-tailed)	N
Age group	<0.001	0.276	236

According to the correlation analysis results shown in Table 13 (see Table 13), a statistically significant relationship wasn't found between age and personnel awareness (p> 0.05).

Tablo 14

Average Values of Personnel Awareness by Age

Age group	n	Mean (M)	Standard Deviation (SD)
18-24	2	2.44	0.79
25-34	44	3.45	0.96
35-44	109	3.39	0.85
45-54	66	3.54	0.77
55+	15	3.51	0.72
Total	236	3.44	0.84

Table 14 shows the average values of personnel awareness by age. When examining the participants' awareness by age, a positive relationship between age and personnel awareness was established. The results indicate that average awareness increases with age. The overall average was estimated to be around 3 (~3.44) points. The extent to which participants regarded the institution as successful in managing cultural data was assessed using questions on institutional performance. These items were rated on a 5-point Likert-type response format, ranging from 1 (lowest) to 5 (highest). Performance evaluations were analyzed using frequency, mean, and standard deviation values (see Table 15).

Tablo 15

Institutional Performance Items

	Absolutely Inadequate	Inadequate	Moderately Adequate	Adequate	Absolutely Adequate	Total	Mean	Standard Deviation (SD)
Organizing Cultural Data	8 (3.0%)	16 (6.9%)	77 (32.7%)	103 (43.9%)	32 (13.5%)	236	3.58	0.92
Creating Budget Opportunities	16 (6.6%)	27 (11.5%)	81 (34.3%)	81 (34.3%)	31 (13.3%)	236	3.36	1.06
Providing Physical and Digital Storage Areas	12 (5.2%)	16 (6.5%)	89 (37.6%)	80 (33.8%)	39 (16.9%)	236	3.51	1.02
Employing Expert Personnel	20 (8.3%)	37 (15.8%)	88 (37.3%)	63 (26.8%)	28 (11.8%)	236	3.18	1.10
Creating Policy	24 (10.2%)	32 (13.7%)	74 (31.5%)	77 (32.7%)	29 (11.9%)	236	3.22	1.14
Digitalization Applications	18 (7.5%)	20 (8.4%)	74 (31.4%)	84 (35.4%)	40 (17.3%)	236	3.47	1.10
Opening Cultural Service-Based Data to the Public	19 (7.9%)	26 (11.0%)	72 (30.7%)	87 (36.8%)	32 (13.6%)	236	3.37	1.10
Awareness of Senior Management	21 (8.7%)	30 (12.6%)	65 (27.4%)	87 (37.0%)	33 (14.3%)	236	3.36	1.14
Collaboration with Internal and External Stakeholders	13 (5.7%)	23 (9.6%)	70 (29.7%)	98 (41.5%)	32 (13.5%)	236	3.48	1.03
Integrating Access to Cultural Data with Other Relevant National Systems	27 (11.3%)	32 (13.4%)	81 (34.6%)	70 (29.9%)	26 (10.8%)	236	3.16	1.14

Table 15 illustrates that participants generally evaluated the institution's performance regarding cultural data management as moderately adequate, with average scores mostly concentrated around 3.0 on the 5-point Likert-type response format. Relatively strong areas focus on organizing cultural data (M = 3.58), while weaker areas are seen in the area of integration with national systems (M = 3.16). A factor analysis, shown in Tables 16a, 16b, and 16c, was conducted on institutional performance to assess the underlying factor structure.

Tablo 16a

KMO and Bartlett's Test of Sphericity

Test	Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO)	0.938
Bartlett's Test of Sphericity (Approx. Chi-Square)	2142.196
df	45
p-value	0.000

As it is shown in Table 16a, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.938, and Bartlett's Test of Sphericity was significant ($p < 0.001$). According to these findings, it can be said that the data are suitable for factor analysis (Field, 2024).

Tablo 16b

Factor Summary

Factor	Eigenvalue	Explained Variance %	Cumulative Variance %
Institutional Performance	7.49	74.94	74.94

Table 16b shows that the eigenvalue (7.49) is considered significant (Shrestha, 2021). Table 16b also illustrates that the institutional performance factor explains approximately 75% of the total variance.

Tablo 16c

Factor Loadings (Institutional Performance)

Variables	Factor Loading
Organizing Cultural Data	0.819
Creating Budget Opportunities	0.744
Providing Physical and Digital Storage Areas	0.858
Employing Expert Personnel	0.849
Forming Policy	0.888
Digitalization Applications	0.883
Opening Cultural Service-Based Data to the Public	0.888
Awareness of Senior Management	0.898
Collaboration with Internal and External Stakeholders	0.920
Integrating Access to Cultural Data with Other Relevant National Systems	0.897

Table 16c shows that the factor loading is close to 1 for each variable. This situation indicates a strong correlation between the observed variables and the factor (Tang, Boker and Tong, 2025).

Tablo 17

Test for Normality of Distribution

Variable	n	Skewness	Std. Error	Kurtosis	Std. Error
Institutional Performance	236	-0.318	0.170	-0.405	0.338

The skewness (-0.318) and kurtosis (-0.405) values were within the acceptable range for normal distribution assumptions (see Table 17). Therefore, independent sample t-tests (see Table 18) and one-way ANOVA (see Table 19) were conducted to determine whether institutional performance scores differed by demographic characteristics.

Tablo 18

Institutional Performance by Gender-Independent Sample T Test

	t	df	Sig. (2-tailed)	Gender	Mean (M)
Institutional Performance	-1.518	236	0.130	Female	3.26
				Male	3.46

The independent samples t-test results showed that there is no statistically significant difference between male and female participants in institutional performance evaluation ($p > 0.05$). This suggests that gender does not significantly influence perceptions of institutional performance. However, mean scores showed that male participants rated institutional performance slightly higher ($M = 3.46$) than female participants ($M = 3.26$). Overall, the institutional performance was evaluated at a moderate level of success by both genders.

Tablo 19

Institutional Performance by Educational Status

	df	F	Sig.
Intergroup	5	3.561	0.004

According to Table 19, one-way ANOVA revealed a significant difference in institutional performance perception across different educational statuses ($p <0.05$). The mean and standard deviation values by educational status are presented in Table 20 (see Table 20).

Tablo 20

Average Values of Institutional Performance According to Educational Status

Educational Status	n	Mean (M)	SD
Secondary School	10	3.40	0.85
High School	49	3.72	0.94
Associate Degree	49	3.43	0.92
Bachelor's Degree	97	3.24	0.89
Master's Degree	28	3.29	0.88
PhD	3	1.80	0.96
Total	236	3.37	0.93

When examining the average institutional performance scores by education level, high school graduates rated the institution the highest (M = 3.72), while PhD degree holders rated it the lowest (M = 1.80). Though this result should be interpreted cautiously due to the very small sample size (n=3). Graduates of secondary school, associate degree, bachelor's, and master's levels generally evaluated institutional performance as moderately successful, with averages around 3.2 to 3.4 (see Table 20).

Tablo 21

Variance Analysis of Institutional Performance by Title

	df	F	Sig.
Intergroup	7	1.314	0.245

According to Table 21, the one-way ANOVA results indicated that there is no statistically significant difference between job titles and institutional performance perceptions ($p > 0.05$). Mean and standard deviation values by title are shown in Table 22 (see Table 22).

Tablo 22

Average Values of Institutional Performance by Title

	n	Mean (M)	SD
Company Personnel	84	3.39	0.95
Master Instructor	53	3.33	1.05
Artist	47	3.49	0.79
Contracted Officer	5	5.00	0.00
Civil Servant	40	3.23	0.91
Technical Personnel	3	3.23	0.78
Manager	2	3.05	0.78
Expert	2	3.87	0.23
Total	236	3.37	0.93

Table 22 shows that the highest average rating was from contracted officers (M = 5.00), although this group had a very small sample size (n = 5). Company personnel and artists also rated institutional performance relatively higher compared to other titles. Overall, the institutional performance perception across titles was above the moderate level (~3.37).

Tablo 23

Correlation Analysis of Institutional Performance Perception by Age

Variable	Pearson Correlation	Sig. (2-tailed)	N
Age group	-0.035	0.622	236

According to the correlation analysis (see Table 23), there was no significant relationship between age and perception of institutional performance (p> 0.05). However, descriptively, a very weak negative correlation (r = -0.035) suggests that the perception of institutional performance slightly decreases with age.

Tablo 24

Average Institutional Performance Scores by Age Group

Age group	n	Mean (M)	SD
18-24	2	2.65	0.49
25-34	44	3.52	1.01
35-44	109	3.30	0.96
45-54	66	3.37	0.87
55+	15	3.25	0.66
Total	236	3.35	0.93

The highest average rating was from the age group 25-34 (M = 3.52). The institutional performance perception across the age group was above the moderate level (~3.35) (see Table 24).

Table 25 presents the correlation results between awareness and performance variables (see Table 25). This analysis examines the strength and direction of the relationship between personnel's awareness of cultural data management and their perception of institutional performance.

Tablo 25

Correlation Results Between Awareness and Performance

Variables	1	2
1. Awareness	-	0.571
2. Performance	0.571	-

$p < 0.01$.

The results of the Pearson correlation analysis indicate a positive and statistically significant relationship between awareness and institutional performance evaluation ($r = 0.571$, $p < 0.01$). This finding demonstrates a directly proportional upward trend between personnel's awareness level regarding cultural data management and their perceptions of institutional performance. According to Cohen's (1988) classification, this value ($r = 0.571$) represents an effect size between moderate and high.

Table 26 shows the results of the multiple regression analysis examining the effects of age, gender, and education level on awareness (see Table 26). Multiple regression tested whether age, gender, and education predicted awareness scores.

Tablo 26

The Effect of Age, Gender, and Education Level on Awareness

Variable	B	Std. Error	β	t	p
Constant	3.015	0.391	-	7.708	0.000
Age	-0.011	0.075	-0.010	-0.150	0.881
Gender (1=Male)	0.307	0.126	0.160	2.426	0.016
Education Level	-0.027	0.057	-0.032	-0.475	0.635

Model: $R^2 = .028$, $F(3, 236) = 2.129$, $p = .097$

$p < .05$, $p < .01$, $*p < .001$.

Table 26 shows that the model is statistically insignificant ($F(3, 236) = 2.129$, $p = 0.097$) and its explanatory power is low ($R^2 = 0.028$). This means that only 2.8% of the variance in awareness scores is explained by these three variables. Looking at the coefficients, only the gender variable had a significant effect on awareness ($\beta = 0.160$, $p = 0.016$). Accordingly, male participants scored on average 0.31 points higher in awareness compared to female participants. Age ($p = 0.881$) and education level ($p = 0.635$) did not have a significant effect on awareness levels. This finding indicates that awareness level shows a small but statistically significant difference by gender, while age and education level are not determining factors. The multiple regression analysis was conducted to examine the predictive effects of age, gender, education level, and tenure on performance scores.

Tablo 27

Multiple Regression Analysis on Performance Scores

Variable	B	Std. Error	β	t	p
Constant	3.706	0.399	-	9.280	0.000
Gender (1=Male)	0.281	0.130	0.141	2.159	0.032
Age	-0.071	0.095	-0.061	-0.748	0.455
Education Level	-0.162	0.058	-0.181	-2.766	0.006
Tenure	-0.038	0.056	-0.055	-0.677	0.499

Model: $R = .254$, $R^2 = .065$, Adjusted $R^2 = .048$, $F(4, 236) = 3.816$, $p = .005$

The regression model was found statistically significant ($F(4, 236) = 3.816$, $p = .005$). However, the explanatory power was determined to be relatively low, with the independent variables together explaining only 6.5% of the variance in performance scores ($R^2 = 0.065$). According to Cohen's (1988) classification, this value represents a small effect size. Among the predictors, gender ($\beta = 0.141$, $p = 0.032$) and education level ($\beta = -0.181$, $p = 0.006$) have statistically significant effects on performance. Male participants scored, on average, 0.28 points higher in performance compared to female participants. Conversely, higher education level was associated with a small but significant decrease in performance scores. Age ($p = 0.455$) and tenure ($p = 0.499$) do not have a statistically significant effect on performance (see Table 27). These findings indicate that while demographic variables overall explain only a small portion of the variance in performance, gender and education level emerge as significant predictors.

Discussion

This study examined the awareness levels regarding cultural data management and institutional performance evaluations of personnel working at the Department of Culture and Social Affairs of Ankara Metropolitan Municipality. The findings indicate that personnel have a moderate level of awareness about cultural data management, but there is a need for improvement, particularly in areas such as data protection, financing, and system design.

It is important to note that this study collected data solely from the Department of Culture and Social Affairs of Ankara Metropolitan Municipality. Therefore, the findings may not be fully generalizable to other municipalities or public institutions with different organizational structures and resources. However, focusing on a single institution allowed for a detailed and contextualized analysis of cultural data management awareness and performance within that specific setting. Future research should aim to include multiple municipalities to provide broader insights and facilitate comparative analyses.

The results showed a statistically significant relationship between awareness and perceived institutional performance. This suggests that as personnel's awareness of cultural data management increases, their perception of institutional performance improves significantly. According to Cohen's (1988) classification, this represents a moderate to large effect size, highlighting the importance of awareness in shaping institutional outcomes. Additionally, multiple regression analysis was performed to examine how demographic factors influence awareness levels. While the overall model accounted for only a small part of the variance in awareness scores, gender stood out as a significant predictor. Male participants scored slightly higher in awareness than female participants, while age and education level did not show significant effects. This suggests that factors like age and education might not be the main determinants

of awareness, and further research could investigate other variables. A similar trend was seen in the regression model predicting performance: gender and education level were significant predictors, though the model's overall explanatory power remained small. This indicates that more educated personnel might assess performance using broader and more critical criteria, resulting in slightly lower scores, and that gender differences, although small, are statistically significant in perception. This situation aligns with the general picture seen in the literature regarding data management in public institutions. For instance, studies by Antell et al. (2014) and Tenopir, Birch, and Allard (2012) emphasize the lack of data management skills and insufficient training in public organizations. Similarly, Özdemir and Uluyol (2021) emphasize the necessity of regular training on information security and data management. In this study, the fact that 80.5% of participants reported not receiving any training parallels these literature findings.

In response to the research questions:

- Q1: Analyses were conducted on personnel awareness of cultural data management in relation to gender, educational status, age, and job title. The results indicated that there was no statistically significant difference in personnel awareness by gender; however, when mean values were examined, it was observed that males demonstrated relatively higher levels of awareness than females. Overall, the awareness level of employees was found to be moderate. No significant differences were found in employee awareness by educational status; nevertheless, mean scores suggested that as the level of education increased, personnel awareness tended to decrease. Similarly, no significant differences were observed in awareness levels by job title; however, mean comparisons indicated that as personnel moved further away from central management positions, their awareness levels tended to decline. In terms of age, correlation analysis revealed a positive relationship, showing that personnel awareness increased with age. This finding is partially consistent with results by Ryan and Deci (2020) and Monroe et al. (2021), which suggest that role and experience differences may influence awareness.

- Q2: The results showed that there was no statistically significant difference in institutional performance evaluation by gender or job title. However, a statistically significant relationship was found between educational status and institutional performance evaluation. This finding indicates that as the education level of personnel increased, institutional performance tended to be evaluated at a lower level. In addition, a negative relationship was identified between age and institutional performance evaluation, suggesting that the successful evaluation of institutional performance decreased as age increased.

- Q3: The study revealed a statistically significant relationship between awareness of cultural data management and perceived institutional performance. This result suggests that as personnel's awareness level regarding cultural data management increases, their perception of institutional performance also increases.

The findings also reveal that the digitization process at the municipal level is still incomplete. While half of the participants reported accessing data digitally, physical data usage was found to be lower. This supports observations by Hou et al. (2020) and Gemici (2024) that digitalization in local governments progresses gradually, with traditional methods not yet fully abandoned.

Overall, this study makes a unique contribution to the literature by addressing the understudied topic of cultural data management in municipalities through personnel awareness and institutional performance. However, the data being collected from a single municipality limits the generalizability of the results. Future research should therefore focus on cross-institutional analyses and explore other potential determinants such as organizational culture, leadership style, and technological infrastructure, which may play a more decisive role in shaping awareness and performance outcomes.

Conclusion

The research findings indicate that the awareness levels of Ankara Metropolitan Municipality personnel regarding cultural data management are generally moderate, with specific areas for improvement identified in data security, financing, and system design. The positive and significant correlation between awareness and perceived institutional performance underscores that enhancing awareness can directly contribute to better organizational outcomes.

Lack of training emerged as the most critical challenge. Therefore, it is crucial to implement regular and mandatory in-service training programs focused on cultural data management, while also providing expert support in data security, system design, and financial management. In addition, strengthening the digital data management infrastructure to reduce the reliance on physical data and including concrete targets for cultural data management in institutional strategic plans will contribute significantly to enhancing institutional performance.

This study offers a unique contribution to the literature as one of the rare quantitative studies measuring cultural data management in municipalities. The findings highlight the importance of addressing data management not only at the central government level but also within local governments. Given the limited explanatory power of demographic factors such as age and education on awareness, future research should consider alternative determinants such as organizational culture, access to resources,

and individual motivation. Conducting similar research across different municipalities and performing comparative analyses will allow for a broader perspective on the issue. Moreover, integrating qualitative methods such as interviews and focus group discussions, along with longitudinal or time-series studies to track changes in awareness over time, will provide significant contributions to both theoretical knowledge and practical applications. Overall, the study demonstrates that strengthening personnel awareness is key to improving institutional performance in cultural data management and offers both practical recommendations and a foundation for further research in this underexplored area.

Conflict of Interest

There is no conflict of interest among the authors.

Authorship Contribution

Data collection, statistical data analysis and writing of the article (A1)

Research planning and writing of the article (A2)

Ethical Approval and Informed Consent Statements

This study received ethical approval from the Hacettepe University Ethic Committee (E-66777842-300-00003478834) on 04.02.2024.

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