

Factors influencing the integration of digital archival resources: a constructivist grounded theory approach

Zhiying Lian

ABSTRACT

This paper discusses the factors influencing the integration of digital archival resources in China. The integration of digital archival resources as discussed in this article refers to the way in which information contained within dispersed digital archives within a country, or a specific area such as a province, city or county, can be successfully integrated, classified and restructured around specific topics and actual needs in order to realise optimal social sharing and utilisation of digital archival resources. There is little Chinese published research regarding what factors influence the integration of digital archival resources. This article, therefore, uses Charmaz's Constructivist Grounded Theory approach and draws forth the theory that archivists' cognition on the integration of digital archival resources and the context (which consists of the organisational culture of archives, archives management systems, and the laws and regulations on archives disclosure), influence the integration of digital archival resources, and these factors interact with each other. This theory can also be illustrated by the model: cognition–context–action. This research can provide some recommendations for the promotion and sustainable development of the integration of digital archival resources in China as well as other countries.

KEYWORDS

Digital archival resources;
constructivist grounded
theory; factors; integration

1. Research Background

This article discusses the factors influencing the integration of digital archival resources in China. The integration of digital archival resources as discussed in this article refers to the way in which information contained within dispersed digital archives within a country, or a specific area such as a province, city or county, can be successfully integrated, classified and restructured around specific topics and actual needs in order to realise optimal social sharing and utilisation of digital archival resources. It firstly refers to the integration of the information of digital archival resources. Today, more and more holdings in Chinese public archives have been digitised, for example, the average percentage of the digitised archives in the public archives of Shanghai is over 70%, and some archives have had all their holdings digitised. Meanwhile, more and more Chinese archives have begun to accession born-digital records. In addition, China is experiencing a sharp digital transition, whereby governments and various organisations, communities as well as individuals are collectively creating a large quantity of digital archival resources. All of these digital archives provide a

material basis for the integration of the information of digital archival resources. Secondly, the digital archival resources shall here be the 'comprehensive archives' which include not only the digital archives kept in public archives, but also the archives created or held by other organisations, communities and persons. These archives that exist outside public archives in China have for a long time received little attention by public archives and archivists. Lastly, considering the resources and professional skills owned by public archives, public archives should take the lead to initiate and organise this work, therefore the factors influencing the integration of digital archival resources in this article refer to those influencing the public archives to carry out this work, and the interviewees in this research are limited to the archivists in charge of constructing archival resources in public archives.

The integration of digital archival resources is related to the preservation and continuous use of the evidence of humanity's past, present and future activities; it is also related to the keeping, forgetting and reconstruction of organisational and social memory.¹ Meanwhile, it is the key way to fulfil the task proposed by the State Archives Administration of China (SAAC) to develop two parallel systems: a system of archival resources about people and another system supporting ease of use of archives by people.² This initiative has drawn attention from some scholars in China.

The current Chinese research involved two kinds of integration: the integration of physical archives and the integration of digital archival resources. The definition of the integration of physical archival resources, and the realisation mechanisms,³ and the obstacles and difficulties to realise integration⁴ have been discussed by a number of scholars. Dai has argued that the integration of archival resources requires the accession of archives created by different creators into the public archives. The purpose of integration is to thereby enrich and optimise the holdings of public archives, to keep the complete city and social memory, and to provide integrated archival resources as a part of public information resources for all to share.⁵ This definition is based on the traditional centralised custody model for physical archives, but some creators may not be willing to turn their archives over to public archives, and in such cases, integrating the physical archives created by different creators is not so feasible. Some scholars analysed the practices of integrating physical archives across different archival institutions in some places of China, and contended that the divided archival holding system⁶ stipulated in the Archives Law of China was the main obstacle to this kind of integration of archival resources.⁷ In fact, under the current divided archival holding system, it is very difficult and infeasible to integrate physical archival resources across different archival institutions.

With the development of e-government and the increase in digital archival resources, the integration of these resources across different archival institutions has received attention. Some scholars have analysed the conditions required to realise the integration of digital archival resources and argued that in the e-government environment there needs to be an integration of network infrastructure, digitised archival resources, a standard system of integration, technology and laws on archival information security, as well as highly qualified archivists and adequate funding.⁸ Some scholars have discussed these realisation strategies. Based on the analysis of the current status of constructing digital archival resources they found that many archival resources had not been digitised and remain dispersed in different archives, that archives websites were isolated, and that the archives management standards for computer systems and data structure were not unified. They contended that to integrate the dispersed archival resources kept in different archives, a top-level design

along with a network platform for integrating and enriching digital archival holdings were needed.⁹ Little published research has studied the factors influencing the integration of digital archival resources, however it is only if we know clearly the factors influencing the integration of digital archival resources, that we will develop a deep recognition about this work and can stipulate effective and sustainable strategies and measures to promote its development. In view of this fact, the research questions of this article are formulated as: ‘what factors influence the integration of digital archival resources?’ and, ‘how do these factors influence integration?’

2. Research Method

Considering there is little published research about the factors influencing the integration of digital archival resources, the research for this article used a grounded theory approach to analyse the work of integration. ‘When a researcher intends to challenge existing theory, develop new theory, or is interested in drawing forth the object’s understanding, perception or experience with the world, he/she could consider using a grounded theory approach.’¹⁰

Grounded theory, originally proposed by sociologists Barney Glaser and Anselm Strauss in 1967 as a qualitative research method, has been comprehensively applied in many research fields including some projects in archival studies such as InterPARES2, Indigenous archiving projects and the University of Pittsburgh project on Functional Requirements for Electronic Recordkeeping.¹¹ Until now, there have been three versions of grounded theory: Glaser and Strauss’s original version, Strauss and Juliet Corbin’s proceduralised version and Kathy Charmaz’s constructivist grounded theory.¹² The former two are referred to as the first generation of grounded theory; Charmaz’s version is referred to as second-generation grounded theory. Heath and Cowley contend that it is the methodological rather than ontological and epistemological aspects that have been cited as the main source of divergence between Glaser and Strauss’s version and that of Strauss and Corbin, and they assume the two versions have a shared ontology, albeit with slight epistemological differences.¹³ However, the first and the second generations of grounded theory differ at an ontological and epistemological level. Charmaz characterises Glaser’s position as ‘close to traditional positivism, with its assumptions of an objective, external reality, a neutral observer who discovers data ... and objectivist rendering of data.’¹⁴ Getaneh Alemu comments that classic grounded theorists such as Glaser espouse the view that the researcher should keep some distance in the research process so as not to inject bias and preconceived ideas into it, but Charmaz’s constructivist grounded theory follows a constructivist philosophical approach wherein both the researcher and participants mutually co-construct meaning during data collection and analysis.¹⁵ Constructivist grounded theory fits the author’s own ontological perspective that the real world is complex and multiple, and any findings shall come from an interactive process. This article has adopted Charmaz’s constructivist grounded theory to explore the factors influencing the integration of digital archival resources.

3. Data collection and analysis

Data was collected by using semi-structured interviews with twenty archivists in charge of constructing archival resources across ten public archives in Shanghai from 1 December 2014 to 10 March 2015. The main questions used for the interviews included:

1. What do you think of the integration of digital archival resources? How do your understandings on the integration of digital archival resources come into being? Do you know any cases of the integration of digital archival resources carried out by other archives?
2. Have your archives taken measures to integrate digital archival resources? If yes, what kind of measures? What drives your archives to take these measures? Are there any effects? If not, why not?
3. What obstacles or difficulties do you think the archives may face and need to solve when integrating digital archival resources?
4. What measures or strategies do you think are important and effective to promote the integration of digital archival resources?

The whole process was divided into two stages: in stage 1, semi-structured interviews were conducted with twelve archivists from six archives, and the tentative categories and their properties were summarised by writing memos, initial coding and focused coding with the collected data. In stage 2, based on the findings of stage 1, a new round of semi-structured interviews was conducted with eight archivists from another four archives to collect further data until it was deemed that theoretical saturation had been achieved, that is, no more properties and new concepts as well as new categories emerged. Then the core category was refined and the theory was constructed. The memo-writing and constant comparisons were carried out through the whole process (see Figure 1).

3.1. Initial coding

Initial coding requires researchers to be open to all the data and the researchers can find some important ideas which can be developed into theories by initial coding. Initial coding can be done word by word, line by line and incident by incident.¹⁶ Charmaz advocates using *gerunds* to build a sense of action into the coding.

Interviews were conducted with twelve archivists from six public archives. After each interview, the researcher wrote a memo (see Appendix 1) and did the initial coding line by line (see Appendix 2). The findings in the memo-writing and the initial coding were used to guide the interviews that followed.

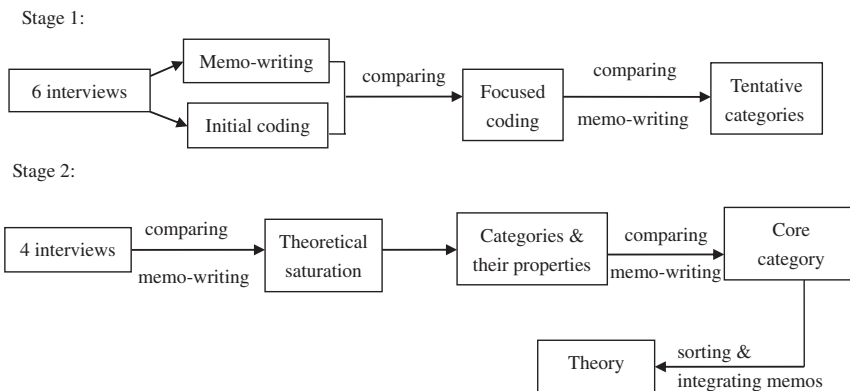


Figure 1. The analytic process based on Charmaz's Constructivist Grounded Theory.

3.2. Focused coding

Focused coding is more directed, selective and conceptual than initial coding. Focused coding was used to synthesise and explain larger segments of data and required using the most significant and/or the most frequent initial codes to sift through these data.¹⁷ The researcher compared initial codes with initial codes, and initial codes with data, teased out the memos, then selected the focused codes (see Appendix 3). For example, by comparing initial codes and analysing memos, the researcher noticed that the archivists from those archives which have carried out the work were usually very active, they ‘actively coordinated and communicated with other organisations or persons’, they ‘earned their trust by all means and actively digitised the archives held by them’ and thereby they ‘had a sense of accomplishment from the work’, while the archivists from those archives which have not done the work were usually negative, they made comments such as: ‘nowadays keeping secrets is the priority, so it is very difficult to do this work’; ‘many archives are reluctant to share their holdings’; ‘some staff are not willing to take extra workload’. Consequently, the code ‘attitude’ was refined, and this focused code led to further exploration of the reasons why different archives had different attitudes to their work, and the effects of their attitudes on their work. The researcher went back to the memos, initial codes and data, and found that the archivists having an active attitude usually have the belief that they wanted ‘to do something meaningful’, and because of this belief, even without the superiors’ administrative orders or push, they carried out the work with initiative. Whereas those archivists having a negative attitude usually showed strong risk aversion, such as ‘being afraid of taking responsibility for divulging secrets’, or ‘keeping secrets being the priority’, and they tended to ‘rely on the SAAC’s overall planning and top-level design and their superior’s initiation’ or ‘needed their superior’s push’, or they will ‘obey the administrative order from the SAAC or the superior’. These signify the high power distance¹⁸ in these archives, therefore the codes ‘belief’, ‘risk aversion’ and ‘high power distance’ were refined (see Table 1).

After focused coding, the researcher drew forth the following four tentative categories by comparing these codes and writing memos: archivists’ cognition on the integration of digital

Table 1. Tentative category of ‘organisational culture of archives.’

Initial coding	Focused coding	Tentative category
Coordinating and communicating actively	Attitude	Organisational culture of archives
Earning trust and digitising archives actively		
Having a sense of accomplishment		
Depending on the determination and concerted efforts of the leadership and archivists		
Being reluctant to share holdings		
Being unwilling to take extra work		
Being difficult when doing this work		
Wanting to do something meaningful	Belief	
Hoping to do something meaningful		
Being willing to do something meaningful		
Being afraid of divulging secrets	Risk aversion	
Being conservative about disclosing archives to avoid divulging secrets		
Keeping things secret being the priority		
Relying on the SAAC’s overall planning and top-level design and the superior’s initiation	High power distance	
Obeying the administration orders from the SAAC or the superior		
Needing SAAC’s or the superior’s push		

archival resources; organisational culture of archives; archives management system; and the laws and regulations on the disclosure of archives (see Appendix 3). For example, after refining the focused codes ‘attitude’, ‘belief’, ‘risk aversion’ and ‘high power distance’, the above findings were teased out by comparing the codes and writing memos (see Appendix 4), and then formulating the tentative category ‘organisational culture’, which combines the four focused codes and can explain why different archives in the same city act differently towards the integration of digital archival information resources (see Table 1).

3.3. Theoretical sampling, saturation and theorising

Theoretical sampling is all about the concepts and categories you are developing and the testing you do on them. ‘Theoretical sampling involves starting with data, and then examining these ideas through further empirical enquiry.’¹⁹ Researchers need to seek and collect data that elaborates and refines categories in an emerging grounded theory by theoretical sampling. Therefore, in order to confirm and develop the categories and their properties, the researcher interviewed eight archivists from the other four archives to collect further data and found no further properties, new concepts or new categories emerged by comparing and writing memos, that is, theoretical saturation had been achieved. Furthermore, the strategy of member-checking was used to reconfirm if theoretical saturation had been achieved, that is, the researcher took the categories to the three interviewees from stage 1 and asked for their opinions about the categories and reconfirmed the achievement of theoretical saturation.

After the categories were confirmed, the researcher went back to the data and tried to find the relationships among these categories by comparing the data, teasing out the memos and memo-writing (their relationships are fully discussed in the findings section). Among the four categories, ‘archivists’ cognition on the integration of digital archival information resources’ refers to their thoughts, awareness and knowledge about the integration of digital archival information resources, including what it is, why it should be done and how it should be done. It is the internal driving force which may stimulate archivists to carry out the integration of digital archival resources. ‘Organisational culture of archives’ is the collective programming of the mind that distinguishes the members of archives from other organisations. People working for different archives in different places and different countries have different beliefs, values, ethics and ways of acting and interacting that set them apart from those working for other organisations.²⁰ It is the internal environment which influences the archivists’ behaviours and actions. ‘Archives management system’ refers to the organisation system of archives management which includes the establishment of archival institutes and their relationships.²¹ The archives management system in China is a centralised system: at the central level, there are the Central Archives and the SAAC; at the local level, there are the local public archives and local archives administration, which are subordinate to the Central Archives and the SAAC. The archives and archives administration at the lower level are subordinate to those at the next higher level; ‘laws and regulations on the disclosure of archives’ refer to the laws and regulations stipulating the value orientation of legislation, the scope of archives that can be disclosed, and the duty and legal responsibility of disclosure of archives. The two categories are the external system and legal environment which influence the implementation of integrating digital archival resources. They, together with the organisational culture of archives, can be seen as the context influencing the integration

Table 2. Core category, categories and properties.

Core category	Categories	Properties
Factors influencing the integration of digital archival resources	Archivists' cognition on the integration of digital archival information resources	Cognition on the concept Cognition on the significance Cognition on the feasibility Cognition on the realisation strategies and measures
	Organisational culture of archives	Attitude Belief Power distance Risk avoidance
	Archives management system	Establishment of archival institutes Relationship among archival institutes
	Laws and regulations on the disclosure of archives	The value orientation of legislation Scope of archives that can be disclosed Duty and legal responsibility of disclosure of archives

of digital archival resources. All the categories centre around this core category 'factors influencing the integration of digital archival resources' (see Table 2), thereby the author concluded that cognition and context influence the integration of digital archival resources, which can also be illustrated by the model 'cognition–context–action (integrating digital archival resources)'.

4. Findings and recommendations

This research used constructivist grounded theory and found that the factors including archivists' cognition on the integration of digital archival resources, organisational culture of archives, archives management systems and laws and regulations on the disclosure of archives influence the integration of digital archival resources. Among these factors, only the factor 'archives management system' has been mentioned in current Chinese literature which focused on the negative side of China's archives management system, that is, the divided archival holding system. This article confirms that it is a factor influencing integration, but argues that this factor has a positive effect on the integration of digital archival resources in China; it is this centralised archival organisational structure that puts China in a unique position to integrate its holdings virtually. The other factors raised in the foregoing discussion have not been discussed in the previous published literature. These factors are not isolated when influencing integration, as they all interact with each other:

1. The archivists' cognition, the internal driving force, may lead to their action, but this is affected by context. First, whether archivists have cognition on the integration of digital archival resources is affected by context. If the organisational culture of archives is open, active and creative, the archivists' cognition will become deeper by communicating with the outside environment. Otherwise, the archivists may have little or no cognition of this issue. One of the archivists interviewed mentioned that the reason why they carried out the integration of digital archival resources was because their colleagues have a close relationship with academics in archival studies, and they were inspired to attempt to integrate the digital archival resources in their district around some topics. Similarly, if the SAAC or administrative superiors initiated and pushed the implementation of integration, and laws and

regulations on the disclosure of archives encourage the disclosure and sharing of archival resources, the archivists' cognition will also be enhanced. Secondly, whether cognition leads to action is also affected by context. If archivists have cognition on the integration of digital archival resources, but the organisational culture is closed and conservative, and the external context has not played its role, then cognition may not lead to action. Another archivist interviewed for this study said: 'I wanted to do something meaningful such as integrating the archival resources in our district, but it would inevitably bring about extra workload, and the other colleagues may be unwilling to take this on, so I just thought about it, but did not take action.' Likewise, if archivists have cognition, and the organisational culture of archives is open, active and creative, then the archivists will take action. Another archivist who was interviewed mentioned that they had deep cognition of the integration of digital archival resources, and their organisational culture was open and creative, and that they were very active in integrating digital archival resources, and consequently the integration work has achieved good results.

2. The organisational culture of archives, the internal environment of archives, plays a crucial role in shaping the archivists' behaviours and actions, but it is influenced by archivists' cognition and external context. The archivists from those archives with an open, active and creative organisational culture usually try to overcome difficulties and obstacles, and make concerted efforts to integrate digital archival resources, and then bring about good results. Whereas the archivists from those archives that had closed, risk-averse and conservative organisational cultures usually have a negative attitude to integration work when thinking about possible difficulties or obstacles, they tend to take a negative view of the status quo but still rely on a push from an administrative superior instead of trying their best to change the situation. Therefore, archivists from different archives with different organisational cultures act differently toward the integration of digital archival information resources.

The organisational culture of archives is influenced by the archivists' cognition. The archivists from one of the archives that have carried out the work said that because they thought it was very meaningful to integrate digital archival resources, they first chose the topic as a research project and cooperated with some academics, and in this way they deepened their cognition of integration, and then put their research findings into practice. Their administrative leaders were very supportive and came forward to coordinate all the relationships. Their work brought about good results. Their attitude and spirit affected the whole archives, making the archives more open, active and creative, which will help to further promote the development of integration work. Certainly, archives management systems, and the law and regulations on the disclosure of archives, also have effects on the organisational culture of archives. The centralised archives management system results in the characteristic of the organisational culture of many archives in China: high power distance. In a situation of high power distance, subordinates expect to be told what to do. Superiors are entitled to privileges, and contacts between superiors and subordinates are only supposed to be initiated by superiors.²² This can explain why some archivists are negative, and rely on their superiors to initiate the work to some degree. The laws and regulations on the disclosure of archives have also influenced the organisational culture. If the value orientation of the legislation is to support disclosure of archives, the organisational culture may be more open, but on the contrary, if the value orientation of the legislation is to support keeping secrets, the organisational culture may be more closed.

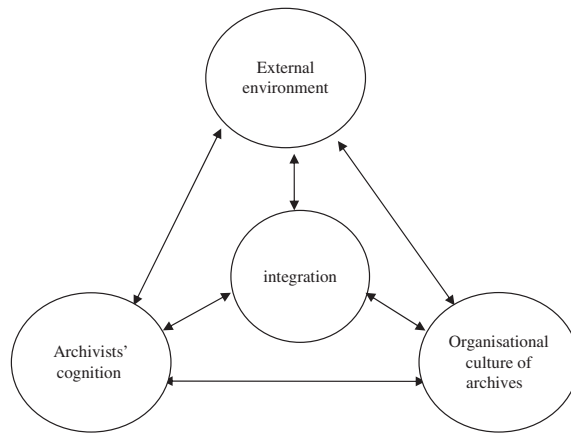


Figure 2. Relationships between archivists' cognition, context and action (integration).

3. Archives management systems, and the laws and regulations on the disclosure of archives, the external environment, influence the breadth and depth of the integration and its sustainability. In a country having a centralised archives management system, the most effective way to promote some work is through a top-down way, that is, to issue administrative orders from superiors to promote the work. Several archivists interviewed emphasised that if the SAAC and/or the Shanghai Municipal Archives Administration require them to carry out the integration of digital archival resources, they will carry out the work. Compared with a decentralised archives management system, centralised systems can push the work from the top down, and then realise the integration of digital archival information resources across the whole country. Similarly, the laws and regulations on archives disclosure have impacted on the depth of integration, if the value orientation of the legislations is to support disclosure of archives, and the scope of archives that can be disclosed and the duty and legal responsibility about archives disclosure are stipulated clearly and scientifically, then more digital archival information resources can be integrated. The external environment can also provide the necessary standards, laws and regulations to realise the sustainability of integration. Meanwhile, the sustained influence of the external environment also needs the support from the internal environment and archivists' cognition. One of the archivists interviewed said: 'Even though we assign work to our staff, if they are unwilling to do it, they can say "I do not know how to do this work" and use this as an excuse, you cannot punish them because they do not know how to do that work.'

Certainly, with the promotion of action, it will affect the cognition and context: archivists' cognition may become deeper, the organisational culture may become more open and creative, the top-down design and promotion mechanism, as well as the laws and regulations, may be perfected. Their relationships can be illustrated as shown in Figure 2.

The research presented in this article can provide some recommendations for the promotion and sustainable development of the integration of digital archival resources in China: on the macro-dimension, there needs to be a top-level design and the construction of an improved legal system of archives disclosure; on the meso-dimension, an open, active and innovative organisational culture of archives needs to be developed; on the

micro-dimension, archivists' cognition on the integration of digital archival resources needs to be improved.

5. Conclusion

This study adopted constructivist grounded theory to explore the factors influencing the integration of digital archival resources in China. To collect data, twenty archivists from ten public archives in Shanghai were interviewed. By coding, memo-writing and iterative comparison, the four categories 'archivists' cognition on the integration of digital archival resources', 'organisational culture of archives', 'archives management system' and 'the laws and regulations of the disclosure of archives' emerged. Besides the category 'archives management system' that has been discussed in previous studies, the other three are new findings. Their influence on the integration of digital archival resources, and their relationships, were discussed, and the theory 'cognition and context influence the integration of digital archival resources' emerged.

Although this research focused on China, the findings can also have implications for other countries: for countries with similarly centralised archives system, they can make full use of the advantages of this system to push the integration of digital archival resources; meanwhile they can pay attention to developing an open, active and creative organisational archives culture, and improving the archivists' cognition in regard to integration to guarantee its sustainability. For countries with multiple heterogeneous independent archives, the organisational culture of archives and the cognition of archivists play more significant roles in the integration of digital archival resources.

The research undertaken for this article is a pilot study using constructivist grounded theory. The data gathered was limited to interviews with archivists in Shanghai, therefore the findings of this study may have some limitations. To improve the generality of the grounded theory generated in this study, an empirical study to test the theory shall be performed on a larger scale including archives at different levels, in different places and even in different countries, and a comparative study on the factors influencing the integration of digital archival resources between different countries shall be conducted in future work. Moreover, this article only discusses factors influencing the integration of digital archival resources within the scope of one country, but the development of digital technologies and the open data movement are making the sharing and integration of global digital information resources possible: what factors will influence the global integration and sharing of digital archival resources across different countries having different languages, cultures and different archives management systems, standards and legal systems? This is also a topic we need to delve into in future studies.

Endnotes

1. Xiaomi An et al., 'The Current Research and Suggestions on the Future Study on the Integration and Service of Digital Archival Resources in China', *Archival Science Study*, no. 2, 2014, pp. 4–8.
2. The two systems were first proposed in 2008 by Dongquan Yang, the director of the SAAC. The first system requires public archives to pay more attention to the collection and accession of archives concerning people's lives; the second system requires public archives to pay attention to the needs of ordinary people and unprivileged people, and promote the construction of the systems by which people can remotely access archival resources kept in different archives.

3. Zhiqiang Dai, 'Integrating Archives Information Resources around Public Archives', *Archival Science Study*, no. 1, 2010, pp. 32–6; Biyong Tan and Xincai Wang, 'Controlling Mechanism of the Integration and Sharing of National Archival Resources', *Archival Science Study*, no. 4, 2006, pp. 17–22.
4. Dai, 'Integrating Archives'; Hang Cao and Min Xie, 'Division, System Constraint and Mechanism Innovation – Rethinking about the Integration of Archives Information Resources', *Archives Management*, no. 1, 2010, pp. 7–10.
5. See Dai, 'Integrating Archives'; Zhiqiang Dai, 'Thinking about the Integration of National Archival Resources', *China Archives*, no. 8, 2002, pp. 45–7.
6. The divided archival holding system refers to the way public archives keep the archives created by their local administrations separately, for example there are 19 districts in Shanghai, and then accordingly there are 19 district archives which separately keep the archives created by the administrations of their district. Moreover, the specialised archives which keep some special archives such as the urban construction archives, the audio and video archives, are separated from public archives, and supervised by their superior department, for example the urban construction archives, which keep archives created during urban planning and construction, are directly supervised by the Ministry of Housing and Urban–Rural Development.
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16. Kathy C Charmaz, *Constructing Grounded Theory: A Practical Guide through Qualitative Analysis*, Sage Publications, London, 2006, p. 48.
17. Ibid.
18. *Power distance* is one of the five dimensions proposed by Geert Hofstede to allow one to perceive differences among national cultures. It refers to the extent to which the less powerful members of institutions and organisations within a country expect and accept that power is distributed unequally (see Geert Hofstede, Gert Jan Hofstede and Michael Minkov, *Cultures and Organizations: Software of the Mind*, McGraw-Hill, New York, 2010, p. 61). In a situation of high power distance, subordinates expect to be told what to do. Superiors are entitled to privileges, and contacts between superiors and subordinates are only supposed to be initiated by superiors.
19. Hofstede et al., p. 102
20. Zhiying Lian, 'Archives Microblogs and Archival Culture in China', *American Archivist*, vol. 78, no. 2, 2015, pp. 357–74.

21. Huiling Feng and Jizhe Zhang, *Introduction on Archival Science*, Renmin University Press, Beijing, 2001, p. 67.
22. Hofstede et al., p. 76.
23. In China, the public archives and urban construction archives are separate organisations. The latter manage the archives created during urban planning and construction, and they are directly supervised by the Ministry of Housing and Urban–Rural Development.
24. Some archivists in archives are civil servants, and some are treated as civil servants, so they will not be fired unless they break laws or violate the discipline stipulated by the Communist Party or the government.

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Notes on contributor

Zhiying Lian is a professor in the School of Library, Information and Archival Studies, Shanghai University of China. She earned her PhD in Archival Science from Renmin University of China, and she was the visiting scholar at the University of California, Los Angeles, from August 2012 to August 2013. Her research interests focus on the development of digital archival resources, organisational culture of archives, right of access to electronic government records, and community archives.

Appendix 1: Memo example 1

Memo from one interview

The two archivists I interviewed first are the leadership of the archives: one is the deputy director; the other is the supervisor of archives management. The interview was conducted in the office of the deputy director. I sent them the outline of the interview questions in advance, but our conversation was not limited to those questions.

The archives has merged the urban construction archives of its district.²³ When talking about the merger, they emphasised it was initiated by an administration order from their district government, but the urban construction archives in their archives are still managed by standards and regulations stipulated by the Ministry of Housing and Urban–Rural Development which are different from those stipulated by the archives administration, therefore the merger has resulted in many problems. Because this kind of merger only happened in their archives in Shanghai, and very seldom elsewhere in China, they need to find the solutions to these problems on their own, therefore they thought it could be more feasible to integrate digital archival resources than to integrate physical archives.

But when I asked them if they had carried out the integration of digital archival resources, they told me though they thought this work was meaningful, and they wanted to do it, they were very busy with the accession and management of archives, and if they initiated a program to integrate digital archival resources around some topics, it would inevitably bring about extra workload, and many staff would be reluctant to do extra work. If the leadership required them to do this work, they could use the excuse ‘I do not know how to do this work’ and the leadership could not punish them just because they did not know how to do that work, and under the current employment system,²⁴ they cannot be fired. When we further discussed the effective way to carry out the integration work, they said it needs overall planning and top-level design from the SAAC, and the Shanghai Municipal Archives Administration should take the lead to promote the work.

During our talk, a staff member gave the deputy director a document issued by the Shanghai Municipal Archives Administration which requires district archives to accession all of the student management archives kept in the elementary and middle schools of the local district. The deputy director said resignedly: ‘Like what we discussed just now, it is not necessary to accession all of the physical archives into the public archives. We will be busy accessioning and managing these archives for a very long time. Honestly, we do not want to do this work, but when the superior requires us to do that, then we have no choice but to obey it.’

The interviewees think integrating digital archival resources is more feasible and meaningful, but considering the current status of their archives, they think it is **very difficult to carry out** the work, and the most effective way to push the integration of digital archival resources is **the overall planning and top-level design of the SAAC as well as the initiation from the Shanghai Municipal Archives Administration**. Do the difficulties or problems they talk about exist in other archives? Are the SAAC’s overall planning and top-level design, and the initiation from the Shanghai Municipal Archives Administration regarded as the most effective way to achieve integration by other archives? How do those archives that have integrated digital archival resources carry out this work, considering there has currently been no overall planning and top-level design from the SAAC about the integration of digital archival resources, and no initiation from the Shanghai Municipal Archives Administration? All of these questions I need to pay special attention to in the following interviews.

Appendix 2: Initial coding

Excerpts from interviews

Initial coding

<p>1. We integrated the physical archives, but now we are facing many problems arising from this, so we think it is more feasible to integrate the information of digital archival resources. You know, the archives in our country actually are like isolated islands, lacking co-operation, many archives are reluctant to share their holdings with other archives, so it is difficult to integrate the digital archival resources across different archives.</p> <p>Honestly, we are very busy with the management of our holdings, so we have no extra energy to think about integration. Integrating digital archival resources inevitably brings about extra workload, and many staff are not willing to do that. It needs the overall planning and top-level design of the SAAC, and the Shanghai Municipal Archives Administration should take the lead to promote the work.</p> <p>2. Yes, we know what it means, our colleagues have a close relationship with academics in archival studies, and then we became inspired and tried to integrate the digital archival resources in our district around some topics. We think this work is very meaningful, and we want to do something meaningful. We have integrated the digital archival resources about some time-honoured brands in our district. When integrating the digital archival resources, our leadership were very supportive, they came forward to coordinate the relationships involved, and we communicated with organisations and persons holding the related archives by all means. By coordinating and communicating, we earned their trust, and then we proposed to digitise their archives and give them one digital copy; they will usually agree, so we can integrate the information. Sometimes after cooperating with us, the owners finally were willing to donate their original archives to us, we feel very happy, and have a sense of accomplishment. We are willing to do something meaningful like this. The integration of digital archival information resources is helpful to keep the complete history of time-honoured brands which is a significant part of our district's history and social memory, and integrating digital archival resources can provide more comprehensive archival resources for users to access.</p> <p>So we think if the leadership and the staff of archives make up their minds and make concerted efforts to carry out this work, it will be implemented and developed. If the SAAC or the Shanghai Municipal Archives Administration can conduct the overall planning and design, it will certainly be more helpful to promote the work.</p> <p>3. Integrating digital archival resources is very meaningful, and we have established a catalogue centre integrating the catalogues of the archives concerning ordinary people's lives such as the archives documenting 'the only child' or those documenting 'educated urban youth going to work in the countryside and mountains during the Cultural Revolution', which are kept in all of the district archives. This catalogue centre provided a one-stop search for the public, but currently the catalogues in the online catalogue centre have been deleted because of a secret leak that happened in a province. Overemphasis on keeping secrets to some degree has negative effects on integration. I think this work depends on the archivists' thoughts on it, that is, whether archivists think it is important or not, and whether they are willing to do that work or not, especially, if the archives leadership think it is important and are determined to do this work, it can be implemented. Certainly, if the Shanghai Municipal Archives Administration initiates a program to carry out this work, it will also be done. And it is also very important that the SAAC undertake overall planning and top-level design.</p> <p>4. Actually we barely think about it, the accession and management of archives have kept us very busy, so we have no clear sense of it.</p>	<p>Being more feasible to integrate digital archival resources</p> <p>Being reluctant to share holdings because of a lack of cooperation among archives</p> <p>Being difficult to integrate digital archival resources</p> <p>Having no extra energy to do this work</p> <p>Being unwilling to do extra workload</p> <p>Needing the SAAC's overall planning and top-level design and the initiation of a superior</p> <p>Being inspired to carry out the work by communicating with academics</p> <p>Being meaningful to do this work</p> <p>Wanting to do something meaningful</p> <p>Coordinating and communicating actively</p> <p>Earning trust and digitising archives actively</p> <p>Having a sense of accomplishment</p> <p>Being willing to do something meaningful</p> <p>Depending on the determination and concerted efforts of the leadership and the staff</p> <p>Being more helpful to have the overall planning and design of the SAAC or the superior</p> <p>Being meaningful to integrate digital archival resources</p> <p>Overemphasis on keeping secrets</p> <p>Depending on the leadership and archivists' thoughts on integration</p> <p>Being done by the superior's initiation</p> <p>Needing overall planning and top-level design of the SAAC</p> <p>Having no clear sense of the work</p>
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Excerpts from interviews

Currently, keeping secrets is the priority. The Secrecy Administration is very strict with keeping secrets. We have deleted many online catalogues of archives and archival information involving the name of a person cannot be shared. The purpose of integrating digital archival resources is to provide these archival resources for the public to share, which involves the security of digital archival resources, but the scope of the archives that can be disclosed to the public is not stipulated clearly in archives laws and regulations. If we integrate some archival information we think can be disclosed and provide it for the public to access, but the Secrecy Administration thinks it is confidential archival information, then we need to take legal responsibility of divulging secrets, and that's very awful. So it is difficult to integrate the archival information resources in the current environment.

But if the SAAC or the Shanghai Municipal Archives Administration issues orders requiring us to integrate digital archival information resources, then we will have to do that.

Honestly, without the administrative orders from superiors, many archives will not actively do that work.

5. We have built a storehouse to keep the records of our archives and the specialised archives which had been kept in different agencies; we just keep and manage all of these archives, we do not have the ownership of those specialised archives. It is a sort of physical integration of these archives which is cost-saving, and convenient for search and use, so integration of digital archival resources shall be very meaningful, but honestly we have not thought about it yet.

We think keeping secrets is the big issue that needs to be considered when integrating digital archival information resources. We need to deal with the relationship between keeping secrets and disclosing, if the laws or the government encourage disclosing, it will be good for integration, but on the contrary, it will also be difficult.

By the Archives Law, the archives are in charge of the appraisal of archives disclosure as well as providing archives for the public to access, but the scope of archives that can be disclosed is not clearly stipulated in the law. Being afraid of taking the responsibility of divulging secrets, the archives will inevitably be very cautious and conservative about disclosing archives, then there will be a very limited number of archives that can be used for integration, so the best way is that the Archives Law stipulates to establish an independent organisation in charge of the appraisal on the disclosure of archives, and the archives only take charge of providing access to the disclosed archives, then the archives can carry out the work without a burden.

We think the Shanghai Municipal Archives Administration shall take the lead to promote the work and the SAAC's overall planning and top-level design is very important.

6. Though currently the SAAC and the Shanghai Municipal Archives Administration do not require us to integrate digital archival information resources, we still think it is meaningful, so we try our best to carry out the work. Actually, the compilation of archives is also involved with the integration of archival resources, we need to collect the dispersed archives around some topics and integrate them. Recently, we have been collecting the archives concerning the War of Resistance against Japanese Aggression kept by different organisations and persons in our district, and we are planning to integrate this archival information to hold an exhibition. We have done a lot of work, the coordination and communications are very important. We gained their trust by communicating with them actively and then they were willing to share the archives with us. This work is not easy, but it is really very meaningful, and we hope to do something meaningful.

The archives in our country are closed, there is very little cooperation between archives, therefore, to break the closed nature, the SAAC needs to issue compulsory administration orders, or the superiors of the archives can initiate to push for the work. If the SAAC or the Shanghai Municipal Archives Administration issues orders to initiate this work, that will be very helpful to promote it.

Initial coding

Keeping secrets being priority
Not stipulating clearly the scope of the archives that can be disclosed in archives laws and regulations

Being afraid of taking legal responsibility of divulging secrets

Being difficult to do the work

Obeying the administration orders from the SAAC or the superior

Being meaningful to integrate archival resources

Not thinking about the work yet

Needing to deal with the relationship between keeping secrets and disclosing by laws or the government's will

Not stipulating clearly the scope of the archives that can be disclosed in Archives Law

Being conservative about disclosing archives for fear of being held responsible for divulging secrets

Establishing an independent organisation in charge of the appraisal on the disclosure of archives in the Archives Law

Relying on the SAAC's overall planning and top-level design and the superior's initiation

Being meaningful to do the work

Trying best to do this work

Coordinating and communicating actively

Gaining trust by communicating

Hoping to do something meaningful

Lacking cooperation among archives

Needing SAAC's or the superior's push

Appendix 3. Focused coding and tentative categories

Initial coding	Focused coding	Tentative category
Being more feasible to integrate digital archival information resources than to integrate physical archives	Cognition on the feasibility of integration	Archivists' cognition on the integration of digital archival resources
Being difficult to integrate digital archival resources	Cognition on the significance of integration	
Being meaningful to do the work	No clear cognition on integration	Organisational culture of archives
Depending on the leadership and the archivists' thoughts on integration	Attitude	
Having no clear sense of the work		
Not thinking about the work		
Coordinating and communicating actively		
Earning trust and digitising archives actively		
Having a sense of accomplishment		
Depending on the determination and concerted efforts of the leadership and the staff		
Being reluctant to share holdings		
Being unwilling to take extra work		
Being difficult to do this work	Belief	Archives management system
Wanting to do something meaningful		
Hoping to do something meaningful		
Being willing to do something meaningful		
Being afraid of taking the legal responsibility for divulging secrets	Risk aversion	
Being conservative about disclosing archives for fear of being held responsible for divulging secrets		
Keeping secrets being the priority		
Relying on the SAAC's overall planning and top-level design and superiors taking the lead	High power distance	
Obedying the administration orders from the SAAC or the superior		
Needing SAAC's or the superior's push		
Needing overall planning and top-level design from the SAAC	The commanding position of the SAAC	Laws and regulations on the disclosure of archives
Needing SAAC's administration orders		
Relying on the SAAC's overall planning and top-level design	The relationships among archives	
Needing the superior to take the lead		
Obedying the administration orders from the superior		
Needing the superior's push		
Relying on the superior taking the lead		
Lacking cooperation among archives		
Not stipulating clearly the scope of the archives that can be disclosed in archives laws and regulations	The scope of archives that can be disclosed in archives laws and regulations	
Establishing specific organisation in charge of appraisal on the disclosure of archives in the Archives Law	Duty and legal responsibility of the disclosure of archives	
Being conservative about disclosing archives for fear of being held responsible for divulging secrets		
Needing to deal with the relationship between keeping secrets and disclosing by laws or the government's will		
Keeping secrets being priority		
Overemphasis on keeping secrets		

Appendix 4: Memo example 2

Memo about the category of 'organisational culture of archives'

Organisational culture of archives is the collective programming of the mind that distinguishes the members of archives from other organisations. People working for different archives in different places and different countries have different beliefs, values, ethics and ways of acting and interacting that set them apart from those working for other organisations.

For those archives which have carried out the integration of digital archival resources, they have the belief of wanting 'to do something meaningful'; they have an active attitude and try their best to carry out their work even if the work is not so easy to do. It is the belief and the active attitude that make them overcome the difficulties and obstacles and make concerted efforts to implement the work, and then bring about good results. On the other hand, for those archives which have not implemented the work, they have a negative attitude to the work when thinking about possible difficulties or obstacles, and tend to view the status quo negatively but still rely on the superior's push instead of trying their best to change the situation, and comparatively they are conservative and have strong risk aversion. These archives present two kinds of different organisational culture: open, active and creative versus closed, risk-averse and conservative.

Organisational culture of archives plays a crucial role in shaping the archivists' behaviours and actions; therefore, the archivists from different archives with different organisational cultures act differently toward the integration of digital archival information resources. Then why do the archives in the same city have different organisational cultures?

Theoretically, organisational cultures of archives are influenced by external factors such as national as well as local politics, economics, culture and technologies, the legal system and archives management systems, but they are also influenced by internal factors including the history and structure of archives, the personality of the leadership and the staff, and their cognition, educational background and experience. When conducting the interviews, I could tell the difference between these archives through the archivists' cognition of the integration of digital archival information resources. The archivists from one of the archives that have carried out the work said that because they thought it was very meaningful to integrate digital archival resources, they first chose the topic as a research project and cooperated with some academics, and in this way they deepened their cognition on the integration, and then they put their research findings into practice. Meanwhile, their leadership was very supportive and came forward to coordinate all the relationships. While the archivists from the archives which have not carried out the work usually have no clear sense of the integration of digital archival resources, they think they can do nothing about it, and it is the task that their superiors, the Shanghai Municipal Archives Administration and the SAAC should think about. Thereby, 'the archivists' cognition' has a close relationship with 'the organisational culture of archives'. Certainly, the legal system and archives management system influence the organisational cultures of archives too. The centralised archives management system results in the characteristic of the organisational culture of many archives in China: high power distance. In a situation of high power distance, subordinates expect to be told what to do. Superiors are entitled to privileges, and contacts between superiors and subordinates are only supposed to be initiated by superiors. This can explain why some archivists are negative, and rely on their superiors to initiate the work to some degree. The legal system, especially the laws and regulations on the disclosure of archives, have also influenced organisational culture. If the value orientation of legislation is to support disclosure of archives, the organisational culture may be more open, but on the contrary, if the value orientation of the legislation is to support keeping secrets, the organisational culture may be more closed.
