

**TOWARDS A BEST PRACTICE FRAMEWORK FOR
MANAGING URBAN DEVELOPMENT ARCHIVES:
CASE STUDIES FROM THE UK AND CHINA**

**Thesis submitted in accordance with the requirements of the University of
Liverpool for the degree of Doctor of Philosophy by**

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ORIGINAL**

To my parents

ACKNOWLEDGEMENTS

There are many people I would like to thank who have supported me throughout the period of my Ph.D. study. First and foremost I should like to thank my parents who have always been around me to give their love and support, no matter what difficulties I faced. I would also like to give a very special thanks to my son, his father and his grandparents. Without their support, it is impossible for me to study in UK. I thank you all.

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ABSTRACT

To successfully manage the archives of urban development (UDA) has long been a challenge to the archival community throughout the world. It is particularly so in the case of China. This thesis seeks to develop, within a broader context of archival science, an intellectual and pragmatic framework for managing urban development archives (UDA) of the international archival community in general and to solve the problems of Chinese archivists in particular.

A literature review demonstrates that up to now there have been divided views and disparate approaches to UDA in China. Nor is there a competent framework for UDA management within the international archival community. Earlier studies were focused either on needs of creators, users, custodians or administrators but did not on a framework which integrates all the above needs and did not cross disciplines, sectors and national boundaries. They dealt with either paper or electronic records but not both, they dealt with existing records but not include current ones or what would be kept for the future. The author deduces a need for an integrated conceptual framework for managing UDA towards best practice. An idea of integration is formulated for this need. The archival theory underpins the idea of integration comprises a post-modern archival thinking, a records continuum regime model, a client-led marketing strategy and cross-disciplinary methodologies as tools to explore the current provision.

Case study is selected as the research strategy to develop the conceptual framework and to justify the idea of integration. Parallel case studies of the management of UDA in UK and China have been conducted, in order to widen Chinese archivists' views, to overcome the potential limitations arising from an author writing from the standpoint of a national tradition, and to discover effective approaches applicable to Chinese problems. Field investigation, semi-structured interviews and questionnaire surveys are the methods used for identifying UDA management models in archival practice and for understanding UDA thinking across different disciplines, sectors and cultures, and throughout the life of the records and of the built environment. The structured interviews serve to elicit in-depth understanding of the perspectives, attitudes and patterns of UDA management, and allowed the generation of a hypothesis about the best practice models and approaches, which is tested by the questionnaire survey. The UK case study consists of structured interviews at 16 sites and a questionnaire survey of 21 records managers and archival administrators of UDA. The China case study consists of structured interviews at 20 sites and a questionnaire survey of 18 UDA specialist archivists. In addition, UDA thinking of urban development professionals are investigated both in UK and China as subordinate data to support the case studies.

Results from the two case studies show the importance of the idea of integration for the management of UDA. They demonstrate that integrated frameworks, integrated control and integrated approaches can be components of a best practice framework.

This study has three main findings:

- (1) Two meanings of UDA are defined. One relates to subjective concepts arising from people's perception and interpretation of UDA. The other relates to

objective concepts deriving from people's experience with UDA. Subjective concepts vary in line with different interpretations of context, provenance and purpose of archival preservation for UDA. Objective concepts are derived phenomena about the functions and characteristics of UDA in society. To meet the overall interests and needs of different UDA creators, users and custodians, a conceptual framework which leads towards a common culture for UDA is suggested. Various UDA concepts are viewed as organic parts within an integrated framework.

- (2) A set of consistent criteria for UDA best practice is established based on this integrated framework. Subsequently, models of UDA management are classified and evaluated in line with the integrated criteria. Five models of UDA management are identified, of which the best model is one that integrates the management of documents, records and archives. This model exhibits the greatest advantages over other models in guaranteeing the quality and value of UDA so that the different information needs of varied clients throughout the life of a record and the life of the built environment might be met. The successful implementation of such a model in the urban development environment involves co-ordination with the creation patterns of urban development activities and must correspond with administration, work flow and total quality management. An integrated approach such as this should be taken as a requirement for UDA best practice.
- (3) This study proposes that the idea of integration for UDA has provided a way of thinking that enables the debates, difficulties and problems of UDA to be understood across different disciplines, sectors, cultures and contexts. It can be promoted as an effective basis for discovering or creating appropriate models and approaches to deal with problems in future UDA research.

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**Appendix F- Survey of UDA Thinking of Chinese UD Creators:
Questions and Answers**

LIST OF ACRONYMS AND ABBREVIATIONS

AM: Archives Management (records permanent custody and use)
ARMA: Archive and Records Management Association (International)
AS 4390: Australia Standards on Recordkeeping
ASA: Australia Society of Archivists
BCBs: Building Control Bodies
BDM : British Database Management
BG: British Gas
CUDAIC: Chinese Urban Development Archives and Information Committee
DETR: Department of Environment, Transport and Regions (UK)
DM: Documents Management (records creation and capturing)
ICA: International Council on Archives
ICA/AR : Architectural Archives Section of ICA
ICAM: International Confederation of Architectural Museums
ICA/SAE: Archives Educational and Training Section of ICA
IRMT: International Records Management Trust
ISO/CD 15489-1 International Standards for Records Management.(Draft)
LUCAS: Liverpool University Center for Archive Studies
MPSR: The Management of Public Sector Records (IRMT)
NARA: National Archives and Records Administration(U.S.A)
NMRC : National Monument Records Centre (UK)
PRO: Public Record Office (UK)
RAMP: Records and Archives Management Program(UNESCO)
RIBA: Royal Institute of British Architecture
RM: Records Management (recordkeeping)
SAA: Society of American Archivists
SoA: Society of Archivists (UK)
TQM: Total Quality Management of Products, Processes and of Services
UC: Urban Construction
UD: Urban Development
UDA: Urban Development Archives

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CHAPTER 1 - INTRODUCTION

This chapter introduces the contents of the thesis in 9 aspects: basic terms, origins of the research; research purposes; how the research developed; research methods; the hypothesis and analytical framework; significance of the research; limitations of the research; organisation of the thesis.

1.1 Basic Terms

The research defines a system of key terms for common understanding through the cross-national study. The adoption of the terms is based on internationally agreed standards and links with the management of urban development archives (UDA) in the real world.

Archives: "Archives are historical recordings created directly in the performance of political, ministry, economic, scientific, technical, cultural, religious, and other activities by past and present official agencies, social organisations and persons, which have long term preservation value for the country and society, and the term is applied to all physical forms of records, whether textual documents; pictorial documents; sound documents, etc." (The People's Congress 1996: article 1.2)

An integrated approach: This means the use of a collaborative methodology, which is both multidisciplinary and interdisciplinary. It sees UDA as an integrated and independent research issue. It allows for the expectations of different professions and different fields e.g. the archival profession, the urban development (UD) profession and the information profession. It views their administration as crossing the borders of UD, records, archives and information management. It sees their provenance across the sectors of government, businesses and institutions. It sees their creation, identification, preservation and use across the fields of planning, architecture, construction, archives and information. It believes the accountability of recordkeeping lies across organisations and views the roles of creators, users and custodians as working under the same umbrella of an integrated framework along the life of the built environment. (An & Cook 2000; Kjolstad 2000)

An integrated control: This refers to the control of product, process and service into the management processes of UDA which results from integrated frameworks and integrated approaches.

An integrated framework: This argues that 5 levels of integration should be built up into UDA management processes. They are:

- **Common culture:** common understandings and expectations among creators, users, custodians on characteristics, values and functionality of UD documents, records and archives;
- **Common standards:** consistent terminology and procedures to make the records continuum regime easier to maintain and interface throughout UD records movement and the life of UDA;
- **Information sharing:** mutual use of UDA best practice criteria, policies and standards in business processes that operate independently throughout the procedures and processes of shaping the built environment ;
- **Co-ordination:** negotiation and exchange of UDA permitting separate but independent records management to respond to each other's needs and limitations;
- **Collaboration:** partnerships of creators, users, custodians, administrators, researchers, educators in UDA policy framework as well as accountability for society.

An integrated research: This means an integrated approach is used as means for defining research goals, objectives and measurement within a single research framework.

Best practice: In this context best practice means the performance of the records and archives management is cost-effective, meeting needs of clients and achieving best value.

Best value: Best value is not just about economy and efficiency, but also about the effectiveness and the quality of a service. It consists of three targets in terms of

quality, cost and efficiency. It is the answer to questions like 'Why we do this?' 'Can we do it a better way?' (DETR 2000)

Client-satisfaction: This means the best value of UDA service for its creators, other interest groups and society.

Cost-effectiveness: "The optimum balance between efficiency, economy and effectiveness. Also known as value for money." (Roper and Williams 1999a: 2)

Documents: "structured units of recorded information, published or unpublished, in hard copy or electronic form, and managed as discrete units in information systems." (AS4390-1996: article 4.12)

Integration: Integration in this thesis means the use of collaborative methodologies to explore what current provision in UDA. The characteristics of collaborative methodologies focus on positive and cohesive rather than passive or disparate ways of thinking; on similarities rather than differences; on valuing the contribution of different professions and disciplines rather than on excluded potential societal representatives in government agendas. See figure 1.6 of discussion on idea of integration for UDA. (An 2000a : 23)

Process control: This refers to approaches to support effectiveness, economy and efficiency of UDA management process.

Product control: This refers to approaches to ensure the accuracy, authenticity, reliability and completeness of UDA.

Records: "Documents created, received, and maintained as evidence and information by any agency, organisation or person, in pursuance of legal obligations or in the transaction of business" (ISO/CD15489-1.1997: article 3)

Records Continuum: " The whole extent of a record's existence. Refers to a consistent and coherent regime of management processes from the time of the creation of records (and before creation, in the design of recordkeeping systems)

through to the preservation and use of records as archives.” (AS4390-1996: article 4.22)

Service control: This refers to approaches to sustainable archives service for client-satisfaction in the availability, accessibility, readability and timely access to UDA.

Urban development (UD): The word urban development could be understood in either a narrow context or a broader context. Narrowly speaking, it refers to the survey, design and construction of all kinds of physical facilities of a city. Broadly speaking, it refers to the professional activities that consist of urban planning, construction and the management for the functional purposes of the developing or shaping of the built environment. (Chu and Wang 1987:240; Zhang 1990:23) Note: the term urban construction (UC) is used in this study to refer to the narrower meanings distinguish them from the broader meanings. The paper usually uses the broader meaning of UD.

Urban development archives (UDA): " Urban development archives are records directly created in the conduct of activities of urban planning, construction and management, which have long term preservation values for the country and society, either in textual form, cartography, diagrams or audio-videos. They consist of all types of media in a variety of forms". (The Ministry of Construction1997a. article 2)

1.2 Origins of the Research

Before starting the topic, I would like to introduce the acronym ‘UDA’, which will be used throughout this thesis. It is an abbreviation word for ‘urban development archives’, which refers to archives directly recording the functions, activities and transactions of physical development of the built environment. Its meaning in Chinese official documents is given in section 1.1. Different interpretations of the term are discussed in Chapter 2 and Chapter 3. A common understanding of the term is suggested in Chapter 7.

The origins of this research are from my past and present teaching and research experiences as an educator and researcher in the Archives College at Renmin

University of China. Since 1988, I have undertaken research and lectures on 'UDA and their Management' for MA students, but for many years the course has been based on disseminating information about specialised issues rather than on examining and analysing particular ways of doing things and critical ways of thinking. In addition, all the reference materials and publications are also experience based, guided by the archival policies of different archival authorities rather than by theories of archival science. Little could be found in archival literature to interpret the UDA phenomena that can not be explained by traditional archival theories. Little has been done in archival research to explore the reasons for the success or failure of different national UDA policies in Chinese archival practice. Over the past 12 years, I have become more and more interested in studying the uniqueness of UDA and its implications for archival theory and practice. The more I learnt, the more I wanted to research into the mechanisms behind the body of knowledge needed for UDA management.

My awareness of the needs of both a theoretical and practical framework for managing UDA stems from a recognition of the inadequacies of UD and archival practice, from my observations as a council member of Chinese Urban Development Archives and Information Committee (CUDAIC) from 1995, as a UDA creator and user trained in civil engineering during 1982 to 1986, as a UDA curator trained in scientific and technical archives management during 1986 to 1988, and as a UDA researcher in civic design during 1999 to 2001. Working with different people from different disciplines and professions with cross-disciplinary approaches, I became increasingly aware that there are divided views on UDA concepts in the different fields, there are separate approaches to UDA management from different disciplines, and there are fragmented frameworks on UDA policies and standards within the different professions. For example, archivists have met many difficulties in managing UDA, there are debates and arguments among UDA archivists; there is conflict and confusion among UDA administrators and UD policy makers; there is overlap and duplication among UDA custodians, etc. From time to time, I have been asked to provide guidance and solutions to the problems identified from practical sectors. There is a necessity for research to develop an intellectual and pragmatic framework for UDA management in both theory and practice.

The rationale behind the need for a best practice framework as the priority of my Ph.D. study comes from the research findings of two national projects, which I undertook and completed separately in 1995 and 1999.

- The first project was 'UCA Work Guide' aimed to provide a comprehensive guide to inform archivists about what was known about UDA management. It was supported by the Urban Development Archival Division of the Ministry of Construction of China and the Shanghai Urban Development Archival Repository. The product was much based on my teaching manual and references for MA students and dealt with the problems mentioned above. This provided little guidance on solutions to the problems identified. But the findings made me aware that though there are problems in Chinese UDA practice, there are also successes in the Chinese UDA experience. Little research has been done to analyse the keys to these successes or the roots of the problems.
- The second project was 'Research in Urban Development Information Demands and the Networking Organisational Models of the Information Service', which aimed to provide a guideline for UDA archivists to understand their role within an information society. Approved by Ministry of Education in 1996 and with the co-operative support of the Ministry of Construction, two national surveys were designed and sent out, one for users and another for UDA custodians. The study received responses from 210 UDA custodians and 700 users from 23 provinces. The findings indicate that there are big gaps between user expectations and the supply of UDA services; the availability and accessibility of reliable and complete UDA sources from UDA custodians have failed to meet the expectations of the archival missions established. Users expected integrated UDA information services to provide timely access to information; but UDA services are separate and fragmented. What has been kept is not what users expected; what users expected is not available and accessible. This study shows the importance and significance of UDA management for the country and society, and at the same time it exposes the consequences of serious problems of current practices. It was high time that research was done to find the roots of problems. UDA needs an integrated and independent research agenda to understand all types of views, approaches and national frameworks. These need to be brought

together under the same umbrella to develop a common culture and an integrated best practice framework.

My ambition has been to make my UDA research contribution not exclusive to China. The 13th ICA congress that held in Beijing in 1996 brought me more opportunities to know the outside world. Through my professional visits to the UK, the Netherlands, France, Belgium, Spain and U.S.A, through my professional communications as individual international member of ICAM, ICA/AR, ICA/SAE, SOA, SAA, ARMA, ASA I recognise that some of problems of UDA are not confined to China. Archivists in the world have met similar challenges in applying archival theory to UDA management. The experience of international communication and exchange made me aware that there is an international need for research into the theory and practice of UDA in order to establish methodologies for common issues and similar problems.

The decision to choose China and UK case studies came very late, only after I registered at the University of Liverpool co-supervised by the Department of Civic Design and Liverpool University for Archive Studies (LUCAS). The study of archival theories and practice in UK and wide reading in planning disciplines informed me that the UK not only has a long history and a rich experience of archives management (Chen and Wang 1995, Cook 1972, Jenkinson 1965) but also the long history and rich experience of planning laws, architectural design and built environment conservation in contrast with those in China (Cullingworth 1999 and Wang 1999). Based on my seven professional visits to UK from 1996 to 2001, I am coming to recognise that there are many stories behind the successes and problems of UDA management in UK. There are many similarities between successes and problems in China and the UK though the two archival administrative systems are totally different. Research has seldom been done in this field. I think it is necessary to let the stories to be known in the international archival community. I anticipate that experiences of China and UK together will enable us to understand the strength and weakness of different UDA paradigms. They will offer different ways of thinking for the archival communities and provide complementary approaches for solutions to the problems identified. Based on a respect for diversity and difference, and benefiting from different archival experiences, there may be universal reasons

behind the keys to the successes and the roots of the problems across the culture. By analysing successes and failures we may get to understand how we might progress towards the development of unified best practice frameworks for our international archival community.

1.3 Research Purposes

The goal of this research is to develop an intellectual and pragmatic framework for managing UDA towards best practice to connect past to present and present to future.

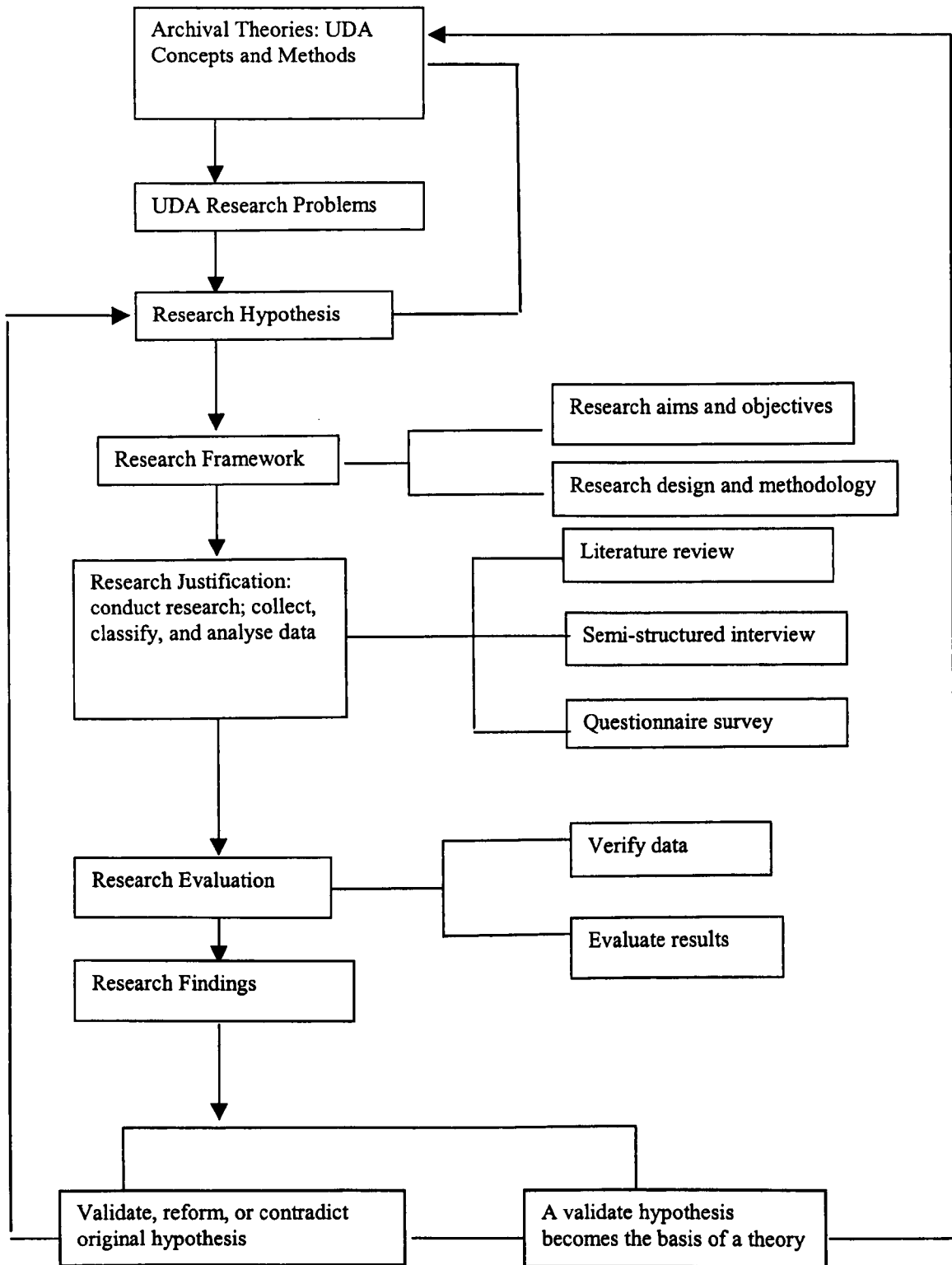
There are 3 purposes of the research for the anticipated outcomes. They are:

- To articulate and demonstrate the importance of a common UDA culture for society. It will be based on efforts made by creators, administrators, custodians and users in preserving and maintaining a reliable and accessible authentic memory of the built environment. The study was undertaken by identifying and defining UDA concepts in archival theory.
- To develop best practice criteria for professional standards for the identification, preservation and use of UDA in a cost-effective way that meets the needs of clients. The study was undertaken by examining and evaluating UDA models and approaches in archival practice.
- To provide a theoretical foundation which brings UDA approaches together within a single framework under the common goals for best value of the UDA and appropriate methodologies for its management. The study was undertaken by formulating and justifying the idea of integration for UDA within a broader context of archival science.

1.4 How the Research Developed

The development of the research follows a research flow (see figure 1.4-1), a research framework (see figure 1.4-2) and its operational plan (see figure 1.4-3).

Figure 1.4-1 Research Flow



Problems in the real world	Research Questions	Research Hypothesis	Indicators of Integration	Research Purposes	Indicators of Best Practice
Divided views	<ul style="list-style-type: none"> Why divided views? How have archivists understood UDA? What would be possible ways of thinking for a common culture? 	Integration as a way of positive thinking	<p>Clear up ideological confusion; Clear up misunderstanding.</p>	Common culture for public recognition	Shared understanding and common goal
Separate approaches	<p>Why separate approaches? How have archivists tried to preserve authentic and complete UDA for long-term access?</p> <p>What are the best practice approaches that have been used to meet the needs of UD practices and public?</p>	Integration as a means of critical analysis	<p>Reducing duplication and overlap; Rational resource allocation and holdings structures in information sharing; Minimising cost and risk; Maximising profit; Sustainable and consistent service, etc.</p>	Common criteria for standards of professional unity and commitment	Cost-effectiveness & Client-satisfaction
Fragmented frameworks	<p>Why archival theory has met so many challenges when applied in managing UDA?</p> <p>How have archivists tried to solve the problems?</p> <p>What are the implications to professional standards and commitments?</p>	Integration as basis of reasoning, observation and communication	<p>Accuracy, reliability and authenticity in information flow; Richness in information content; Comprehensiveness in information context; Integrated societal memory of the built environment.</p>	Universal principles and foundation for common goals and professional identity	Best value

Figure 1.4-2 Research Framework

Research Phase	Data generating and collecting method	Data source	Data analysing method	Data organising
Developing hypothesis	Literature review	English and Chinese language	Critical analysis of UDA theories, practices and methodologies in archival science by cross-national analysis	Chapter 1 Chapter 2 Chapter 3 Chapter 4
Justification	Investigation and semi-structured interview	UK and China case study	Examining and evaluating UDA models and the approaches in archival practice by critical analysis of two national case studies	Chapter 5 Chapter 6
Justification	Questionnaire survey	UK and China case study	Examining and analysing common ways of UDA thinking in cross-disciplinary fields by critical analysis of two national case studies	Chapter 5 Chapter 6
Rationalisation	Literature review and Consolidation	English and Chinese language	Synthesising and inducing universal UDA principles in archival theory by cross-national analysis	Chapter 7

Figure 1.4-3 Research Operational Plan

1.5 Research Methods

As mentioned earlier, this study uses China and UK case studies as the story line. Since little research has been done in UDA management, little UDA information is available in English and Chinese archival literature. This project uses field investigation, semi-structured interview and questionnaire survey as its major methods of collecting and generating data in addition to literature review. For the purposes set out above, this project uses critical analysis and cross-national analysis as major methods of data processing and analysing. Details of why such methods were selected are discussed in Chapter 4. How such methods are used is described in section 5.2.1, 5.3.1, 6.2.1 and 6.3.1 and can be seen from Figure 1.4.3.

1.6 The Hypothesis and Analytical Framework

The hypothesis assumes that an intellectual and pragmatic framework is necessary and significant for solving UDA problems in the real world; for meeting social demands of

UD practices; for managing UDA towards cost-effectiveness, client-satisfaction and best value. The analytical framework would be based on an idea of integration as the basis of reasoning, observation and communication. The idea of integration should encompass integrated frameworks, integrated control and integrated approaches for UDA (see section 1.1 basic terms). Figure 1.6. shows an idea of integration for UDA.

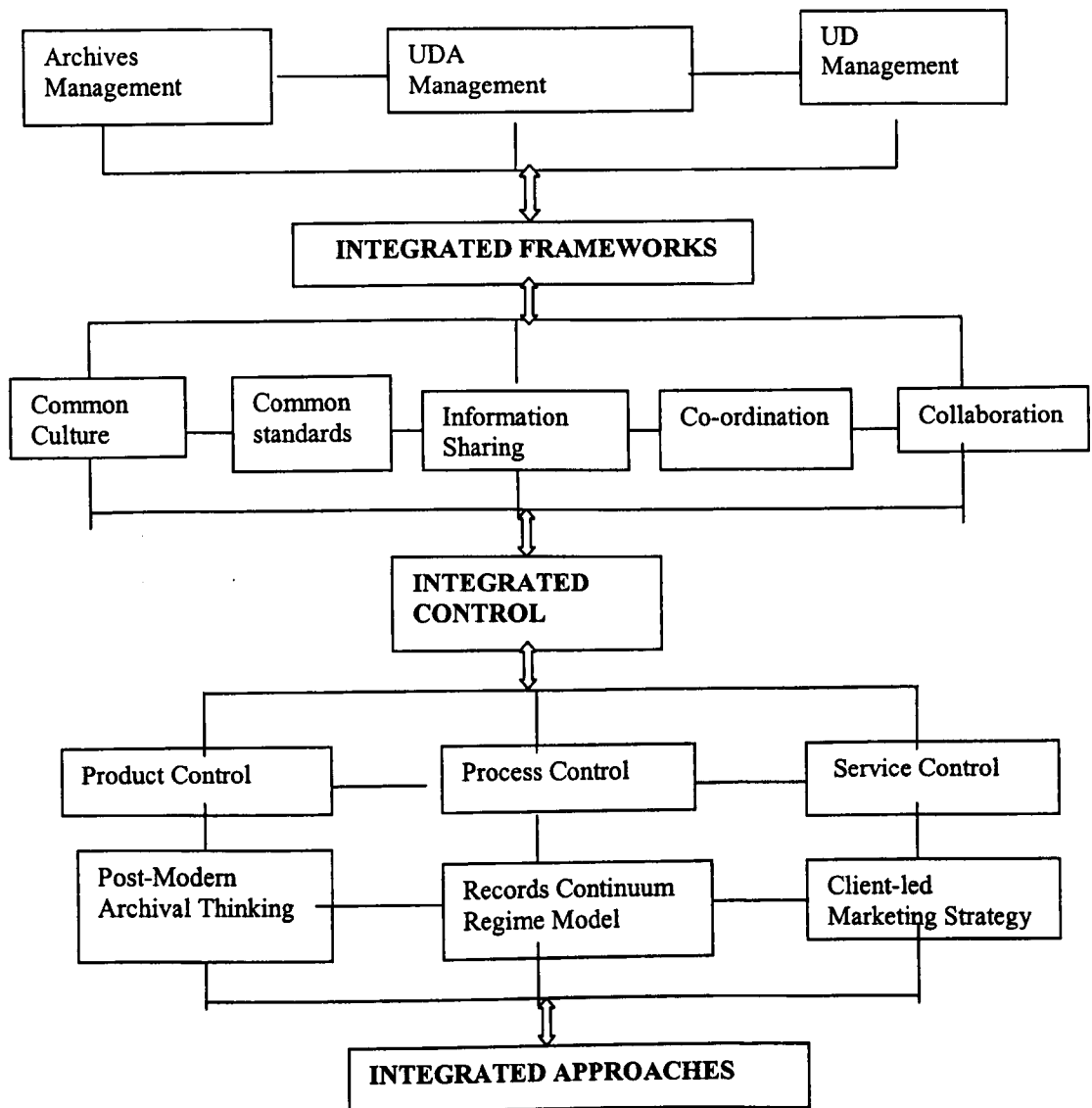


Figure 1.6 An Idea of Integration for UDA

An integrated framework sees the management of UDA as an archival business which is geared towards client-satisfaction service, cost-effective management and best value

records. It should be customer-driven and work process-integrated into archival management and it should also produce good quality information. It proposes integrated control as a means of bringing together the contribution of each participant with something to offer. It proposes integrated control as a means of increasing the total contribution and completeness of UDA information delivery. It proposes integrated control as a means of improving collaboration among creators, users, and archival custodians (including administrators) for better quality of UDA information access and archival service. In this way we can identify, preserve and use the accurate, authentic, reliable and complete memory of the built environment. (An 2000a : 23)

The insight of 'an integrated approach' is an attempt to develop collaborative ways of thinking in guaranteeing a reliable, authentic and integrated memory of the built environment; in maximising its long term preservation values to different needs of different disciplines; in providing consistent and sustainable archival services to meet societal needs; in promoting professional commitments and value added contributions for best practice. This approach should result in an integrated framework and integrated control for UDA. I assume that the tools of an integrated approach comprise a client-led marketing strategy, post-modern archival thinking and records continuum regime model.

By **client-led marketing strategy**, the research highlights the needs of clients as its mission and emphasises that needs should be met effectively. The clients of the service are anyone who identifies, preserves and uses UDA or who needs, uses or benefits from the outcomes of this research process. These include creators, records managers, archival administrators, custodians, archival educators, researchers of archives science, information managers, users, etc. (Roper and Williams 1999a : 82-87)

By **post-modern archival thinking**, I adopted Nesmith's view of archives and provenance. "An archives is an ongoing mediation of understanding of records (and thus phenomena), or that aspect of recordmaking which shapes this understanding through such functions as records appraisal, processing, description, and making records available." (Nesmith 1999:14) " Provenance is not simply the office or person "of

origin", which first inscribed, received, sent, or filed it. The provenance of a given record or body of records, then, is the social and technical processes of the records' inscription, transmission, contextualization, and interpretation which account for its existence, characteristics, and continuing history". (Ibid.)

Postmodern archival thinking considers archiving to be a key feature of society's communication processes in shaping the reality rather than just documenting it, it views archivists as co-creators of knowledge, culture, and society rather than just passive recipients, merely guarding and retrieving records and knowledge created entirely by others. Thus postmodern insights suggest that studying archives is a vital aspect of pursuit of human understanding. Understanding the archiving process itself is of great value to human understanding. The study of archives is no longer just for archivists who want to be more effective on the job, valuable as that is. It is for creators who want to be accountable for the society and for users who want best value of archives service as well. (Ibid: 1-2)

By the **records continuum regime model**, I apply the internationally recommended records continuum best practice model in contrast with the life-cycle model as approaches for managing UDA. (see 1.1 the definition of records continuum.). I adopt Flynn's interpretations of the characteristics of the records continuum model as follows:

- a unified and homogeneous system for the management of records (including archives) in any format throughout their lifetime, however long or short that life-time is;
- the synchronic existence of a record or an accumulation of records in more than one 'dimension' of context and use, rather than the diachronic movement of a record or accumulation of records through one discrete and compartmentalised life-cycle stage after another;
- an engagement with the establishment and design of record-keeping systems, even before records have been created;
- co-operation and sharing of responsibility for records (including archives) and recordkeeping systems, particularly between records managers and archivists;
- the concept of service to the users of records, whether internal or external to the creating organisation, throughout the lifetime of those records;
- a sense of the provenancial, organisational and social context in which records are created and maintained. (Flynn 2001: 83-84)

The records continuum regime model means using an integrated approach for managing UDA. The records managers and archivists are brought together under an integrated recordkeeping framework towards the same professional goals to guarantee the

reliability, authenticity and integrity of the memory of the built environment. The framework provides common understandings, consistent standards, unified best practice criteria, interdisciplinary approaches and collaborations in the recordkeeping and archiving process for both the paper and the digital worlds. It provides sustainable recordkeeping to connect past to present and present to future, which can coherently exist in a broader dynamic and changeable context that can be influenced by legal, political, administrative, social, commercial, technological, cultural and historical variables across time-space. The integrated recordkeeping framework would:

- facilitate provenance;
- underpin accountability;
- constitute memory;
- construct identity;
- provide authoritative sources of value-added information. (McKemmish 1998:4)

By the **life-cycle model**, a birth to death analogy is used to describe records as passing through a series of stages. This research recognises the weakness of the life-cycle model as a fragmented framework for recordkeeping in artificially dividing the mission of records and archives management; in dismantling the responsibilities of records managers and archivists into divided roles; in limited ways of thinking in terms of custody by narrowed selection criteria; in viewing records as tangible physical objects in a paper world and a static environment. Therefore I highlight the importance of the records continuum regime model for UDA management processes in aiming to improve responsiveness, increase efficiency and satisfy customer requirements. Integrity in the implementation of the records continuum regime model can be maintained through product, process and service control in line with the life cycle of records.

(As 4390,1996; Flynn 2001; McKemmish 1998; Sletten 1999; Upward 1996, 1997 and 2000).

1.7 Significance of the Research

The research is significant in that it is the first attempt to develop an intellectual and pragmatic framework for managing the specialised archival documentation of UD practice. It is the first of its kind for adding to knowledge in a way that has not previously been done in the disciplines of UD and archival science.

The research is significant in that it not only looks at areas that people in the discipline have not been conscious of before. It is the first to make an in-depth study of special archives from their provenance in the UD professions. It creates ideas of integration to bring a multidisciplinary and an interdisciplinary approach together as a cross-disciplinary methodology to study a special category of archives. Looking at UDA from the point of view of their professional functional purposes throughout the life of the built environment has brought a broader context to understand the meaning of UDA. Thus creators, users and custodians could collaborate in maximising their values and uses; thus records managers and archivists could make a better application of general archival theory to the concrete and dynamic UD practices.

The research is significant in that it is the first of its kind to synthesise UDA information. This has not been done before in archival literature. It is the first time that empirical research has been carried out to collect and generate information about UDA management in the real world. It is the first time that internationally recommended archival best practice has been tested in the management of UDA by two national case studies.

The research is significant in that it is problem solving, based on the practical needs of the international archival community, and in particular the real problems in Chinese archival theory and practice. The research is a way of finding solutions to solve the problems identified. The significance of the research is not its result, but the way of thinking in the process of developing the research framework and the intention of obtaining verifiable results by reasoning logically from observed facts. As a

consequence of the thought process, I propose a best practice framework as a solution to solve the problems identified and as a new direction for future research and development.

1.8 Limitations of the Research

Since the project was undertaken within the constraints of a Ph.D. framework, the time available for research either in UK or in China was limited by work done between 1998 to 2001.

Though I aim to include all categories of UDA, in any form, formats and media, including both paper and electronic records, the categories of UDA studied were limited to the archives of planning, architectural design and construction.

Though I aim to include all types of UDA custodians, the categories of custodians studied were limited to records and archives services of planning authorities, architectural design institutions, and construction and development enterprises.

The sources of data collected and generated were confined to the English and Chinese languages and relevant publications. The cross-national analysis is focused on UK and China national case studies. Quotations from Chinese references are my translation from Chinese to English.

This study concentrates on the thinking behind the best practice and the rationale of best practice framework for UDA theory and practice in the discipline of archival science, I intends to set the research objectives of providing concrete best practice standards and the operational measures for managing UDA as the second stage of research after the establishment of a strategic framework.

This study does not pretend to have answers to all the questions posed, what I hope to do is at least illustrate the diversity of archival approaches adopted in different situations of UD practice and to place them in a wider theoretical and historical context.

Though I hope the contributions of the research is not just confined to China, the purposes of this study are primarily aimed at Chinese archivists; I take the problems of Chinese UDA practice as my first priority for study.

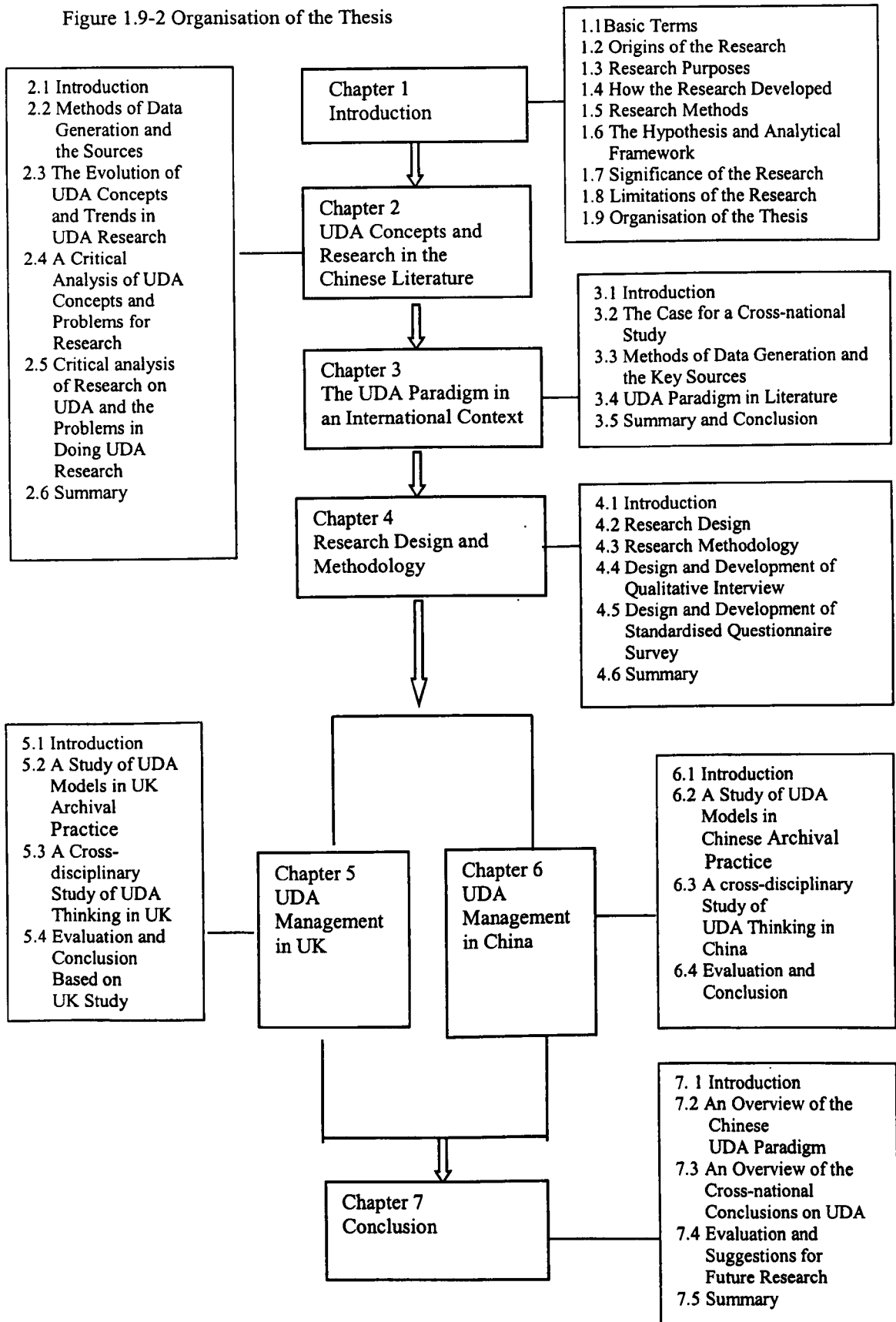
1.9 Organisation of the Thesis

The organisation of the thesis is in correspondence with the research flow (Figure 1.4-1), research framework (Figure 1.4-2) and research operational plan (Figure 1.4-3). The thesis structure and the organisation of the thesis are shown from Figure 1.9-1 and Figure 1.9-2.

Research Formulation	<u>Chapter 1</u> Introduction	<u>Chapter 2 & 3</u> Literature review (English and Chinese)	<u>Chapter 4</u> Research design and the methodology
Justification and the Findings	<u>Chapter 5</u> UK case study	<u>Chapter 6</u> China case study	
Discussion of Results and the Conclusion	<u>Chapter 7</u> Measurement from theory, practice and research and conclusion		

Figure 1.9-1 Thesis Structure

Figure 1.9-2 Organisation of the Thesis



CHAPTER 2- UDA CONCEPTS AND RESEARCH IN CHINESE LITERATURE

2.1 Introduction

Though the officially used term UDA was introduced in section 1.1, it is essential to define its precise meanings in archival science, as they are the building blocks of UDA theories with which some aspects of UDA management interactions are generalised. As it is a technical term creators, users, records managers and archivists may have different interpretations of it, and it may differ considerably from generally understood versions. Therefore the author started by asking questions about what are the existing general ideas about UDA, what are the ways of looking at UDA, what are the common elements and differences between the UDA concepts.

This chapter synthesises concepts and research about UDA from Chinese archival literature. The author analyses the evolution of UDA concepts and previous research, then went in greater depth and breadth of critical analysis into their relations with the UDA research problems. This study sets out the need for an intellectual and pragmatic framework for managing UDA and demonstrates the importance of integrated research to produce a unified conceptual framework.

2.2 Methods of Data Generation and the Sources

To find answers to above questions, a three-step literature search was undertaken. Three types of sources were reviewed, i.e. bibliography, journals and books.

- The first step was searching for UDA items from the Bibliography of Archives Science (1911-1983) (Zhu 1985) and the Bibliography of Archives Science (1984-1993). (Hou 1995)
- The second step was searching for UDA articles and academic papers from 4 national archival journals. They are Archives Science Study (1988-2000, a total of 56 issues), Archives Science Bulletin (1978-2000, a total of 136 issues), China Archives (1953-2000, a total of 326 issues), Urban Development Archives (1991-2000, a total of 45 issues).

- The third step was searching for UDA writings in books, conference papers, and dictionaries, etc.

UDA was defined to mean archives arising from UD functional activities that are involved in the processes and procedures of the shaping and making of the built environment. Articles and papers that were concerned with any aspects or any types of UDA management, such as the archives of planning, architectural design, construction, or the management of real estate were searched.

More than 961 UDA items out of 30,000 archival items were found from the Bibliography of Archives Science (1911-1983) and the Bibliography of Archives Science (1984-1993). 1163 UDA items out of 14,530 archival items were found from the 4 national archival journals. Altogether 21 items were found that were concerned with UDA concepts from the total sources, i.e. 4 UDA books, 1 UDA reference book, 2 dictionaries of archival science, 2 encyclopaedias of archival science, 12 UDA academic papers.

2.3 The Evolution of UDA Concepts and Trends in UDA Research

The review of UDA articles in the journals shows the historical development of UDA concepts and trends in research on them. The development of UDA concepts and research can be divided into 3 stages, i.e. awaking to the importance of access to UDA in the 1960's; moving towards rules and regulations of archival practice in the 1980's; issues of archival theory in the literature in 1990's.

1. Issues of UDA management came into the archival literature in the 1960's.

At this stage there was awareness of the importance of UDA in administration, maintenance, reconstruction, redevelopment and restoration of a city after the liberation of the new China. The earliest UDA concepts were focused on the archives arising from UC activities, and the long-term preservation value of these for their creators. Thus UDA were called 'urban capital construction archives'. The earliest UDA questions in research were the establishment of recordkeeping systems and archival rules for the centralised custody of the records of construction projects in the

creating agencies to serve the needs of creators. This is seen from the earliest published paper " On issues of urban capital construction work" (Zheng 1960 : 4).

2. The first use of the term 'urban development archives' (UDA) was in 1980, in a paper, "Urban development archives have played an important part in earthquake relief work" (Dangshang Municipal Urban Construction Bureau of Hebei Province 1980: 21). The first national archival policy on UDA came about in 1987 (The State Archives Bureau and former Ministry of Urban and Rural and Environment). Since then, UDA have been universally called ' urban development archives', referring to the archives of planning, construction and management. This came from an awareness of the social functions of UDA in:

- urban planning, construction and administration;
- redevelopment, renovation and development of a city;
- restoration and reconstruction of a city after war and disasters;
- large-scale Chinese economic development and construction activities in large and middling size cities during the 1980's.

Important UDA questions in research concerned the establishment of a centralised specialist repository in large and middling size cities and the establishment of archival rules for the centralised custody of construction project archives in a city. This is seen in the earliest paper which discussed UDA problems, i.e. " On issues in the development of urban development archival work"(Liu1984: 16-20) and the earliest local regulation on UDA, i.e. Provisional Regulations on Urban Capital Construction Archives Management for Chengde City (Heibei People's Government 1980).

3. Discussion of the provenance, contents and scope of UDA came into the archival literature from the late 1980's and the subject became a debated issue in the archival journals in the 1990's without any conclusions up to the present. These discussions came from the confusions, debates and conflicts between different national policies and regulations issued separately by different government authorities, from the State Archives Bureau and the Ministry of Construction after the promotion of the Archives Law (The People's Congress 1987) and the Planning Act (The People's

Congress 1989). As a result, there are different interpretations of the long-term preservation values of UDA.

The problems of differing standards and archival requirements for recordkeeping and custody bring serious trouble to UDA work. Creators and archivists do not know which rules they should follow, or who is the authority for their archival policies and standards.

The author questioned about the awareness of demands for a UDA theory for their practice, i.e. the needs for a national standardised and unified legal framework for their recordkeeping and custody; discussions on the contents and the scope of UDA and their archival custody in UDA specialist repositories, the functions of UDA specialist repositories and their relations with the creators, their relations with municipal archives and other types of specialist repositories. This is seen from the typical publications on UDA such as:

- the earliest book, Introduction to UDA management (Liu 1986: 9-13);
- the earliest theoretical paper On Concepts of UDA (Li 1989:15-17);
- the earliest archival encyclopaedia, The Encyclopaedia of Archives Work (Hou 1992: 201);
- the only UDA reference book, The Urban Development Archives Work Guide (An 1995: 4).

This study concludes that there is a need for research to develop an integrated intellectual and pragmatic framework for managing UDA in order to meet two professional demands. The first is the demand for recordkeeping, archival management, custody and use in Chinese UD practice. The second is the demand for archival theory, policies, standards and guidelines for managing the records of UD in Chinese archival practice.

The development of UDA concepts and research on them was a process of applying archival approaches to the UD environment. It was a process of seeking for appropriate methods to deal with particular needs across time and place.

The development of UDA concepts and research on them goes from practice to theory, from fragmented policies and separate approaches to seeking for an integrated legal framework and unified standards; from divided views and debated opinions to seeking for common understandings. The orientation of UDA research moves towards integrated and independent research aimed at discovering their own identity and the particular archival method for best practice.

2.4 A Critical Analysis of UDA Concepts and Problems for Research

How have archivists understood UDA in the past? Is it feasible to develop a common understanding of UDA concepts? The following sections contain a critical analysis of key factors and variables that have appeared in the Chinese archival literature. The purpose of this study is to find root meanings and problems that lie behind these, in order to develop a united UDA conceptual framework. This framework should be consistent with past usage, but should be available for a wider audience and users in the future.

2.4.1 Typical UDA names and the definitions

There have been different concepts about UDA throughout the ages. Following are the typical UDA definitions in archival theory and practice. They reflect common features and differences in the understanding of UDA concepts.

1. UDA under the name of ‘urban capital construction archives’

A typical definition is seen from an official document, On the Enhancement of the Administration of Urban Capital Construction Archives, in which “Urban capital construction archives are *authentic recordings* of the architecture, buildings, underground and above-ground utilities, and other types of *construction projects*; as well as a direct reflection of the *capital construction activities* performed”. (The State Archives Bureau 1961 in Wang & Zhou 1993: 3)

Another example is seen from a book, The Modern Chinese Archival Enterprise, “Urban capital construction archives are *authentic recordings of construction projects*, e.g. buildings, underground and above ground facilities, they are the name for all sorts of archives that are created from the planning, design, construction and the

management of urban development.” (The Modern Chinese Archival Enterprise 1988 in Wang & Zhou 1993: 4)

The term ‘urban capital construction archives’ was used widely in the 1950’s to the early 1980’s, as the UD activities at the period were focused on the construction of buildings. From the announcement of the Provisional Regulation on Urban Development Archives Management in 1987, the name was officially not used, since UD activities were enlarged to include a wider area around planning, construction and management. However, even in the 1990’s, some archivists still thought that UDA should be called ‘urban capital construction archives’ instead of ‘urban development archives’. (Huang 1997: 25). They thought that the name of urban capital construction archives corresponded with their UDA acquisition policy, which was focused on the archives of construction projects of a city. This view confused the concept of the UDA and the archival holdings of UDA specialist repositories and it was only held by few archivists from Municipal Archives Bureau and Municipal Archives. However, the debate raises the question as to whether the concept of UDA is the same as the scope of the holdings of UDA specialist repositories. If so, then there could be different names for UDA by different custodians. Because there could be different concerns on the contents, context and scope of UDA at different times and places by different custodians.

2. UDA under the name of ‘urban development archives’

Following are 10 definitions from typical official documents and archival publications representing the views of different types of archivists at different time periods:

- Views of national archival administrators

(1) “Urban development archives are *archives of urban construction projects*. They are the intellectual products of construction engineering, which are originated from the physical products of the construction engineering”. (Liu 1984: 16-20)

(2) “Urban development archives refer to *documents created in the conduct of urban planning, construction, and management*, which have values to be filed and collected and preserved, either as text, pictorial, audio-video etc., or any types of media”. Urban development archives are created by construction units *within the urban planning area*, and are created by *construction units and related units* during the

entire process of construction projects. (The State Archives Bureau 1997:article 1.2 and 1.3)

- Views of UD archival administrators and archivists of specialist repositories

(3)“Urban development archives are *historical recordings* that are directly created by *urban development activities* that have *long term preservation values for the country and society*, which are created by *state agencies, social organisations and individuals*, either in text, diagrams and drawings, audio-videos, or other forms. Urban development archives are important components of national total archives, they are created *from the capital construction process of urban administrative region*, they are created as tools of practice for state agencies, social organisations and individuals”. (Du 1990:1)

(4)“Urban development archives should refer to the *archives of urban development e.g. urban planning, construction and the management*, urban development refers *social and economic activities*, that are related to the construction of physical bodies of a city (buildings and facilities underground, and aboveground.)”. (Li 1991:15-17)

(5)“ Urban development archives are *authentic historical recordings* directly created by *urban development activities* e.g. urban planning, design, construction, management and scientific research, etc. within *urban administrative region*, either text, diagrams, drawings, data, audio-videos etc.” (Liu 1994: 7)

(6)Urban development archives are *records* directly created in the conduct of *activities of urban planning, construction and the management*, which have *long term preservation values* for the country and society, either in textual form, cartography, diagrams, audio-videos. They consist of all types of media in a variety of forms. (The Ministry of Construction, 1997a. article 2, 1995a: article 2.1; Wang and Zhou 1993: 3-7)

- Views of archival educators

(7)“ Urban development archives are *scientific and technical records* that are created by activities of urban planning, construction and the management, which *should be filed*. They are authentic recordings of all types of construction e.g. buildings and facilities of a city.” (Wang 1993: 29)

(8)“ Urban development archives are also called *urban capital construction archives*. They are *scientific and technical archives* that are created by activities of urban

planning, urban construction and the management.” (Chen 1993: 24; Wu & Feng 1994: 225)

(9)“Urban development archives are *records* that are created by *urban development administrative agencies and their subordinate businesses, enterprises and institutions* directly recording urban planning, construction and the management work, which are preserved for reference”. (Shen 1998:27-31; 1997a: 37-38; 1997b: 15-17; 1996:52-55; 1994: 36-38)

(10)Urban development archives *are archives* created from *urban development practices*; they *are recorded information of urban development practices and urban development profession* which have continuing values for reference, directly recording and reflecting all the functional activities and whole processes of urban development of the physical environment of a city, including all types of formats and mediums and the means of recordings. (An & Cook 2000: 1)

UDA were translated as ‘urban construction archives’ from Chinese to English in China before 1999. (Chen 1993: 24; translated as urban construction archives / city construction archives by An (1996: 27). It was first translated and used as urban development archives by An (1999a) at LUCAS, University of Liverpool. In this paper the author promoted the use of the term ‘urban development archives’ instead of ‘urban construction archives’. According to the author’s observation, only the term ‘urban development archives’ could express what she really means in Chinese instead of the term ‘urban construction archives’. As only the former could broadly cover all the UDA concepts mentioned above and widely reflect the context, content and structure of UDA from the provenance of planning, construction and the management. While, the latter can only refer to archives of construction activities. Therefore using the term ‘urban development archives’ is most appropriate to bring wider audience in understanding the reasons of its creation, documentation, recordkeeping, archival management, custody and use in relation to UD functions, activities and transactions.

The 10 definitions have provided a complete databank for analysing common elements and differences in various interpretations of the context, content and structure of UDA, which will be discussed in following sections.

2.4.2 Common understandings in the interpretation of UDA concepts

Reading through UDA definitions and the literature, there are 3 common understandings on UDA. These are the elements of UDA definitions, the social functions and the characteristics of UDA.

2.4.2.1 Elements of UDA definitions

Though there are different definitions of UDA concepts, however, there are 4 common elements in the UDA definitions. The 4 elements are:

- the context and provenance;
- the selection criteria for long term preservation;
- the structure ;
- the nature of records and their characteristics.

(Cheng & Wang 1995: 46-48; Liu 1994a: 5-9; Wang & Zhou 1993: 4-7;)

The 4 elements provide a way for us to understand the differences and common elements of the 10 definitions mentioned above, they provide us with possibilities of establishing a common culture for UDA concepts, if we could define the variables in the interpretation of the 4 elements.

2.4.2.2 Social Functions of UDA

The social functions of UDA are widely accepted as providing:

- a technological storehouse and knowledge reservoir for UD activities;
 - a foundation and the administrative reference for urban planning, and planning control;
 - an evidential reference for urban construction, development control, the use and maintenance of the built environment;
 - an important aid for reconstruction, redevelopment , conservation of the built environment; including planning for disaster, calamity, catastrophe (e.g. war, fire, earthquake, flood, etc.), as well as for the reconstruction and rebuilding of a city)
- ;

- legal evidence for the ownership of the built environment covering rights of creators, creating agencies, as well as citizen's legal rights and the public interest;
- an important information resource for the construction of urban development management information system ;
- an information reference for academic research on movement patterns within urban development, the economic development of cities, environmental studies and urban history;
- authentic recordings of the cultural heritage and historical appearance of built environment of a city, a nation and the memory of the world throughout the ages. (An & Cook 2000: 11-12; An 1999a: 35-42)

The custody of UDA is of benefit to:

- people and government ;
- UD disciplines and professions;
- evidential, informational, economic, historical, cultural and social demands at present and for the future;
- It affects both society and the economy.

The above social functions of UDA make their custody important and necessary. It is the awareness of the comprehensive information demands and needs of information sharing that makes their documentation and recordkeeping special.

2.4.2.3 Characteristics of UDA

UDA no matter by what names, definitions and versions, have their special characteristics in common as a category of archives differing from ordinary archives. This has not been widely recognised by archivists and the public, thus there are different understandings of them and there are more difficulties and obstacles for their custody than in the case of ordinary archives.

(1) UDA are the primary historical recordings of UD activities of different UD disciplines. Their context, contents and structure are specialised. The arrangement of UDA must respect the special provenance of the material by recording their specific

creation process and original order, which should be systematic, corresponding with their creation patterns. This means that the managers of UDA should know the UD context well, in addition to their archival knowledge.

(2) UDA are comprehensive. The provenance of UDA is from many different creators, agencies and disciplines. The by-products of UD activities are in many different media and formats. There are two implications of this comprehensiveness. First, UDA resources contain comprehensive information, which is of benefit to different users who have different needs at different times. Second, because UDA crosses the boundaries of disciplines, agencies, authorities, and time periods, there is a need for a unified UDA documentation strategy and record-keeping programs throughout the life cycle of UDA.

(3) UDA are dynamic. The development of the built environment is always dynamic, responding to changing needs. The creation time of UDA differs from one construction project to another, but is always longer than 1 year, and sometimes more than 10 years to the end of the finished project. Therefore UDA documentation and accumulation must have dynamic features, in accordance with the principles of maintaining their completeness, authenticity, accuracy and security across time and place.

(4) UDA are current. They always have current and historical, economic and cultural, informational and evidential, primary and secondary values. It is hard to distinguish what records are current, semi-current or non-current by applying the criterion of frequency of use and by applying the criterion of original use. The use of UDA is quite often directed to current practical needs and present accountability rather than to historical academic research. UDA have not only social benefit but economic benefit for the present day.

(5) UDA are specific to locality. The development of any built environment is fixed in a certain locality and at a certain period. The contents reflect the historical, cultural, political, economical, technical and other factors of the development of the physical environment at the period. UDA is an important bridge to connect the past

to present and the present to the future for the continuity of the development of the built environment.

(6) UDA have accuracy and reliability. In the context of UD, the reliability of recorded information is far more important than in the case of ordinary records. UDA are a direct resource for the use and maintenance of the built environment. The reliability and authenticity of completed drawings of construction projects have a direct impact on the security of people's living and on their working environment. In terms of accuracy and reliability, archival control of UDA is much like that of electronic records. Functional requirements for project records should be formulated and integrated into the construction project management system right from the planning of the project throughout all the processes and procedures of the work.

(7) UDA have integrity and system. UDA always have interrelationships around the purposes, functions, activities, procedures and processes of a construction project. They should be kept as a whole set to capture the contextuality of the records. The integrity and completeness of the records of a construction project would be compromised if they were sent to separate decentralised places of custody without any control. (An & Cook 2000:11-13)

In conclusion, the 4 elements of UDA are widely understood in common as follows:

- The context of UDA is their provenance in UD activities and practices in line with the development of the built environment of a city;
- The long term preservation value of UDA lies in their social functions and the existence of comprehensive information demands for information sharing across time, places, disciplines, fields and sectors;
- The structure of UDA is their recordings in multi forms, formats and media reflecting different angles, aspects and appearance of the UD past at any particular time;
- The 7 characteristics of UDA make them different from ordinary archives. They have implications for the management of UDA. Their recordkeeping should be in accordance with the principles of provenance in correspondence with the process

and procedures of the shaping and making of the built environment. The documentation of UD activities should be accurate and reliable, dynamic and current. The custody of UDA should be integrated and systematic. The context, content and structure of UDA arise from their special disciplines and are specific to locality, and comprehensive.

2.4.3 Differences in interpretations of UDA concepts

There are many difficulties in common interpretations of UDA concepts, there are different UDA definitions of UDA concepts, and there are different interpretations of 'context' and 'long-term preservation value'. The variables in terms of context are 'what activity', 'the agent of activity', 'the place of activity', etc. The variables in terms of 'long-term preservation value' are 'selection criteria for long-term preservation', 'for whom and for what purpose to preserve', 'uniqueness as a source', etc.

2.4.3.1 Variables in terms of context

2.4.3.1.1 'What activity' as a variable

UD activity is the key factor that makes the interpretations of the context; contents and the scope of UDA vary from one to another. Following are 5 typical interpretations of what UD activities are. They result from 5 types of interpretations as to the contents and scope of UDA.

- (1) UDA deals with archives arising from the *activities of building projects* of UD practice. (Huan 1997:856; State Council 1980; The State Archives Bureau, 1961;)
- (2) UDA deals with archives arising from the *scientific and technical activities* of UD practice. (Chen 1993:24; Liu 1986:9; Wang 1993:29; Wu & Feng 1994:225)
- (3) UDA refers to archives arising from the *urban and rural activities* of UD practice. (The National UDA conference, 1986)
- (4) UDA refers to archives arising from the *urban planning, construction activities and the administration* of UD practice (An 1995:4; Du 1990:1-14; Hou 1992:201; Li 1989:108-112; Liu 1996: 17; Su 1994:58-67; Liu 1994a: 5-9; The Ministry of Construction 1997a: article 2; The State Archives Bureau 1997: article 1.2; The State Archives Bureau and former Ministry of Urban and Rural and Environment 1987: article 1.2; Wang & Zhou 1993:5; Zhang 1990:47-52;)

(5) UDA refers to archives arising from the *activities of UD administrative authorities and its subordinates* (Shen 1998: 27-31; 1997b: 15-17; 1994:36-38;)

The above interpretations reflect different understandings and expectations of UDA in context, content and scope. They also reflect different concerns in the custody of UDA in terms of the completeness of records.

- (1) construction projects;
- (2) scientific and technical contents;
- (3) urban and rural context;
- (4) context, contents and scope of urban planning, construction and the management functions and activities;
- (5) UD creators e.g. individuals, agencies, business, institution, etc.

The above views reflect different ways of classifying UDA as special types of archives. UDA can be classified according to their origin in projects, the way they document functions, or the way they document organisations or selection by intellectual controls.

(1) is project-provenance oriented completeness; (3) & (4) are function-provenance oriented completeness; (5) is organisation-provenance oriented completeness. (2) is limited to scientific and technical records; (1) (3) (4) (5) cover records of all kinds including administrative, scientific and technical records, etc.

In reality, (1) was widely used by archivists in the 1960's, in correspondence with the UD activities in the period. Archival educators of older generations thought that (2) corresponded with their traditional archival mind in selecting UDA by contents. (3) were only mentioned by a few archivists in the middle of the 1980's, they offered no conclusions. Their way of looking at UDA is similar to (4), which reflects a new way of managing UDA from a functional analysis of their creation patterns, processes and purposes. However, (4) was widely used by archivists within the UD administrative systems, e.g. UDA specialist repository, UD administrations. (5) were held by archivists working outside UD administrative systems and working within archives administrative systems, e.g. the State Archives Bureau, municipal archives

bureau and municipal archives. This reflects their way of looking at UDA as types of organisational archives in accordance with traditional fonds theory.

There are different reasons for the above views; they stand for different archival thinking and methods in managing UDA. Which one is more appropriate for a common archival culture? Which one is good for best archival practice? The answers to these questions need further investigation and study.

2.4.3.1.2 The agent of activity as a variable

The agent of UD activity is also a variable in the interpretation of the context of UDA. It reflects the interpretation of fonds theory in defining UDA.

There are 4 types of interpretation on the agent of UD activity.

(1) *construction units* e.g. agency, institution, or enterprise; departments that are involved in the entire process of construction projects and the related departments such as land, environment, real and estate, meteorological, etc.

(The State Archives Bureau, 1997)

(2) *all who undertake urban planning, construction and the management.* (Liu 1996, 1994a and 1994b, 1986; The Ministry of Construction, 1997a;)

(3) *national agency, social organisations, and individuals and others* involved in UD activities (Du 1990; Wang & Zhou 1993)

(4) *these UD administrative authorities* in charge of national UD activities and their subordinates (Shen 1998)

The above interpretations reflect that (1) focuses on creators undertaking construction projects in the whole process of developing a building; (2) focused on creators undertaking UD functional activities in the process of developing physical environment of a city; (3) focuses the same as (2); (4) focuses on creators undertaking UD administration.

The 4 interpretations of the agent of activity have effects on the interpretations of UD activities. They reflect 3 considerations in selecting documentation framework.

- The first is organisation-oriented for complete memory of a corporate body;
- The second is project-oriented for a complete set of documentation of a constructed object;

- The third is function-oriented for comprehensive and integrated information sources of a profession.

All three reflect common understandings of custody for evidence, information and memory and also different demands from creators and users, corporate and professional bodies. The question is not which one is appropriate for common culture and which one could be promoted for best archival practice, but is it feasible to develop a framework which could bring all the methods together to meet all the demands, instead of selecting one method to take place of another?

2.4.3.1.3 The place of activity as a variable

As mentioned above, UD activity depends on locality, as any UD activity is fixed in particular place. However, there are different interpretations of 'the scope of UDA' in terms of the locality. They are

- (1) UDA refers to the archives of an *urban planning area*. (The State Archives Bureau 1997; The State Archives Bureau and former Ministry of Urban and Rural and Environment 1987)
- (2) UDA refers to the archives of an *urban administrative region*. (Liu 1996; 1994 a & 1994 b; 1986)
- (3) UDA refers to archives of a *city* (Du 1990; The Ministry of Construction 1997a)
- (4) UDA has *no particular geographic limitation*. (Hou 1992)
- (5) Only large and middling size cities have a need to establish UDA specialist repositories and to have UDA administrations, thus the scope of UDA only refers to large and middling size cities. (The State Archives Bureau 1997; The State Archives Bureau and former Ministry of Urban and Rural and Environment 1987)

The above views reflect that locality is a variable in the interpretation of the varieties of centralised custody and the scope of UDA.

The (2) and (3) are different expressions of the same thing. They reflect the idea of centralised custody of UDA responding to the needs of UD activities. Thus the archives of the administrative region are considered as UDA to be centralised in custody in a UDA specialist repository. These views are held by the Ministry of Construction and by archivists of UDA specialist repositories. As according to article

3 in the City Planning Act (The People's Congress 1989), the city planning area refers to city districts, inner suburban districts and those areas affected by urban development and construction within the city administration region. The extent of the city planning area is determined by the city people's government during the compilation of the comprehensive planning for the city. 'City' refers to a centrally administered municipality, municipality or town established as an administrative institution.

The (1) and (5) reflect another idea of centralised custody in accordance with allocation of the archival resources of a country, which are held by the State Archives Bureau and their administrators. According to this view, only cities of large size (over 500,000 population) and middling size (200,000-500,000 population) cities need to establish a UDA specialist repository. Only those archives of city districts need to be centralised in a UDA specialist repository. Archives of inner suburbs or towns should not be centralised in a UDA specialist repository. This division of view shows the similarities that any locality has an influence on the scope of UDA. The scope of UDA is equal to the coverage of UDA holdings in that locality.

(4) reflects another idea differing from all the above views. According to (4), the concept of UDA is not the same as the holdings of UDA specialist repositories. The scope of UDA in theory has no relations with the place of its custody, the concept of UDA is a matter of what should be kept for the needs of urban development practice not where they should be located or who should be their custodians.

The above debates on the scope of UDA as a matter of fact reflect different concerns on UDA and pose the following questions to be answered:

- Which holdings of UDA should be in centralised custody in a UDA specialist repository?
- Where is the appropriate place for UDA?
- Which areas should have a UDA specialist repository?
- What are the relationships between the management issues of UDA and the allocation of resources?

- What are the criteria for the allocation of UDA resources?
- Could the following needs be criteria for the allocation of UDA resources?
 - UD practice of a government and a nation;
 - UD practice of a city;
 - convenience of archival administration in accordance with its political administrative system;
 - the application of traditional archival fonds theory.

The appropriate solutions to the above arguments need an in depth study.

2.4.3.2 Long-term preservation value as a variable

2.4.3.2.1 Criteria for 'long-term preservation' in terms of the uniqueness of UDA

There is no general opinion about what is 'long-term preservation value'. The following are 5 types of interpretations.

- (1) UDA means records that have long-term preservation value. This means value for the country and society, use for urban planning, construction and management (An 1995; The Ministry of Construction 1997a; The State Archives Bureau and former Ministry of Urban and Rural and Environment 1987; Wang and Zhou 1993; Zhang 1990)
- (2) UDA means records, which should be filed for custody, serving urban construction and related work (Liu 1996; 1994a & 1994b; 1986; The State Archives Bureau, 1997)
- (3) UDA means records, which have values for use and are already in centralised custody (Hou 1992)
- (4) UDA refers to scientific and technical archives, while 'archives' refers to records preserved for reference. (Chen 1993; Wu & Feng 1994)
- (5) UDA refers to scientific and technical records, which have been created and filed. (Wang 1993)

There are 4 criteria that have been used to define 'long-term preservation value' for UDA. These are:

- (1) contents : the contents of UDA must be scientific and technical ;
- (2) status : records must already have been created and filed, i.e. they are non-current ;

- (3) custody: records must be in centralised custody. However, there is no argument about the place of centralisation;
- (4) Use: there are different types of interpretations of 'use':
 - for urban planning, construction, and management;
 - for construction and related work;
 - reference for any purposes;
 - public benefit for society.

The above factors show that there is a common concern in defining 'long-term preservation value' for all types of archives, including UDA. They are:

- (1) records must have been created and filed; which means archives should result from records that should have been created, appraised, disposed, classified and arranged;
- (2) records must have value for use, which means archives should be useful and are kept for a particular purpose;
- (3) records must have been transferred to centralised custody.

The above factors reflect different understandings of the difference between UDA and ordinary archives or other types of archives in long-term preservation as well. They are:

- (1) UDA are unique because they have particular values for scientific and technical activities;
- (2) UDA are not unique in compared with other archives;
- (3) UDA are unique because they have particular values for urban planning, construction and the management.

According to (1), among the UDA activities, which cover administrative, scientific and technical activities, only scientific and technical archives are important to a UDA specialist repository. According to this view UDA would lose their integrity and system in terms of completeness of records of a construction project, in terms of the availability and readability of records. A complete set of project records has to be cut into two parts. The scientific and technical records should be selected to be preserved in a UDA specialist repository separately from administrative archives, which should be selected to be preserved in a municipal repository. The records of planning

administration cover both drawings and permission documents are arbitrarily cut into half in the custody of two repositories.

According to (2), UDA are ordinary archives, nothing special.

According to (3), UDA are special types of archives and are distinct from ordinary archives or other types of archives. Their unique feature is the way they are used. They have special interested groups. They are most useful for specialised disciplines and particular functional activities, that is the development of the built environment either in a city or in a rural area, an administrative region or a planning area.

In conclusion, there are 4 criteria in defining 'long-term preservation value' for all types of records, and there are 3 types of understanding on the uniqueness of UDA in terms of their long-term preservation values.

2.4.3.2.2 The reason for preservation as a variable

There are three ideas in considering why UDA should be in custody. They are:

- (1) for the benefit of all types of UD creators and users ; for evidence, information and memory of the UD practice and the professionals (An 1995; The Ministry of Construction, 1997a, Wang and Zhou 1993);
- (2) for archival administrators and all types of UDA custodians; for evidence, information and memory of every corporate bodies (The State Archives Bureau 1997, Shen 1998, 1997a ,1997b, 1996);
- (3) for property investors and owners of construction projects; for evidence, information and memory of a construction project (The State Archives Bureau 1997; 1988).

The above views reflect different purposes in the custody of UDA. (1). Concerns the memory of societal functions, activities and purposes. This is function-oriented; (2) concerns the memory of the creators, creating agencies and creating corporate bodies. This is organisation-oriented; (3) concerns the memory of a project. This is project -oriented. The above ideas reflect different objectives. (1) aims at all those create and use UDA; (2) are for those who are the custodians of UDA; (3) are for those who are the owners of UDA. Which one is appropriate for a common culture?

Which is appropriate for best practice? How can we make selections or judgements?
The answers to these questions need further study.

2.4.4 Conclusion

This part has analysed UDA concepts under 3 aspects, the representative terminology and definitions; common features in understanding and different interpretations.

1.The definitions of UDA concepts are made up of 4 elements that are context, long-term preservation value, structure, and nature;

2.The context of UDA is UD activities in relation to the built environment;

3.The long-term preservation values of UDA are based on their societal functions for urban planning, construction and management;

4.The UDA cover all types of forms, formats and media;

5.The characteristics of UDA are:

- they are special in context, content and structure;
- they are comprehensive in information;
- they are accurate and reliable when appropriately created and documented;
- they are specific to locality;
- they are dynamic in recordkeeping;
- they are current in use;
- they have integrity and system when in custody.

6.The variables of UDA concepts are:

- what activity;
- the agent of activity;
- the place of activity;
- the reason for long-term preservation .

7. There are three schools of thought in interpretations of the context, contents, scope and long-term preservation value of UDA. These might be called the project provenance concept; organisation provenance concept, and functional provenance concept. These give rise to problems for different UDA definitions and concepts. They reflect different reasons and the concerns on why and how UDA should be preserved thus there are different policies on and separate approaches to UDA management. The following questions would be research problems to be answered by further study.

- What has been done in research to bring the three schools of thought together to analyse their reasons of existence, the strength and limitations of their use?
- What are the implications of the 3 schools of thought for archival practice?
- What types of UDA management models exist in real practice?
- What are the interrelationships of characteristics of UDA between the 3 schools of thought and between the UDA management models?
- Is it possible to bring these together to develop ideas about integration which could cover all the above?

(The author's discussions about these questions after two national case studies are given in section 7.3.1.)

2.5 A Critical Analysis of Research on UDA and the Problems in Doing UDA Research

The literature review shows what research has been done on UDA and the UDA concepts. The following are key findings from the study.

1. Little research has been done on UDA and UDA concepts in archival science. A study of papers was made on two types of sources.

(1) Bibliographies. The Bibliography of Archival science 1911 to 1983 (Zhu 1985) and Bibliography of Archival Science 1984-1993 (Hou 1995). The two reference books have collected almost all the papers that have been published in national, provincial and municipal archival magazines and published books. There were 30,000 archival items selected, among which there were 961 items written in relation to UDA, representing 3.20% in total published items. Among the 961 UDA items and 30000 archival items, only 14 items related to the discussion of content and scope of UDA concepts, representing 1.46% in UDA items published, or representing 0.47% in archival items published. See figure 2.5-1.

Bibliography/ Data	Total published items : (T)	UDA items published (UDA)	UDA concepts published (UDA concept)	Percentage 1: UDA/T (%)	Percentage 2: UDA concept/ UDA (%)	Percentage 3: UDA concept/ T (%)
<u>Bibliography of Archives Science</u> (1911-1983)	8000	198	1	2.480	0.510	0.013
<u>Bibliography of Archives Science</u> (1984-1993)	22000	763	13	3.450	1.700	0.059
Total	30000	961	14	3.200	1.460	0.047

Figure 2.5-1 UDA and UDA Concepts in Bibliography of Archival Science (1911-1993)

(2) Evidence is also given from figure 2.5-2 of UDA concepts in 4 national archival journals.

The 4 journals reflect the status of research on UDA and the UDA concepts in academic research, in national archival practice and UDA practice. The statistics shows little has been written on UDA concepts. Among the only two national academic journals on archival science e.g. Archives Science Bulletin (1978-2000:136 issues) and Archives Science Study (1988-2000: 56 issues) there were only 4 academic papers written on UDA concepts; from the only national practical journal China Archives (1953-2000: 326 issues) there was only 1 paper that was written on UDA concepts; from the only national UDA journal Urban Development Archives (1991-2000: 45 issues) there were only 2 papers written on UDA concepts. According to statistics, among the 14530 archival papers published in the 4 journals, there were 1163 papers on UDA in all, but there were only 7 papers on UDA concepts, representing only 0.6% in UDA items, or representing only 0.048% in archives items.

Journals/data of UDA papers	Total papers published at minimum number: (T)	UDA papers published (UDA)	Papers about UDA concepts Published: (UDA concept)	Percentage1: UDA/T (%)	Percentage2: UDA concept/ UDA (%)	Percentage3: UDA concept/T (%)
<u>Archives Science Study</u> (1988-2000:56 issues)	Over 1500	22	Zhang 1990	1.470	4.550	0.067
<u>Archives Science Bulletin</u> (1978-2000:136 issues)	Over 4000	79	Shen 1998, 1996 , 1994	1.980	3.780	0.075

China Archives (1953-2000: 326 issues)	Over 8000	149	Shen 1997	1.860	0.670	0.013
Urban Development Archives (1991-2000:45 issues)	Over 1030	913	Shen 1997; Su 1994	88.640	0.220	0.190
Total	Over 14530	1163	7	8.000	0.600	0.048

Figure 2.5-2 UDA and UDA Concepts in 4 National Archival Journals (1953-2000)

The study explains why UDA practice has so many difficulties, as research has seldom been done on UDA concepts. There are only 21 items that have defined, mentioned or discussed the definitions, provenance, contents and scope of UDA among more than 40,000 items of archival publications i.e. bibliography, dictionary, encyclopaedia, reference books, journals.

2. From what has been written on UDA concepts and the definitions, evidence shows research has been unrelated and fragmented. There has been no overall consideration of different needs for different research clients such as:

- custodians in UDA specialist repositories ,
- custodians in municipal archives repositories,
- custodians of UD creating agencies,
- custodians of the built environment property owners,
- administrators of the Ministry of Construction,
- administrators of the State Archives Bureau,
- administrators of different Departments,
- creators under the administrative system of the Ministry of Construction,
- creators under other administrative systems,
- users of UD practice and the public.

Thus, there is no any UDA concept which is universally accepted by the above bodies either in archival theory or practice; dictionaries, reference books, and journals or in national official documents. Though called by the same name and sharing the same term 'UDA', there were different understandings and interpretations of the provenance, contents, scope, long-term preservation value, and the custody of UDA among archival scholars, administrators, records managers and custodians. Section 2.3 has shown the evidence. Facts can also be seen from figure 2.5-3.

Types of UDA concepts	Authors	Types of sources	Types of opinion holders
UDA as <i>scientific and technical</i> archives	Cheng & Huan 1993:24; Wang 1993: 29	Dictionary; encyclopaedia	Educators
UDA as <i>construction project</i> archives;	Huan 1997: 25; The State Archives Bureau 1997; Wu & Feng 1994: 225;	Paper; Official documents Dictionary ;	Educators ; Administrators of the State Archives Bureau and municipal bureau
UDA as archives from <i>urban planning, construction and the management</i> of a city or administrative region	An & Cook 2000:1; An 1995: 4-6; Du 1990:1-14; Hou 1992:201-206; Li 1989: 15-17; Liu 1994a: 5-19; Liu 1994b :15-17; Liu 1986:9-13; The Ministry of Construction, 1997a; Su 1994:18-20; Wang & Zhou 1993: 1-50; Zhang 1990:31	Papers; Reference book; Books; Encyclopaedia; Official documents; conference papers	Educators; Administrators of the Ministry of Construction; Custodians of UDA specialist repositories
UDA as archives of <i>UD administrators</i> from the administrative process of urban planning, construction and management	Sheng 1998; 1997a; 1997b; 1996; 1994	Papers	Educators

Figure 2.5-3 Types of UDA Concepts in Literature by Various Archivists

3. All the papers about UDA and UDA concepts were oriented towards problem-solving, belong to applied research, or focus on solving specific existing problems. There is no basic research that aims to make a contribution to knowledge, for the general good, rather than to solve a specific problem for one organisation. Nothing has been written to compare the common features and differences of the UDA concepts. Nothing has been written to analyse the reasons for the existence of the UDA concepts under discussion. Nothing could be found to show the strength and limitations of different UDA methods used. No research has ever been done to evaluate the implications of UDA concepts for different UDA methods or to justify their views from practice to theory.

4. Earlier UDA researches have a procedural weakness in scientific and complete research. They have no consciousness of conducting research in a disciplined way. There are no integrated research frameworks in the entire process of a research study. No paper has defined research methodology. No paper has given information about their ways of collecting their research data and analysing them. No paper has ever

done literature reviews to synthesise what has been said in the subject, where their writing fits in. No author has ever written about the limitations of his views and recommended methods. Little could be known about how the research has been conducted. Many of the results and analysis are unreliable and invalid, as they were purely based on observation or the experience of one author or one organisation or one department; the authors identify and obtain information either for the needs of one organisation or for the control of administrative power of one authority. The data for reference or reckoning are depending on government policy from one authority, or a high government leader's saying, or experience of one's own institution.

5. Finally, a critical analysis of UDA concepts shows various ways of archival thinking and approaches in the literature. Ways of archival thinking in UDA research have been passive rather than active; closed-mind rather than open-mind; life cycle oriented rather than records continuum oriented; paper-based without considering the challenges of the electronic and digital world. The methods of earlier UDA research were the result of a single disciplinary approach rather than a multidisciplinary approach and interdisciplinary approach.

In conclusion, this study shows that little research has been done on UDA concepts so far, there have been serious problems in the separate and fragmented research on UDA and UDA concepts.

- The problems of research have implications for archival educators and scholars in writing academic papers, manuals and dictionaries for archival theory.
- They have implications for administrators and policy makers in making national policies and standards for archival practice.
- They have implications for archivists in applying archival theory and implementing archival policies.

There is a need for a research on integrated frameworks (see chapter 1.6) to UDA. The formulation of an integrated framework is important and necessary for bringing creators, users, records managers, custodians and archival administrators together under the same umbrella to be partners in working towards the same goals to meet the needs of UD practice and to meet the needs of archival practice.

2.6 Summary

This chapter has critically analysed what research has been done on UDA concepts in the Chinese literature. The author deduced a need for an integrated conceptual framework for managing UDA towards best practice for both archival theory and practice by analysing the evolution of UDA concepts and the orientation of research. This study found that there are 3 schools of thought in interpretations of context, content and scope of UDA in terms of long-term preservation value therefore propose broader and inclusive ideas about integration for future, but this needs further investigation. The author points out that earlier UDA research was fragmented and thus recommends formulating an integrated framework for further study. To find answers to research problems, to justify the feasibility of the assumptions, an international literature search is reviewed in Chapter3; a research design is formulated in Chapter 4; further investigations are discussed in Chapter 5 and 6; the author's judgement to various answers is given in Chapter 7.

CHAPTER 3 –THE UDA PARADIGM IN AN INTERNATIONAL CONTEXT

3.1 Introduction

“ A paradigm provides the explanatory model of a scientific discipline in the specific stage of its development and defines its fundamentals” (Ketelaar, Eric 2000: 325). In this paper the UDA paradigm refers to the archival theory, practice and research that is a conscious or unconscious choice for the UD environment. The components of an UDA paradigm include concepts, models and approaches employed in the management of UDA.

This chapter discusses 3 issues: the case for a cross-national study; a method of data generating and the key sources; the UDA paradigm in literature.

3.2. The Case for A Cross-national Study

There are 3 main reasons for conducting research on the UDA paradigm in an international context.

Firstly, a cross-national study will help us to understand the Chinese system of UDA in a wider context. It would be understood at both practical and intellectual level. Such a study would help us to understand variables of UDA management and to suggest principles and methodologies for best practice. It may lead us to question the proper limits of conventional archival principles by referring to systems other than our own. We need to learn about UDA management models from different cultural traditions as a reference point from which to measure and enrich our approaches towards best practice. In a word, a cross-national study would help us to overcome the limitations of our national opinions and fragmented approaches. It enables us view our experience in a broader context. (Booth 1986:1, Masser and Williams 1986: 1)

Secondly, a cross-national study will help us to formulate universal rules and criteria for standards within a broader framework of archival theory. The study of diversity

and difference is fundamental in achieving such an aim. (Dahilin 2000, Feng & An 2000). Such research needs to encompass the development of an intellectual framework for managing these specialised archives. The development of universally accepted principles for managing UDA on the basis of a shared understanding of the difference of geography and systems will lead to a more scientific approach.

Thirdly, a cross-national study will help us to identify similarities and differences in the research objective, research methods, and the disciplinary approaches to UDA study. Such a study would help us overcome the limitations of collecting facts and describing experience. It would help us to improve a theory of knowledge or epistemology for UDA. The study of UDA research methodologies are the keys to success of solving the dynamic and unexpected UDA research issues and problems. (Wang 1999:1-3)

To summarise, a study of the UDA paradigm in archival theory, practice and science in an international context is necessary and significant to the UDA research needs of China. Such a study would enrich and improve our knowledge of UDA concepts, models and methodologies for the future.

3.3 Methods of Data Generation and the Key Sources

3.3.1 Strategy of data generation

The method of study about UDA paradigms in an international context was by literature review. This was guided by the research purpose and problems identified in Chapter 1 and 2. The scope of the study is from any thing related to records of the built environment, the activities of urban planning, construction and management. Limited by author's language ability, the sources here are only English and Chinese. Methods of data processing were analytical and critical analysis and synthesis. The goals of the research are to understand the previous research on UDA, and what the key issues are. The following factors were considered during the research process and procedure:

- the availability and accessibility of research sources;
- the representativeness of sources;
- the readability and understandability of sources;

- the reliability and systematic nature of sources;
- English and Chinese language;
- the time and cost of retrieval.

3.3.2 Methods of data generation

Using the strategy mentioned above, a research flow chart was designed as an operational guideline for data generation.

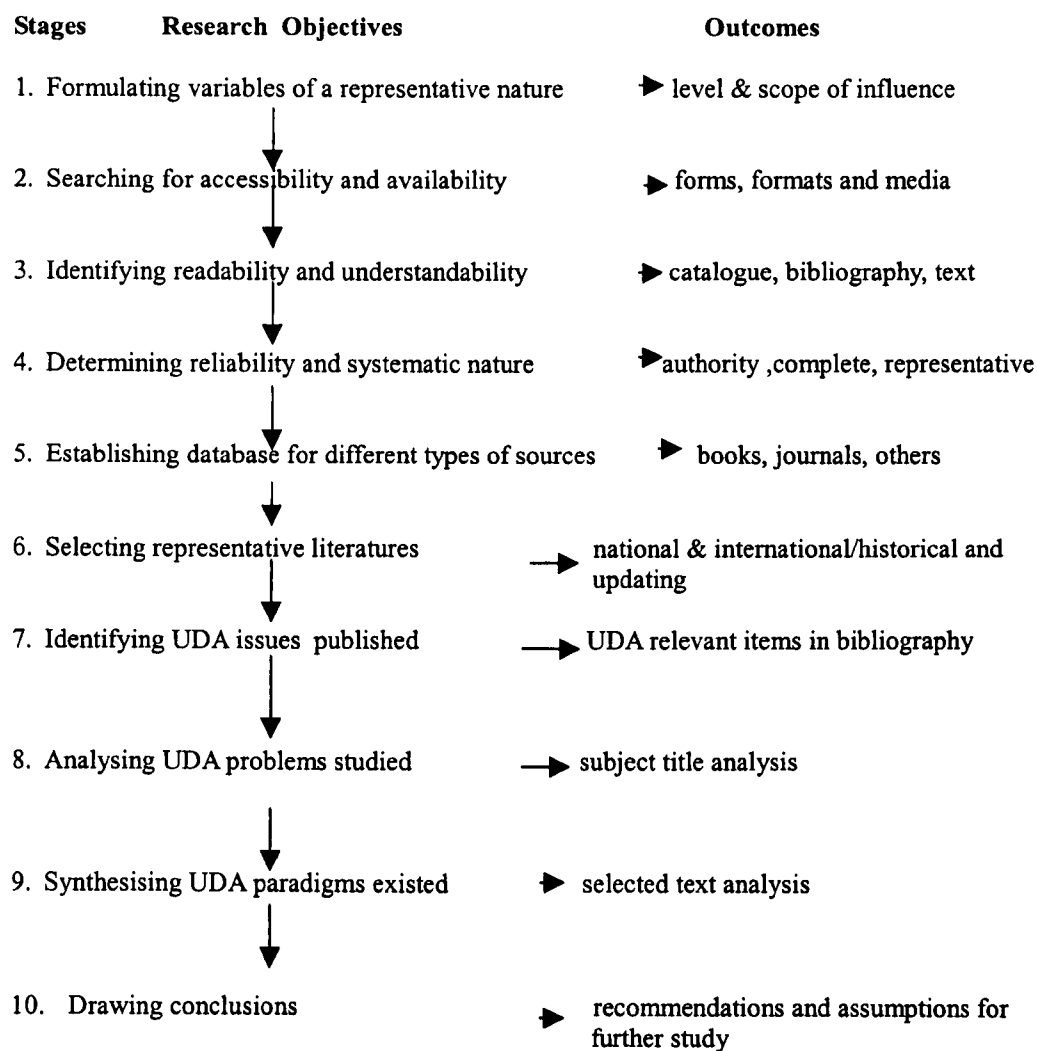


Figure 3.3.2 Flow Chart of the Literature Search

3.3.3 Literature search and the data

Following the instructions of the flow chart of literature search and implementing the strategy mentioned above, different means were used for generating and collecting data, e.g. online access, onsite retrieval, email, listserv message, purchasing from

publishers, attending international and national conferences and workshops, etc. Five types of sources were selected for study, i.e. catalogues, bibliographies, books, journals, and conference papers. 197 items were found that related to UDA study. Removing of duplications, 184 items were selected for this study.

The following are typical sources and the findings:

1. Library catalogues at University of Liverpool, Renmin University of China, British Library, University of Pittsburgh. Searching shows that there was no UDA term in available English catalogue databases and English archival literature.

2. UDA books from 10 types of sources by 10 representative international and national archival organisations and associations. Among 3598 titles searched, 14 of the most relevant were located. These were computed at 0.39% of the total titles searched. They reflect international and national archival knowledge and thinking about UDA. The search indicates that little has been written about UDA knowledge and issues in global archival communities. There are three schools of thought in studying UDA, which could be identified as structure-oriented (format and media focus), content-oriented (subject-content focus) study, context-oriented (function and activity focus) study. The first has contributed to the knowledge of the conservation of architectural archives as a specialised format of archives. The second has contributed to the retrieval and access of architectural archives as a special subject of archives. The third has contributed to the recordkeeping and administration of architectural archives or UDA as a special category of archives. This has been shown from UDA issues studied and UDA titles of books. The above observations apply to the whole of UDA studies.

The publications searched are: A Bibliography for Teachers of Archival Science of ICA/SAE (2/2248 items, 1996, 2000); ACA (0/7 items, 2000); ARMA (1/130 items, 2000), ASA(1/39 items, 2000); MPSR (0/29 items, 2000); publications of ICA/SAR(1 item, 2000); RAMP of UNESCO (1/110 titles, 1976-1995); SAA (4/164 items, 2000); SoA (1/24 items, 2000); selected list of publications of an international exhibition of publication on archives of 13th ICA congress (6/847 items, 1996).

3. UDA papers from 6 types of representative international and national archival

journals by 6 representative archival associations. 77 UDA items were found. They reflect UDA research issues, problems, research methods, achievements and trends in the English literature. The following types of UDA records were studied, i.e. architecture, estate, project and built environment records. The issues and problems of conservation and preservation, appraisal, archival administration, description, arrangement, digital, use, finding aids were discussed. They were discussed by different types of creators, users and custodians in relation to records of the built environment. The data sources were mainly based on an author's arguments or organisational experience, a few were from surveys and investigations. Much progress was made in the preservation and appraisal of paper architectural records and the publication of their finding aids. The study indicated that all types of archival issues have been discussed in the study of UDA. It covers the forms and formats of records including both paper and digital records; broader disciplinary records including planning, architectural design, construction, property and real estate, etc.; broader archival issues in records and archives management of the UD environment across borders and disciplines. There is a need for research on an intellectual and pragmatic framework for records and archives management in the UD environment, there is need for research on integrated frameworks for managing records of the built environment to provide cost-effectiveness, best practice and best value.

The following representative journals were retrieved, they are Archivaria (0/16 issues, 1992-1999, Canadian); Archives and Manuscripts (2/8 issues 1996-1999, Australia); Archives Science Bulletin (22 items/56 issues, 1978-2000, China); Janus (2 UDA items/18 issues. 1991-1999, ICA); Journal of Society of Archivists (32 UDA items/35 issues 1986-2000, UK) and The American Archivist (19 UDA items/ 59 issues, 1971-1999, America).

4. Papers and information from 9 available and accessible conferences and workshops. Altogether 106 UDA items were found. They reflect topics, latest achievements and current trends on UDA research. The following topics were discussed e.g. appraisal and documentation of architectural records; recordkeeping of construction project records; preservation of digital and electronic architectural records; collecting, acquisition, use and access to UD records, etc. The conference and workshops show the same findings as mentioned above. They demonstrate that

UDA issues were discussed separately by different types of creators and users (e.g. architects, lawyers, historians, planners, etc.) and by different types of curators and custodians (e.g. record offices, archival institutions, archival repositories, museums, information centres, etc.). UDA study is directed to studying a broader context of provenance, in relation to different activities of shaping and making of the built environment (planning, architectural, construction, estate, property, landscape, etc.). There is a need for an integrated study on various models of UDA management to meet the manifold needs of diverse UDA research clients.

The retrieved sources are: Architectural Records Conference Report (24 items, Philadelphia, May 3-5, 2000); Architectural Records Roundtable of SAA (1 item/Pittsburgh, August, 28, 1999); Archivum (1 UDA item/ 1976, 1979, 1982, 1986, 1994 and 1997) of ICA Congress (1972, 1976, 1980, 1984, 1988, 1992, 1996 and 2000); ICA Pre-congress (1 UDA item/ August 29, 1996); Maps and Plans Workshop of SoA and PRO (1 item, London, December 9, 1999); Proceedings of ICAM8 (35 items/New York, May 18-24, 1996); Proceedings of ICAM9 (25 items/ Edinburgh, July 18-2, 1998); The Appraisal of Architectural Archives Workshop of ICA/SAR (5 UDA items/ Seville, September 23, 2000); Working Conference on Establishing Principles for the Appraisal and Selection of Architectural Records (13 items/ Montreal, April 14-16, 1994).

3.4 The UDA Paradigm in Literature

3.4.1 The uniqueness of the term 'UDA'

There is no single term for UDA outside the Chinese archival culture. This study indicates that the way of looking at records of UD as a category of archives and as an integrated and an independent body to study is unique in the international archival community. Research has never been done in such a way so far. This is demonstrated by the following:

- (1) No matches were found in online catalogue database, e.g. British Library, University of Liverpool, OCLC, University of Pittsburgh's, Library of Congress's etc., using following key words for searching e.g. "urban development archives", "urban construction archives", "urban capital construction archives", "archives", "

records”, "urban development", " urban construction", "construction " etc.

(2) No item has been found in representative international and national publications, journals and conference proceedings, using the UDA term in subject titles from non-Chinese spoken countries.

(3) Nothing has ever been written on definitions and topics using term ‘UDA’.

Nothing has been found by looking up more than 300 publications e.g. books, dictionaries, encyclopaedias, in the field of archives and records management, library science, information management, planning theory and practice, architectural design, construction management, property management in the sources consulted.

3.4.2 Two Schools of thought on UDA

Though there is no term for UDA in the English literature, there are always UDA issues and thought both in the Chinese and in the English literature. 184 items were found that had been written about records of UD in the English sources consulted. The types of records of the built environment had been covered in the studies: records of architecture, construction, building, town planning, landscape, land, built environment, and estate; digital drawings; computer-aided design and drafting systems, etc. From a review of the literature, it could be deduced that there were two typical schools of thought in classifying and naming the above records. The first looks at the above records as recorded information about functions, activities and transactions of architectural practice, profession and culture, therefore the above records were grouped as a whole to be seen as architectural archives. Such a view is held widely in the international archival community outside China e.g. ICA/SAR, ICAM, SAA, SoA, NARA, PRO, etc. The second looks at the above records as recorded information about functions, activities and transactions of UD practice and professions and the shaping of the physical environment of a city. Such a view is held by Chinese archivists.

This study indicates that the former is architect-oriented and organisation-oriented documentation, it is focused on the architectural design period of developing of the built environment. The reasons for the existence of records were focused on their

research and cultural value. While the latter is oriented towards projects producing the built environment and UD professional function-oriented documentation, it is focused on the entire process and procedures of developing of the built environment. The reasons for the existence of records were focused on its practical, evidential and information value. The former is a content and organisation oriented thinking, while the latter is a context and function and project oriented thinking.

Each school of thought has its own strength and limitations. Yet each is valid. The validity of the architectural school is its clear organisational objectives, which consider the creators' needs as the first priority for archives management in accordance with principles of provenance. But it is limited in that it serves narrow groups of users that are expected to manage archival information emphasising subject content. The strength of the 'UDA' school is its recognition of the value of UDA to wider society. Taking the broader view favours a collaborative approach to show comprehensive information sources to the benefit of both UD professionals and the public. It implies an cross-sectional administration and interdisciplinary co-ordination.

3.4.3 Common understandings on elements of UDA and archival approaches

Literature review suggests that the two schools of thought have similarities in their approaches to archival issues. This can be found in three different approaches to UDA, that is structure, content and context.

1. Structural approach and the physical entity mindset. The two schools of thought have the same concerns on the critical problems of preservation on physical entities. Problems such as measurement, volume, vulnerability, fragility or oversize were the focus of the study. Thus in physical control, the records like drawings, plans or maps were distinguished and classified as a special format of archives or non-textual records to be in special care. This is reflected by the classification of titles in ICA/SAE (2000) bibliography for teachers, in which Archives & Manuscripts: Maps and Architectural Drawings, (Ehrenbergph 1982) was classified under the title of special formats of archives. It is also reflected by Maps and Plans Workshop of PRO (1999) that is about the preservation of physical entities. Another example is Michel Le Moel's's paper (1972 in Cardinal 1996) for the VII international Congress on Archives concerning the archives of architecture, in which he brought international

attention for the first time to the significance of the records of the built environment and special problems relating to their care. Such a view could also be identified from bibliographies and books of ICA/SAE, SAA, ASA, etc. This research mindset is focused on the special care and physical control of the entities. The special format of the records was seen as a unique feature differing from ordinary records.

2. Content approach and intellectual mindset. The two schools of thought shared common concerns in seeing the contents of records as a special feature of the records in documentation strategy, retention scheduling, etc. Thus the types of the records were classified as a special category of archives for records and archives management. This was reflected from the contents of the following publications, such as Records in Architectural Office (Schrock and Cooper 1992); A Guide to Archival Care of Architectural Records 19th -to 20 Century (ICA/SAR 2000); Managing Cartographic and Architectural records (NARA 1989), Records Management Retention Scheduling of Building Records (PRO 1996 and 1998b), etc. This research mindset is focused on the management of archives from their subject content. The subject content of records was seen as a unique feature differing from other categories of records.

3. Context approach and the integrated mindset. The two schools of thought have the same understandings on the importance of the records as chronicles of mankind's built environment, they have same orientation in documenting the collective memory of the built environment, in aiming to care for, maintain and use the reliable, authentic and complete evidential information of UD practice in the digital world. Thus the types of records were classified as special categories of archival information sources for broader recordkeeping, analysing, selecting, archiving and digital. This was reflected from the latest papers and presentations of conferences and workshops e.g. The Appraisal of Architectural Archives Workshop (ICA/SAR, Seville, September 23, 2000) and Architectural Records Conference Report (May 3-5, Philadelphia, PA, 2000). This research mindset is getting more and more widely recognised in the electronic and digital world. The contextualised creation, maintenance, use and understanding of records through the life of the built environment, regarded as a records continuum regime. These were seen as unique features differing from other categories of records and other categories of

information sources.

The above studies indicate that the evolution and development of approaches to UDA started from a structure-approach, moved towards a content-approach, went forward to a context-approach, and thrived in an integrated approach. The direction of the UDA research mindset is shifting from a physical mindset to an intellectual mindset. The author suggests that the orientation of the UDA research mindset should be directed towards an integrated mindset, that the relationships of the three approaches should be complementary.

3.5 Summary and Conclusion

The following conclusions can be drawn from the above studies:

1. Implications. This study found that there were different understandings and expectations on UDA among different creators and users, among different curators and custodians, among different administrators. There were different interpretations of UDA across cultures. Thus there were different focuses on UDA problems across cultures. There were different approaches and concerns on UDA problems. This means that similarities should be identified before differences. Only common problems and issues need to be considered in this study. Conclusions could be drawn differently from different angles for diverse reasons and purposes. For further cross-national study, the goal should be in accordance with section 3.2; the research focus should be based on common problems identified in Chapter 1 and Chapter 2 and chapter 3. These implications should be considered in defining research questions in chapter 4.

2. Limitations. This study demonstrates that ideas and approaches about UDA from the English literature reflect only individual interest in the short term. This means that information and data from the literature review are not complete and may not be reliable. This study shows that almost all the authors focused on the experience or expectations of one country, or one type of working sector, or organisation. They dealt with either paper or electronic records but not both, they dealt with existing records but not include current ones or with what would be kept for the future. They focused either on creators' expectations or users' expectations or custodians' or

administrators' expectations, but not on a framework which includes all of them, or considers different research demands. Earlier studies were more problem-solving oriented but did not cross disciplines, sectors and national boundaries. There is a lack of records continuum thinking in research design and process. Without this, previous studies might only reflect part of the truth. They provide a single disciplinary method but not universal rules. For further study, field investigations in person and a survey of broader opinions are recommended for obtaining objective and sound evidence to achieve best value, and these should be considered in the research design and methods in Chapter 4.

CHAPTER 4 - RESEARCH DESIGN AND METHODOLOGY

4.1 Introduction

This chapter introduces the research design and methodology of the study in 4 aspects: research design; research methodology; design and development of the interview; design and development of the questionnaire survey.

4.2 Research Design

Frankort-Nachmias (1992) defined research design as the way in which the investigator is in the process of collecting, analysing, and interpreting observations. It is a logical model that allows the researcher to draw inferences concerning causal relationships among the variables under investigation. The research design also defines the domain of generalisability, that is, whether the obtained interpretations can be generalised to a larger population or different situations.

Another way of thinking about research design is as a blueprint of research, dealing with at least four problems:

- what questions to study;
- what data are relevant;
- what data to collect;
- how to analyse the results.

This section describes the designs of research in the following aspects: research requirements; questions; the process of research and information gathering.

4.2.1 Research requirements

The research design is to meet requirements identified by Lang and Heiss, Chava and David and to guarantee a disciplined way of conducting research. The following requirements were considered in the design of the research framework.

- Research is an organised, systematic, data-based, critical scientific inquiry into a specific problem, undertaken with the objective of finding answers or solutions to it.

Research is a systematic and unbiased way of solving a problem (by answering questions or supporting a hypothesis) through generating verified data. The hallmark of the researcher is

neither the sophisticated equipment nor the shiny laboratory, but a way of thinking and tackling a problem. A good researcher is a person who approaches a problem with open unbiased mind and solves it in an orderly, systematic manner. (Lang & Heiss 1994:1).

- Methodology must follow clearly defined and logical rules and procedures, if the findings are to be accepted and the hallmarks of good research are purposiveness, rigour, testability, replicability, precision and confidence, objectivity, generalisability and avoidance of unnecessary complexity. Research approaches should be based on scientific methods, the most reliable way to move from limited, biased perceptions and opinions, fact or tentative truth. (Nachmias, Chava & Nachmias, David 1981).
- The outstanding characteristics of scientific research are that its procedure and data should be open and transparent to the scrutiny of other researchers. They should be self-correcting for truth seeking. This is regarded as the most powerful way to gain knowledge or objective truth. (Lang & Heiss 1994)

4.2.2 Research questions

As identified in earlier chapters, independent and integrated research has never been done on UDA in the international archival community. Many questions need to be studied for a comprehensive picture of UDA practice before solutions to the UDA theoretical and practical problems can be found. The author developed the following strategy in defining research questions from rough to detailed, from complex to simple, from subordinate to vital.

- Research questions should be researchable, with realistic means of obtaining answers and measurable outcomes;
- Research questions are those which are principally of interest to Chinese archivists but not limited to China;
- Research questions are those that are obvious, easily understood and important to the UDA practice;
- Problems and interest of Chinese UDA archivists are the primary and principal to consider.

The following questions were defined for data generating and analysing in accordance with the above strategy. They resulted from the research questions found in section 2.4.4 and findings of literature review of section 2.5 and 3.6.

1. What do archivists understand UDA to signify? Why do UDA exist? What are the different ways of thinking on UDA? Why are there divided views on UDA? What UDA concepts could be accepted as contributing to a common archival culture?

2. How have archivists tried to preserve authentic, accurate, reliable and complete UDA? Why are there different approaches to UDA management? What are best practice approaches that have been used to meet the needs of the UD practices and public? What are the criteria that could be used as indicators of best practice?

3. What are the major problems in managing UDA? Why has archival theory met many difficulties and challenges when it is applied to the management of UDA? Why are there disparate frameworks in the management of UDA? What are the roots of the problems? How have archivists tried to solve these problems?

Findings about these questions are analysed and discussed in Chapter 5 and 6. The author's judgements are given in Chapter 7.

4.2.3 Process of research and the information gathering

The process of research and the information gathering is in line with the research flow (Figure 1.4-1), research framework (figure 1.4-2) and research operational plan (see figure 1.4-3). An integrated research (see basic terms in section 1.1) is set up for information gathering. An overall picture of information gathering is seen in Figure 4.2.3.

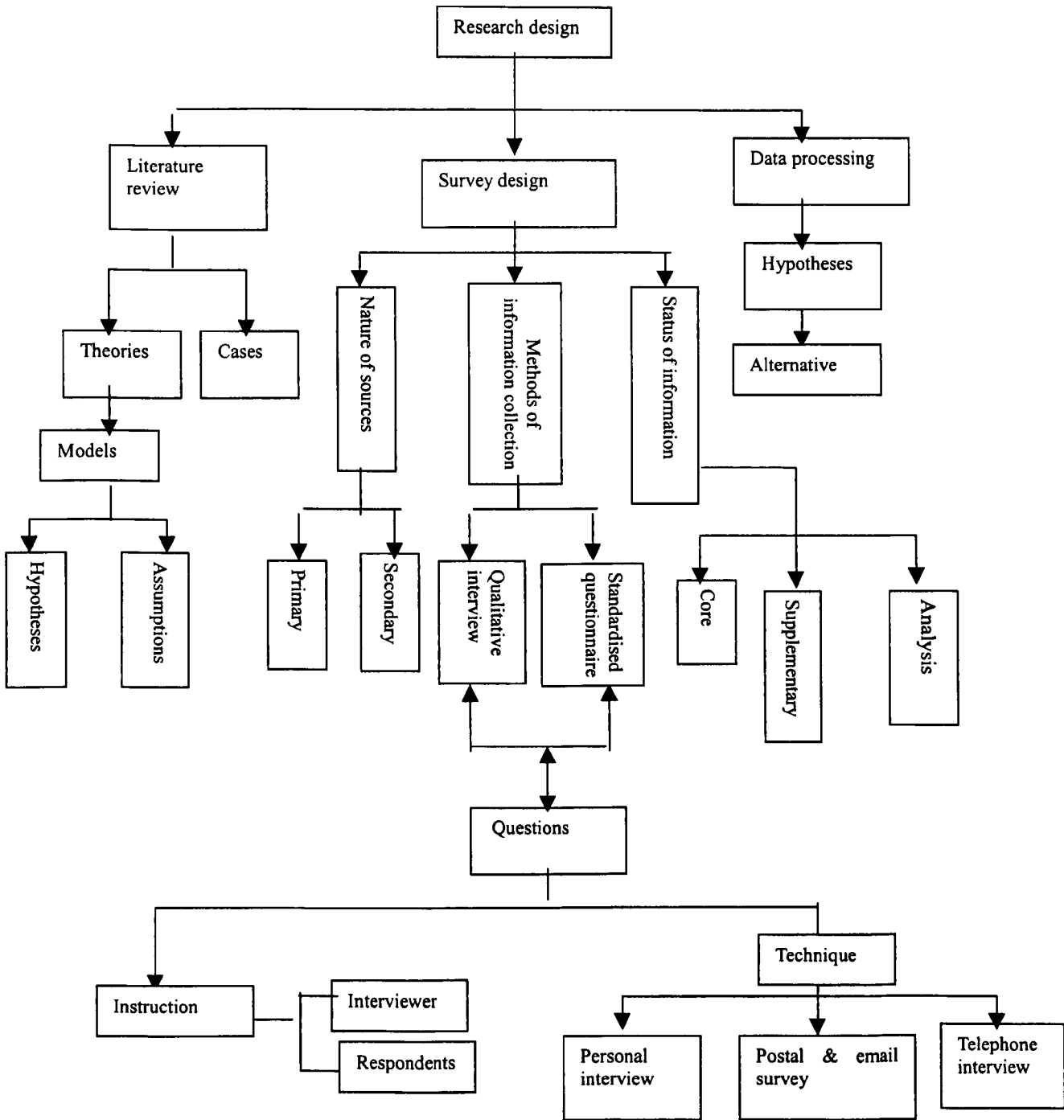


Figure 4.2.3 Process of Research and the Information Gathering

The integrated research employs the idea of integration to establish following functional requirements for research goals, research objectives and research measurement.

1. Research goals: creators, users, custodians and administrators were seen as collaborators for whom the study was working. The target of the research was to

define the responsibilities, accountabilities and authorities of those partners and their partnerships in shaping and maintaining the memory of the built environment. The client-led interdisciplinary collaborative approach was a major research strategy.

2. Research objectives. The recorded information of UD was placed in the context of its provenance in the life of a record and in the life of the built environment, to demonstrate its functions, and interrelationships in documenting the integrated memory of the built environment. Records of UD were looked at as a whole, as an integrated body and an independent research issue. The records continuum concept was a major analytical method.

3. Research measurement. The indicators of research success were evidence of best value, cost-effectiveness and client-satisfaction. These three indicators were used as coherent and consistent criteria for evaluating the best archival practice models and approaches for managing UDA across sectors, institutions and disciplines throughout a life of a record and the life of the built environment .

4.3 Research Methodology

As mentioned in Chapter 1.5, seen from Figure 1.4.3, the project employed various research methods to collect and generate multiple sources of data. Methods of literature review, archival analysis, historical analysis are used. The main strategy of this project is of national case study by qualitative interview and questionnaire survey. This section gives the reasons for this choice.

4.3.1 Choice of case study as a key research strategy

" The case study as a research strategy comprises an all-encompassing method with the logic of design incorporating specific approaches to data collection and to data analysis. In this sense, the case study is not either a data collection tactic or merely a design feature alone but a comprehensive research strategy." (Yin 1993: 13) " The case study, like other research strategies, is a way of investigating an empirical topic by following a set of prespecified procedures." (Yin 1993: 15)

This project selects the case study approach as a key research strategy for several

reasons as follows:

Firstly, it was based on theories of conditions for distinguishing different strategies. According to Yin (1993), case study is the most appropriate research strategy for how and why questions, for investigating non-control over behavioural events and for examining contemporary events.

There are five major strategies in the social sciences: experiments, surveys, archival analysis, histories, and case studies. Yin (1993) pointed out there are three conditions in distinguishing among the five strategies. They are:

- the type of research question posed;
- the extent of control an investigator has over an actual behavioural event, and
- the degree of focus on contemporary as opposed to historical events.

Yin also displayed the three conditions and showed how each is related to five major research strategies.

Strategy	Form of research question	Requires control over behavioural events?	Focuses on contemporary events?
Experiment	How, why	Yes	Yes
Survey	Who, what, where, how many, how much	No	Yes
Archival analysis	Who, what, where, how many, how much	No	Yes/no
History	How, why	No	No
Case study	How, why	No	Yes

Figure 4.3.1 Relevant Situations for Different Research Strategies (Yin 1993: 6)

Although this study may use other methods, they are subordinate to the case study approach.

Secondly, the following reasons lay behind the selecting of this strategy.

- Information gathering and data collection regarding UDA issues;
- To enable further analyses and explanations in the continuation and extension of preceding research results, of UDA issues of public debate and interest;
- Lack of evidence for study of UDA common culture and best practice models in previous literature. The author favours multiple sources of evidence for study;
- The appropriateness of existing UDA models in China;
- The ineffectiveness of available UDA policies in China ;
- The compatibility of existing Chinese archival theories;

- The majority of research questions for further study belong to the types of "how" and " why" questions.
- The focus of research is the current contemporary problems of records and archives management in the field of UD, which does not require control over behavioural events, but is directly pertinent to contextual conditions and problem solving in a practical environment.

4.3.2 Choice of China and UK as pilot cases for a cross-national study

The author selected China and UK as pilot cases for a cross-national study. The main criteria for selecting the cases are convenience of access, geographic proximity, and language readability. (Yin 1994)

There are several reasons for selecting UK and China as a pilot case study as a research strategy for the following reasons in addition to those given in Chapter 3.2 and chapter 1.2.

1. Questions of " what", " how" and " why" are being posed. This type of question is a justifiable rationale for conducting an exploratory case study and the goal is to develop a pertinent hypothesis and propositions for further inquiry and to extend and generalise theories. The case studies were about making analytical generalisations and not about making statistical inferences.

2. The investigator has little control over events; the focus is on a contemporary phenomenon within a real-life context.

3. The reasons for selecting UK and China as cases are based on the consideration of geographical convenience, the amount of documentation and data available, and the availability of appropriate sites to represent the different real-life contexts which are accessible to the author within the constraints of time and funding.

4. It is useful as a pilot case study, because there is a lack of research data and experience in UDA research in an international context. The author assumes that the UK and China study could help future investigators to redefine the data collection plans with respect both to contents of the data and the procedures to be followed. The pilot case is used more formatively, assisting an investigator to develop appropriate

lines of questions, possibly even providing conceptual clarification for the research design as well.

5. In terms of a cross-national study, the objective of the study is to identify and develop international philosophical principles for managing UDA; to probe and develop universal rules and best practice criteria for UDA management; and to test and to justify the idea of integration for UDA. The purposes are to widen Chinese archivist's views, to overcome the limitations of our national opinions, and to find effective strategies to apply to Chinese UDA problems.

The following factors were considered while selecting and developing the cross-national study:

- The main audience : British and Chinese records managers and archivists ;
- The research focus: problems and interest of Chinese UDA archivists are the primary and principal;
- Varieties: two types of UDA theory e.g. architectural school of thought and UDA school of thought; variables of context and long-term preservation value; paradigm of structure, content and context approach, etc;
- General public interest: records and archives management in the UD environment
- Identity: characteristics of two independent national archival administrative systems and cultures;
- Comparability: common UDA issues debated, UDA problems needed to be solved, approaches each employed to solve the problems; purposes and goals each aimed at, reasons for common features and the differences;
- Nationally important issues: independent and integrated research from a national perspective; characteristics and patterns of UDA management; mechanisms of UDA best practice; knowledge of two different national UDA paradigms; universal principles of UDA best practice; effective approaches to UDA problems.

4.3.3 Methods of case studies

The project adopted the multiple-case study method promoted by Yin (1994), see Figure 4.3.3-1. The following methods were employed to get multiple sources of

evidence. They are qualitative interview (discussed in section 4.4) and standardised questionnaire (discussed in section 4.5). For data processing; context, critical and cross-national analysis were the major methods. For writing, a procedure was developed. The purpose of writing is to present the identity and contextual knowledge of two national archival paradigms, see Figure 4.3.3-2. Chapter 5 and 6 are organised for this purpose.

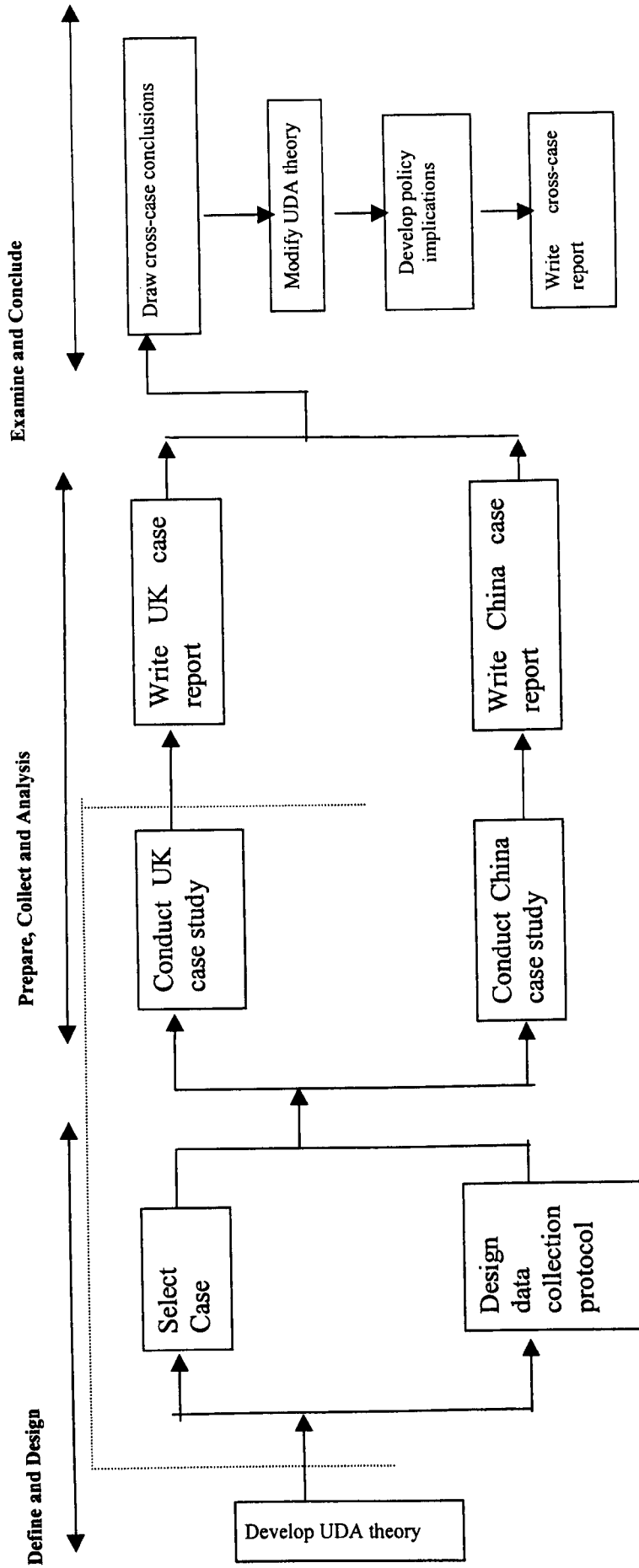


Figure 4.3.3-1 Case Study Method (Yin 1994:49)

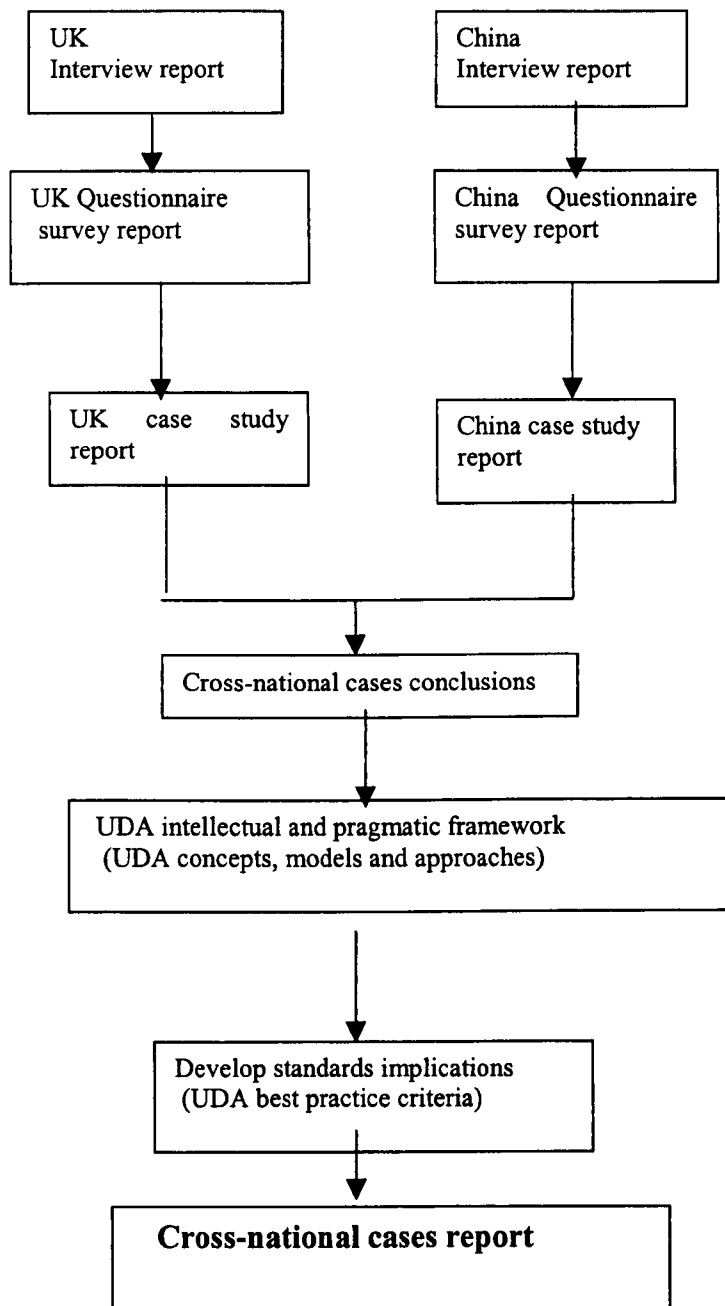


Figure 4.3.3-2 Procedure and Process of Writing

4.4 Design and Development of the Qualitative Interview

This section describes the design and development of the qualitative interview from the following aspects: aims and objectives; procedure; contents; general respondents and key informants; reliability of interview; limitations of the interview.

4.4.1 Aims and objectives

The aims of the structured interview are to get an in-depth understanding of the UDA perspectives, attitudes, and patterns of the UDA management, which can not be fully captured by other models of data gathering. Moreover, it is aimed to generate hypotheses and propositions about UDA best practice, which can be tested by a wider population using a structured questionnaire. The objectives of qualitative interviews are to investigate and explore insights on the reasons that determine UDA concepts and UDA approaches in complex sociological or cultural situations and different political and administrative systems; and to justify the assumptions of the idea of integration for UDA research.

1. The case for UK

- to investigate and observe how UDA have been managed in the UK archival practice and the UD environment;
- to evaluate and synthesise UDA models and methods of the UK which could provide a cross-national reference to the study of Chinese UDA issues and archival problems.

2. The case for China

- to investigate and observe how UDA have been managed in Chinese archival practice and the UD environment;
- to evaluate and recommend UDA best practice models and methods for future.

4.4.2 Procedure overview

Qualitative interviews were conducted in both UK and China in correspondence with Figure 1.4-1 and Figure 4.2.3. Three types of qualitative interviews were combined in a single investigation. An informal, conversational interview came first, then a set of semi-structured questions, followed immediately by open-ended ones. The semi-structured interview was the key technique so that the stated purposes could be achieved within the time available. The choice of this combined approach followed the rules of the research methods.

The following factors and conditions were considered in the selection of the interview types or mix of various types:

- The nature of the information required. Obviously, if comparable information on a few specified topics is the requirement, the semi-structured, open-ended format should be preferred. When a deeper understanding of the respondent's perspective is called for, other forms are more suitable.
- The skills and expertise of the interviewer. Conversational topic focused interviews usually require the interviewer to have a high level of interpersonal communication skills and a good grasp of the subject. Semi-structured interviews require a somewhat lower level of professional skills.
- The background of the respondent. Experience has shown that conversational and topic-focused interviews are preferable for well-informed respondents capable of clearly articulating their viewpoints. Such informants feel constrained by a formal question-and-answer interview.
- The nature of analysis and presentation that is needed to carry credibility with the decision-makers.
- Time constraints. Informal, conversational interviews are undoubtedly the most time-consuming; indeed, they are most useful when carried out in several sessions. (Casely & Kumar 1988:14-15)

4.4.3 Contents of qualitative interview

The contents of the qualitative interview were concerned with the above research questions (section 4.2.2) posed. But wording of questions was framed differently on the spur of the moment in accordance with major considerations that should be kept in mind.

1. First and most obvious, the questions must be put in an understandable way. There may be significant variations in the style of language and expressions used by different interviewees.
2. Second, questions should be phrased in such a way as to elicit detailed responses.
3. The third consideration is that two or more questions should not be put simultaneously. (Casely & Kumar 1988: 17)

4.4.4 General respondents and key informants

In this project, 16 sites were selected for UK investigation, 20 sites were selected for China investigation. They were selected with care. Factors pertinent to the project

were listed and from that at least one of the participants fitted into each category was ensured. Various types of research clients were chosen e.g. various types of UDA custodians and administrators. The 'categories' were devised at the outset of the research in avoiding limitations of previous research (section 2.4.4 and 3.6) and from which at least one representative in the group of participants was chosen:

1. sectors: government, institution and business;
2. UDA custodians: records management service including records centre (equal to Chinese Danganshi) and archival repository (equal to Chinese Danganguang);
3. UD fields: planning administration, architectural design, construction and development;
4. services : centralised administration , decentralised administration;
5. range of services: national, local , organisational.

The participants were selected to represent diversity within certain parameters. These parameters were generated from the literature(section 2.4 and 3.4).

The key informants interviewed were the directors of their archival institutions, who had expert knowledge of their institution, archival theory and practice, and high level awareness of UDA issues and problems. They represent opinions of different types of archivists from different types of UDA management environments.

4.4.5 Reliability of the interview

Notes were written up to record interviews immediately after the interview. A system for noting down ideas, responses and feelings was developed. Fresh ideas and insights stimulated by the respondent's replies were recorded. Comments were written with bracket in order to distinguish the interviewer's ideas from those of the respondents.

The reliability of the interview was based on the assessment of respondent-related factors.

All the respondents were knowledgeable and competent to provide accurate information.

Key informants were selected on the basis of their knowledge and experience rather than on the basis of their social and administrative status.

Respondents' answers were based on actual practice rather than any idea of their aims and written statements.

Respondents were willing to express themselves freely and go into details.

4.4.6 Limitations of the qualitative interview

Three general limitations of all qualitative interviews were borne in mind.

1. First, they do not generate quantitative data that can be summarised to provide valid general estimates.
2. Second, it is rare for in-depth qualitative interviews to be used with probability samples.
3. Third, the findings are susceptible to bias, which arise out of the inaccurate or distorted judgements of the interviewers that result from their shortcomings in cognitive processing. (Casely & Kumar 1988: 25)

4.5 Design and Development of the Standardised Questionnaire Survey

This section describes the design and development of the standardised questionnaire survey from the following aspects: aims and objectives; procedure; testing the questionnaire; formulation of the questionnaire survey; strength and weakness of non-probability sampling.

4.5.1 Aim and objectives

- The case for UK

The aim of the study was to justify the perspective that UDA are a special category of archives requiring independent research. This might incorporate an integrated approach to the identification of archival concepts, management models and approaches that have been applied in the management of records and archives of UD among administrators, custodians, creators and users and lead to a model for cost-effective and client-satisfaction practice.

The objectives of the UK study were to explore unique features and problems of UDA across cultures; to evaluate and recommend best practice archival management models and approaches universally to the UDA problems identified in China and UK; and to justify the assumptions of integrated research for UDA study.

- The case for China

The aim of this study was to test whether the archival thinking of seeing UDA as an independent and integrated research issue for archival study would be an effective research methodology for developing an intellectual and pragmatic framework for managing UDA.

The objectives of the study were to explore unique features and problems of UDA in China; to evaluate and recommend best practice archival management models and approaches to Chinese UDA; and to justify that integrated research would be a suitable research methodology for studying records and archives of the built environment.

4.5.2 Procedure overview

The procedure of the design and development of the questionnaire survey was conducted in accordance with the planning principles of structured surveys in accordance with Figure 1.4-1 and in line with Figure 4.2.3.

The stages in the planning of a structured survey include:

1. identification of the precise data expected from the survey;
2. design of the survey in terms of the analytical method that will be used and the methods to be used in selecting survey respondents;
3. choice of the concepts and definitions to be used;
4. definition of eligible respondents-which types of members of the population are to be included and which are to be omitted from the survey frame before sample selection;
5. construction of questionnaire, including pilot testing;
6. selection of the sample;
7. choice of interviewing method;
8. establishment of data processing and analysis requirements;
9. preparation of reporting formats. (Casley & Kumar 1988: 56)

4.5.3 The pilot testing of questionnaire

Both the UK and China questionnaire surveys were pilot tested on a few respondents via face to face interview among custodians, creators and users in order to identify weaknesses, ambiguities, and omissions before questions were finalised for the survey itself.

The tests were conducted to detect the following problems:

- Wording of questions. Was the wording of the questions clear to the respondents? Did all respondents derive the same meaning from the questions?
- Construction of sentence. Was the sentence appropriate? Were they too short or too long? Did they give unnecessary details, which confused the recipients?
- Question format. Was the question format suitable? If there were open-ended questions, was there a great variation in responses, which would make them difficult to code? Were the existing response categories for the closed questions adequate in range?
- Difficult questions. Were there questions, which all the respondents found it difficult to answer?
- Same answer. Were there questions for which all the respondents gave the same answers?
- Refusal rate. Was there a tendency for respondents to refuse to answer particular questions?
- Time requirement. What was the approximate time needed to complete the questionnaire? Did the respondents seem to tire at the end?
- Coding. Were there problems in coding the data?
- Usefulness of the data. Was the questionnaire able to generate the type of information, which was expected of it? (Casely & Kumar 1988:73)

4.5.4 Formulation of the questionnaire survey

The following factors had been considered in designing the blueprint of the standardised questionnaire survey.

1. Data expected: main features of UDA services, preferred methods of UDA management, most acceptable UDA best practice approaches and strategies in a random selected UDA custody places in UK and typical best performance UDA repositories in China.

2. UDA management employing the idea of integration e.g. integrated UDA frameworks, models and approaches as means for selecting survey respondents and as methods for analytical analysis.
3. Concepts and definitions used were based on findings from qualitative interview and literature review.
4. The eligible respondents of UK case study were those that are the custodians of UDA. The eligible respondents of China study were those that were claimed have reached the best assessed performance assessed and recommended by the Ministry of Construction and measured by national UDA performance standards (The Ministry of Construction 1997b).
5. 40 questions were posed. In the UK questionnaire survey, there were 38 closed questions and 2 open-ended questions. In the China questionnaire survey, there were 37 closed questions and 3 open-ended questions. The questionnaire was standardised, well pilot tested, and listed in a systematic manner.
6. The UK questionnaire survey design was based on the hypotheses and propositions elicited from the qualitative interview, and pilot tested by face-to-face interview in the PRO, the Liverpool City Archives and the HMC. Samples were selected from the following types of UDA custodians:
 - custodian sectors: government, specialist institution, business;
 - UDA provenance: planning, architectural design, construction, property use and maintenance;
 - UDA custodians: records management service (equal to Chinese Danganshi) and archival repository (equal to Chinese Danganguang).
7. The China questionnaire survey designed was based on the findings from UK qualitative interview and UK questionnaire survey as well as Chinese qualitative interview. It was pilot tested by face-to-face interview in the Beijing UDA specialist archives.
8. Establishment of data processing and analysis requirements: Data for quantitative analysis came from the standardised questionnaire survey as the basis of comparison and therefore, non-standardised responses from the pilot test were ignored. Any response without any information was ignored. In the UK questionnaire survey, only 52 questionnaire surveys could be claimed valid (among 55 questionnaire surveys sent out, 3 were for pilot study, because the form was not standardised, thus they were ignored), only 21 responses were regarded as

valid (among 24 respondents, 3 did not respond), the validity rate was 40.38%. In the China questionnaire survey, the selection process was more rigorously controlled, the means of sending were based on lessons learnt by UK case study, thus the total 28 questionnaire sent were valid, as was the 18 responses and the 64.29% response rate.

9. Computerisation was used for word processing the report and data access.

4.5.5 Strength and weakness of the non-probability sampling

As Kalton (1983) pointed out, the utility of non-probability sampling has strengths and weakness:

The major strength of probability sampling is that the probability selection mechanism permits the development of statistical theory to examine the properties of sample estimators. Thus estimators with little or no bias can be used, and estimates of the precision of the sample estimates can be made. The weakness of all non-probability methods is that no such theoretical development is possible. As a consequence, non-probability samples can be assessed only by subjective evaluation. Moreover, even though experience may have shown that a non-probability method has worked well in the past, this provides no guarantee that it will continue to do so in the future. (Kalton, G. 1983: 90)

The limitations of the questionnaire surveys were the utility of non-probability samples. They can not be used to derive estimates for the whole population with known margins of probable error. However, the advantages of the questionnaire surveys were that the interview mode and construction of questions were standardised on the basis of the qualitative interviews so the biases introduced by the observation and the respondent's misunderstanding were controlled. Furthermore, the sampling results provided reliable indications about the testing of the hypotheses and assumptions. As far the limited and feasible time period were concerned, as far as the cost-benefit was concerned and the data to be expected were concerned, the sampling was both economic and rational.

4.6 Summary

This Chapter has examined and described the design and the methodology of the research undertaken for research purposes defined in Chapter 1, for research questions posed in Chapter 2 and 3. The following choices were made from the design.

1. This project selected case studies as a key research strategy. The case study was felt to be the most appropriate strategy for how and why questions and for contemporary events, which are the conditions of this project.
2. This project selected China and UK cross-national case studies as the main research method. The necessity of cross-national study was given in section 3.2. Key reasons of UK and China for cases studies are that they are the most convenient for access in geographic proximity.
3. The research design was established to guide the process of data collection, analysis and interpretation in line with theories of social science research, and consistent with research framework formulated in section 1.4. (See figure 1.4-2)
4. The qualitative interview and standardised questionnaire survey were designed and developed as major means to obtain the data. They were used to answer the research questions posed in section 4.2.2. An integrated research was targeted as a methodology for achieving best value in line with section 3.5.3. Research data sources from them were analysed under the guidance of the analytical framework formulated in section 1.6.
5. The main method for the interview was the semi-structured interview, for purposes of effective responses within the time constraint. The method for the questionnaire surveys was non-probability sampling.

CHAPTER 5 – UDA MANAGEMENT IN UK

5.1 Introduction

This chapter analyses and discusses findings drawn from a national case study of UDA management in UK. The chapter consists of three parts:

- UDA models in UK practice observed by the author from field investigation and qualitative interview;
- UDA thinking observed by UK archivists, creators and users from interviews and questionnaire surveys;
- evaluation and conclusion based on the UK case study.

The organisation of the chapter follows the research processes and procedures outlined in Chapter 4. The author has two reasons for writing in such a way.

- First, as a pilot project in studying UDA, the research itself provides a paradigm for further study. Thus, the author has aimed to document the entire research development process for future modification or replication.
- Second, in order that every reader might judge the authenticity, reliability and validity of the data, and the findings and conclusions, the author has aimed to make the research process both objective and transparent.
- Finally, the author hopes that the contributions of the project can not be limited to the purposes of this Ph.D. research, but that future researchers may benefit from the study in a variety of ways.

5.2 A Study of UDA Models in UK Archival Practice

In this section, the author first introduces how the research data was generated. Then two important issues of UDA are examined and analysed. The issues are the records and archives management in the physical development of the built environment; and the permanent custody of UDA. Finally the author gives a summary and a conclusion based on the objective facts and the critical analysis.

5.2.1 Methods of data generation and the data itself

1. Method of data generation and the site selection

The data was generated by two types of methods under the guidance of the aims and objectives set up in section 4.4.1 and in line with questions posed in section 4.2. The first type is the pre-designed generating method by qualitative interview. The second type is to use random opportunities as they arose, under the guidance of research purposes, according to circumstances of sites visits, email correspondence, literature review, etc.

Sites were selected because they met the following criteria.

- They belonged to one of the following types of archival sectors e.g. government (central or local), or business, or specialist institution;
- They were the records management services (including records centre) or archival repositories holding the following types of the UDA records, planning and control, architectural design, construction and development, property use, maintenance or management.
- The interviewee was records manager and archivist of an archival institution, usually the director or archival policy maker or senior archivist.
- To ensure a cost-effective study and the validity of the data, the author made a rule in generating the data. At least 3 sites should be selected for analysing UDA management in the case of each archival sector.
- The sites should be accessible, convenient and affordable for interview.

The sites were selected from three sources: British Archives (Foster & Sheppard 1995), lists of addresses of members of Records Management Society (1998); lists of addresses of members of Society of Archivists (1999). 16 sites were selected and members of their staff were interviewed. Names in full of abbreviated names are in List of Acronyms and Abbreviation.

Types of sectors		Name of the sites visited	Number of the sites
Government	Central	<ul style="list-style-type: none"> • PRO • DETR • Northwest 	3
	Local	<ul style="list-style-type: none"> • City of Westminster Records Management Centre • City of Liverpool Record Office • London Metropolitan Archives • Stanford Records Management Service • Cheshire Record Office 	5
Business		<ul style="list-style-type: none"> • London Transport • BG • MEPC • BDM • Brown & Root 	5
Specialist Institution		<ul style="list-style-type: none"> • RIBA • NMRC • National Science Museum 	3
Total			16

Figure 5.2.1 Sites Investigated

2. Data collected

Two types of data were generated for the study. The first type of data was primary data about UDA in the records and archives management services. It was generated by interview and field study in accordance with the research design. There were multiple sources of data: interview notes of the response of the interviewee to research questions posed, logs of sites visited; data about sites e.g. documentation management framework, records and archives management policy and standards such as disposition, collection and appraisal policy; retention schedule; file management guidelines; information leaflets; UDA materials catalogues, finding aids, users registration forms, users inquiry and research service statistics, editing and publications, etc.. The primary data was used as the main data to identify UDA models and methods in the UK observed by the author.

The second type of data was secondary documentation on contextual information about UDA management in UK i.e. the theory and practice of records and archives management in UK; the documentation, recordkeeping and archival information and resources management in the physical development of the built environment in UK. Such data were collected by a literature review of publications of 1990-2001 from multiple sources, such as catalogues, bibliographies, books, Journal of the Society of Archivist (SoA), Newsletter of the SoA, Records Management Journal, Records

Management Bulletin, Business Archives, listserv of ARCHIVES-NRA@JISCMail.AC.UK, attending the 2000 SoA annual conference, workshops, taking courses of LUCAS and Civic Design Department at University of Liverpool, collecting national legal documents for UD functional activities in relation to UD recordkeeping. More than 200 relevant items have been collected. The secondary data was used as supplementary or complementary sources of information to underpin assumptions and data analysis, and to enable the author to qualify her personal views of the context of UK to avoid subjectivity.

3. Methods of data processing and analysing

Multiple sources of data were generated from individual sites. The analysis is limited to the research questions posed in section 4.2 and in line with the research purposes set out in 1.3. The integrated approach suggested in section 1.6 is used as the analytical framework for processing and analysing data. The integrated approach implies the following considerations of integration:

- It refers to an overall and systematic perspective to observe and analyse UDA;
- UDA in different sites were considered as a whole;
- UDA practices were seen as an independent and integrated theme to study for the overall interests of the archival community and various types of UDA clients;
- The records and archives management of the UD environment were seen as a complete system to explore their archival culture, management features, models and methods.

5.2.2 Records and archives management in the physical development of the built environment

This section consisted of 3 parts: a brief introduction to the problems of UDA administration in the UK; the identification, classification and analysis of UDA management models; and some recommendations.

5.2.2.1 Background of the UDA administration problems in UK

UDA administration in the UK is decentralised without a unified national law, regulations or policies to encompass both public and private records, and both central and local government records. The responses from 16 sites show that records and

archives of UD practice were viewed as any other type of archives in terms of their management needs. All the archivists agreed that the management of UDA had met many difficulties and challenges. Major problems at 16 sites could be considered as follows:

1. Physical control issues:

- Records from UD functions, activities, and transactions were in many forms, formats and media. Different preservation methods were required for decentralised storage, while users need integrated finding aids to enable comprehensive access.
- Drawings, plans and maps were universal formats of UDA, which demand special handling and special finding aids.

2. Intellectual control issues:

- UDA have many potential uses or values for different types of creators and users along the records continuum. These varied uses or values of records occur concurrently and simultaneously. For example, archives have practical, current and commercial value for their creators while simultaneously having research, historical and cultural value for society. The access to UDA tended to be always decentralised without effective control.
- The different purposes of documentation, recordkeeping and archival information services result in different interpretations and perceptions of UDA. The availability, accessibility and readability of UDA were rather unsatisfactory.

3. Integrated control issues:

- The records of modern construction projects were both complex and very large. They are created by different sectors, institutions, and disciplines and by multiple creators. Bottom-up traditional archival methods are not efficient and effective in guaranteeing the accuracy, authenticity, reliability and completeness of UDA.
- Without co-ordination in archiving policies and consistent standards for records creation and capturing, recordkeeping, and long term preservation and access to UDA, there is much duplication and overlap in the records and archives management of the UD environment.

This study shows that the management of the UDA of the UK was focused on physical and intellectual control. However there is a trend towards integrated control, now that electronic records issues are being considered. This study shows that different types of archival services have different roles in society, and there are diverse kinds of records and archives management that provide different kinds of UDA management models.

5.2.2.2 Identification and classification of UDA management models

1. Methods and criteria for classifying UDA management models

The method of classifying the records and archives management models for UDA was based on an analysis of the role of an archives service within the structure of its parent body or host organisation and in society. This uses a records continuum analysis to identify the role of an archival service in the control of the movement of records throughout their entire life. This means using the idea of integration posed in section 1.6 to identify the role of an archival service in meeting the demands of UD practice throughout a life of a record and the life of the built environment. Three functions were identified as classification criteria, they were:

- documents management (DM) or the control of records creation and capturing for daily operation;
- records management (RM) or the control of recordkeeping for corporate use;
- archives management (AM) or the control for permanent custody and societal use.

If records management programmes or archival policies are written and implemented in the management of UDA, it will be signed with '+' before its function i.e. DM, RM, AM. If not, then a '-' will be signed before the identified function. If there are no links between the recordkeeping programmes, then '/' will be signed between the functions.

According to the above rules made, following facts were found about the 16 sites.

Case number	Name of sites Visited	Sector: Central Government (CG) Local Government (LG) Business (B) Specialist Institution (I)	Scope of service: International (I) National (N) Regional (R) Local (L)	Managing role in records continuum + Yes - No			UDA custodian role in meeting UD demands	UD role in life of built environment
				D M	R M	A M		
1	PRO	CG	N	+	+	+	Historical and research use	Planning and development Administration
2	DETR Records management service	CG	N	+	+	-	Administrative, legal and information use	Planning and development administration
3	Northwest register office	CG	R	+	+	-	Administrative, legal and information use	Planning and development administration including new towns
4	NMRC	I	N	+	+	+	Historical and Cultural use	The survey and maintenance of built environment heritage
5	National Museum of Science and industry	I	N	-	-	+	Cultural and information use	Materials and technology used for developing of built environment
6	RIBA drawings section	I	N	-	-	+	Historical and Research and information use	Theory and practice about the design and research about built environment
7	National Gas Archives (BG)	B	N	+	+	+	Commercial use, legal use and practical use	The creation, use and maintenance of public utility
8	MEPC Archives	B	N	+	+	+	Legal use and commercial use	The creation, use, maintenance and management of built environment property
9	Brown and Root Information resources centre	B	N	+	+	+	Commercial and legal, information use	Civil engineering technology for the development of built environment
10	BDM	B	I	-	+	-	Legal use and commercial use	All types of UD activities about built environment
11	London Transport archives	B	L	+	+	+	Legal use, commercial use, practical use	The construction and maintenance of public works and service
12	City of Westminster record management centre	LG	L	+	+	-	Administrative and information use	Planning and development administration
13	London Metropolitan Archives	LG	L	-	-	+	Historical and research use	Planning and development administration
14	Liverpool Record Office	LG	L	-	-	+	Historical and research use	Planning and development

								administration
15	Stafford Documents and Records Management Service	LG	L	+	+	-	Administration , legal and information use	Planning and development administration
16	Cheshire and Chester Record Office	LG	L	-	-	+	Historical and research use	Planning and development administration

Figure 5.2.2. 2 –1 Cases of the Records and Archives Management of UDA

2. Types of UDA management models in archival practice

There are three types of UDA management models in archival practice in terms of the records movement patterns. See Figure 5.2.2.2-2.

Types of UDA management models	Examples		Types of records and the provenance
	Name	Number	
1. +DM/+RM/+AM	<ul style="list-style-type: none"> • Liverpool Records Office • Cheshire and Chester Records Office • National Museum of Science and Industry • London Metropolitan Archives • RIBA 	5	<ul style="list-style-type: none"> • local planning authorities • architectural associations, architects of architecture • new towns development corporation
2. +DM+RM/+ AM	<ul style="list-style-type: none"> • Stafford Documents and Records Service • Westminster Records Centre 	2	<ul style="list-style-type: none"> • local planning authorities
3.+DM+RM+AM	<ul style="list-style-type: none"> • PRO • DETR • Northwest Register Office • NMRC • London Transport Archives • BG • MEPC • BDM • Brown and Root 	9	<ul style="list-style-type: none"> • central government planning authority • English Heritage public bodies • construction projects • building control bodies

Figure 5.2.2.2-2 Types of UDA Management Models in Archival Practice

(1) +DM/+RM/+AM model. In this model, an archives service is only responsible for surviving historical records. There is no integrated control of UDA documentation, recordkeeping and archival disposal, or the documents, records and archives management are usually entire separate. Examples are the management of the records of local planning authorities held in Liverpool Record Office and London Metropolitan Archives; the management of new towns development records of Warrington and Runcorn in Cheshire Record Office; the management of records of the architectural associations, architects and of architecture in RIBA, the

management of records of civil engineering in National Museum of Science and Industry.

(2) +DM+RM/+AM Model. Here the role of an archives service is similar to AM model. But the input of archival information sources is controlled by a records management service, the records management and archives management are separate. Examples are the management of records of local planning authorities in Stafford Documents and Records Management Service, and Westminster City Records Centre.

(3) +DM+RM+AM model. In this model, an archives service is responsible for all 3 functions. It is the archival authority with power of inspecting and auditing the planning, control and implementation of an integrated records and archives management program from the creation, maintenance, use, disposal to the permanent custody of records throughout their entire life-cycle along a records continuum regime. Examples are the management of records of central government planning authorities in PRO, DETR, Northwest Register Office; the management of records of English Heritage public bodies in NMRC; the management records of construction projects, public works and utilities in London Transport Archives, BG, MEPC, BDM and Brown and Root Company.

3. The UDA management models of different types of UD sectors and their features

The following results were found in Figure 5.2.2.2-3:

Types of Sectors	UDA models	Case	Feature
Central government	<ul style="list-style-type: none"> +DM+RM+AM 	PRO & DETR & Northwest Region	Centralised and integrated control
Local government	<ul style="list-style-type: none"> +DM+RM/+AM +DM/+RM/+AM 	<ul style="list-style-type: none"> Stafford Westminster Liverpool Record Office Cheshire Record office London Metropolitan Archives 	Decentralised control
Business	<ul style="list-style-type: none"> +DM+RM+AM 	<ul style="list-style-type: none"> MEPC BG London Transport BDM Brown and Root 	Centralised and integrated control
Institution	<ul style="list-style-type: none"> +DM+RM+AM +DM/+RM/+AM 	<ul style="list-style-type: none"> NMRC RIBA 	Diversity

		• National Museum of Science and Industry	
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Figure 5.2.2.2-3 Features of UDA Management Models in Different Types of UD Sectors

(1) The management model of UDA in central government sector and business sector is the same. The +DM+RM+AM model is widely used there. Features of their archival management are centralised and integrated control in correspondence with the administrative features of their organisational structure.

(2) There are two types of UDA management models in the local government sector; they are +DM+RM/+AM and +AM/+RM/AM model. The investigation found that management of UDA in local government sector is decentralised. This may result from the lack of unified national archival legislation encompassing the local level.

(3) The management models of UDA in the specialist institutional sector differ. The +DM+RM+AM or +DM/+RM/+AM model were widely used. This corresponds with the diversity of the roles and authority positions of professional specialist institutions in society.

5.2.2.3 Evaluation of UDA management models

1. Measurement of the UDA best practice and the indicators for it

The management models described above were evaluated against the best practice criteria via an integrated framework described in 1.6. This requires an integrated approach which incorporates a client-led marketing strategy and post-modern archival thinking which perceives archivists to be co-creators of knowledge, culture and societies and support for the records continuum mindset in theory and practice. Integrated control of three aspects was identified for further evaluation. These are:

- Product control in UDA: demonstrated by evidence of accurate, authentic, reliable and complete records.
- Process control in UDA: demonstrated by evidence of effective, economical, and efficient management.
- Service control in UDA: demonstrated by the delivery of available, accessible and readable services.

Management models that implement best practice would gain the following benefits:

- Meeting successfully the technology, economic, social challenges of the future through this physical and intellectual control of the reliable, authentic, complete and preservable social memory of the built environment;
- systematic UDA information content;
- comprehensive UDA information context;
- accurate and complete information retrieval;
- timely access across time and space;
- rational resources location and rational holdings structure in UDA information sharing;
- reduce duplication, overlap, risk and cost in UDA documentation, recordkeeping and archival information service;
- partnerships of creators, users and custodians in the archiving business process to provide for the multifaceted UDA interests, the economical and social benefits.
- sustainable and consistent archival information service for the continuity of the development of built environment in a dynamic society.

2. Features of UDA management models and their limitations

The study shows that the different types of UDA management models have different strengths and weakness.

Types of UDA control models	Features	Limitations
(1)+DM/+RM/+AM	<ul style="list-style-type: none"> • End control; • Life-cycle management perspective; • Historical paper records 	No guarantee of the following: <ul style="list-style-type: none"> • Authenticity; • Reliability ; • Completeness; • Availability; • Accessibility; • Readability
(2)+DM+RM/+AM	<ul style="list-style-type: none"> • Stage-control; • Life-cycle management; • Both paper and electronic records 	No guarantee of the following: <ul style="list-style-type: none"> • Availability; • Accessibility ; • Readability
(3) +DM+RM+AM	<ul style="list-style-type: none"> • Front-end and integrated control; • Records continuum regime; • Both paper and electronic records; • Particular electronic records 	The following are conditions: <ul style="list-style-type: none"> • Co-ordination and collaboration; • Partnerships & team working.

Figure 5.2.2.3-1 Features and Limitations of UDA Management Models

The following results were found:

(1) The +DM/+RM/+AM model. Its unique feature is passive custody at the end of records movement. The mission of an archives service is only the last stage of the records movement. Since there is no integrated control of documentation and recordkeeping before the disposal of records, archives are passive recipients and cannot guarantee the authenticity, reliability and completeness of the records they received. The availability, accessibility and readability of UDA also have their limitations. This model fulfils a number of purposes.

- Major functions of the archival service are designated as a cultural or information service and as a collecting agency for historical archives. The holdings of the archives services are focused on paper records and historical UDA sources. Records in existence are no longer used for their original purpose, e.g. RIBA.
- For historical reasons, the parent body or host organisation has no consciousness of demands for an integrated service in documents and records management. The archival service would not be accountable for the accuracy, reliability and completeness of the archival information they supplied. E.g. the new towns development records of Warrington and Runcorn in Cheshire Record Office.
- The provenance of the archives lies with multiple creators and creating bodies. The archival service has no authority or requirement to be involved in records management, e.g. London Metropolitan Archives.
- The archival service does not have sufficient resources to incorporate records management. Its first priority is managing records already in existence and no longer needed for daily operation, e.g. Liverpool Record Office.

(2) The +DM+RM/+AM model. Its unique feature is stage-control, according to the life cycle of records. This refers to that the management of UDA was divided into two stages, +DM+RM as the first stage, +AM as the second stage. There is no integrated planning program to connect the first stage with the second stage. Such a model has advantages over +DM/+RM/+AM model in that authenticity and reliability are under the control of the records management service. However, since there is no co-ordination between records and archives services, there may be overlap and duplication and conflicts between the records and archives services. It may not

be possible to guarantee the consistent availability, accessibility and readability of UDA. There may be several reasons for using such a model.

- The archives and records services play different roles (e.g. information service, knowledge service, and cultural service) within the structure of their parent or host organisation.
- The parent body or host organisation already has a long history of +AM as a cultural service, while +DM+RM services are new commercial business services.

The examples of both cases are Westminster Record Centre and Stafford Documents and Records Management Service.

(3) The +DM+RM+AM model. Its unique feature is front-end control, centralised administration and integrated control in correspondence with a records continuum regime. “A consistent and coherent process of records management throughout the life of records, through the creation and preservation of records, to their retention and use as archives.” (Millar 1999c: 20) Such a model demonstrates the greatest advantages over the three models in guaranteeing the quality and value of UDA to meet the different information needs of varied clients throughout the life of the records and the life of the built environment. Such a model does have limitations, however. A centralised administrative system, co-ordination, collaboration, partnerships and team working are necessary conditions for its effective use. There may be several reasons for using such a model.

- When current modern UD and electronic records are the major focus.
- The organisation would facilitate the automation of records and archives management systems and information network.
- “The records and archives managers within that organisation are part of the team works towards the core of the organisation” “ The procedures and outcomes of the archives and records service are regulated by general statutes concerned with privacy and accountability, as well as by specialist standards.” (Cook 2001: 6)
- Documents, records and archives management are under the same administrative authority and within same administrative system, built into the structure of the organisation, as an integrated service and a professional functional agency. Such a UD environment has features of unified organisational control, which facilitate

co-ordination, collaboration, partnerships and team working between records and archives management.

- The establishment, maintenance and exchange of records was covered in a UD professional code of practice such as “Keeping Records of Underground Apparatus” in The New Roads and Street Works Act 1991-Section 79 and 80, (DETR, 2001) and “Archiving of Records” in Building Control Performance Standards (DETR 1999: article 7).

Examples are the model of PRO, DETR, NorthWest Region Planning Registry Office, BG, London Transport, MEPC.

3. Recommendation of +DM+RM+AM model for UDA best practice

This study shows that +DM+RM+AM model has the following advantages over other models.

- (1) It provides the unified systems, policies and procedures control and audits the accuracy, reliability, authenticity and completeness of recorded information in UD practice along the records continuum. It enables mutual understanding and common expectations among administrators, creators, users, and custodians.
- (2) It provides unified and consistent standards e.g. registry systems, classification codes and schemes, description rules and standards, selection criteria and retention schedules for the same records at any stage and in the different processes of records management, and develops a common language among administrators, creators, users and custodians for good quality of service.
- (3) It provides a co-ordinated framework for accountability of different custodians.
- (4) It enables the development of partnership campaigns among creators, users and custodians in an accessible, readable and usable form as long as they have continuing use or value and for making information available in the right format, to the right people, at the right time. This reduces cost and maximises the values of UDA through a planned records management and archives administration process.
- (5) It provides a sustainable and consistent information service for the continuity of the development of the built environment for the building of a complete memory of UD practice and profession.

This study suggests that the +DM+RM+AM model would be the most appropriate model for UDA best practice to connect past to present and present to future, as it

develops integrated programs while it can achieve to bring product, process and service control together under the umbrella of the stated goals of cost-effectiveness, best value and client-satisfaction. The advantages of +DM+RM+AM model over others can be seen in figure 5.2.2.3-2.

Types of UDA control models	Product-control	Process-control	Service- control
(1) +DM/+RM/+AM	No guarantee	No guarantee	No guarantee
(2)+DM+RM/+AM	Partial	Partial	Partial
(3)+DM+RM+AM	<ul style="list-style-type: none"> • Accuracy • Authenticity • Reliability • Completeness • Availability • Accessibility • Readability 	<ul style="list-style-type: none"> • Efficient • Effective • Economy 	<ul style="list-style-type: none"> • Client-satisfaction • Best value

Figure 5.2.2.3-2 Evaluation of UDA Management Models

4. Functional requirements for UDA best practice

This study indicated that the following elements would be functional requirements for the selection of the +DM+RM+AM model provided and the necessary conditions for the success of its implementation.

(1) There should be partnerships of creators, users and custodians in planning, designing, implementing and controlling integrated records and archives management programs in all the processes and at all the stages of records continuum regime.

(2) UDA services should be responsible for interpreting, inspecting and auditing the quality and quantity; content, context, structure; and the long-term preservation value of UDA; and for managing professional and social demands of UDA along the records movement.

(3) Legal and regulatory rules, professional performance standards and contracts, codes of conduct of the appropriate professional bodies, moral obligations and business ethics should cover the establishment, maintenance and exchange and use of the UDA to a common standard. The types of records, media, format, the length of time they must be kept, arrangement of transfer for safe keeping, timely access, free of charge for exchange and use should be covered in legal duties of creators, users and custodians. “It is in the interest of all parties to endeavour to provide as much detail as is reasonably practical” (DETR 2001: article 2.3).

5.2.3 The permanent custody of UDA in archival services

This section synthesises the research findings about the custody of UDA in UK archival services. Data were analysed around three UDA themes: (1) the location of UDA and their permanent custody; (2) The provenance of UDA sources, their selection and acquisition; (3) models for UDA documentation frameworks.

5.2.3.1 The location of UDA for permanent custody

The study shows that UDA are maintained by 3 sectors e.g. government, business and specialist institutions. Their permanent custody falls into 3 categories.

Types of UD activities	Examples of archival custodian	Types of key archival custodians	Types of UDA	Social functions of the UDA
Government	<ul style="list-style-type: none"> • PRO; • Liverpool Record Office; • London Metropolitan Archives 	<ul style="list-style-type: none"> • National archives service; • Local archives services 	Archives of Government activities	Corporate memory of the government functions in national or local administration and control of built environment
Business	<ul style="list-style-type: none"> • London Transport; • BG; • MEPC 	<ul style="list-style-type: none"> • Business archives service 	Archives of Business activities	Corporate memory of the corporation functions in the creation and maintenance of built environment
Institution	<ul style="list-style-type: none"> • RIBA; • NMRC 	<ul style="list-style-type: none"> • Specialist archives services 	Archives of Institutional and professional activities	Corporate memory of institution and professional bodies in the development of theories and practices of built environment

Figure 5.2.3.1 The Location of UDA Sources and their Permanent Custody

As far as the features of permanent preservation and the location of UDA are concerned, following results could be drawn from the findings:

1. Archives of different UD activities with permanent value were located in 3 types of archival services. They are:

- government;
- business;
- and specialist archives services;

2. The location of UDA are not considered independently from other records of

creating organisations, and do not form a discrete entity within them. E.g. property and project records.

3. Some features of the management of information from UDA are relatively centralised and systematic. For example, the input and output of UDA and their social uses remain relatively decentralised in archival services of government, business and specialist institution.

4. There was no unified legal framework for the location of national UDA resources in UK. (ICA 1992: 235-239 and ICA 1982: 387-406; Knightbridge 1985; Newton 1977; Raspin. 1983; Duncan. 1981; Whittick 1988)

5. The 16 places visited all suggested that the most appropriate place for the custody of records of the built environment was a specialist repository, as far as the condition of its physical storage and access by its major users or interested groups were concerned.

6. The custody of UDA in UK is diversified. Different custodians have different missions and a different focus in documenting UD functions and activities for different users. See the social functions of UDA in Figure 5.2.3.1.

5.2.3.2 The provenance, selection and acquisition of UDA

This study shows that every archival service keeps UDA. As a rule, the provenance of UDA was from three types of sources, selected and acquired by different methods.

This can be seen in Figure 5.2.3.2.

Provenance of UDA	Example	Criteria of selection	Methods of acquisition
Parent body as creator	3 types of archival services	<ul style="list-style-type: none"> • Evidential • Research value 	<ul style="list-style-type: none"> • Transferring
Parent body and outside employing body as creators	3 types of archival services	<ul style="list-style-type: none"> • Evidential, • Practical • Research value 	<ul style="list-style-type: none"> • Transferring • Deposit
Outside employing body as creators	Specialist repository	<ul style="list-style-type: none"> • Information • Research value 	<ul style="list-style-type: none"> • Donation • Deposit • Bequest • Loan

Figure 5.2.3.2 UDA Provenance, their Selection and Acquisition

1. UDA generated by the parent organisation whose major social function was undertaking UD activities (e.g. planning, administration, architectural design, construction, etc). They reflect UD activities and functions and the roles of the creators in developing the built environment. Examples are the registered files and

deposited documents of DETR, which reflects the role of the Department in UD and renewal covering the key areas of housing, regeneration, land reclamation, public transport, sponsorship of the construction industry, environmental quality and local government affairs (Ian Smart interviewed December 8th, 1999, through correspondence letter). Another example is records developed and held by development corporations and BCBs, which are only kept for 15 years, in regard to the statutory time limits on legal action (DETR 1999, article 7:13). The acquisition of records is in compliance with legislation, regulatory rules and the administrative purposes such as contracts. Only records of evidential and research value were selected for long term preservation.

2. UDA generated by multiple creators (parent organisations and non-parent organisations) from the activities of building creation, use and maintenance and the management of estate and property of the parent or host organisation. These activities lead to the creation of estate or property records, building project and capital construction project records, leases, planning permission records, architect/builder agreements, title deeds, site plans, etc. which reflect the ownership and legal rights of the parent body as well as the development of the built environment. For instance, the National Gas Archives kept many site plans of local gas works and associated property records, dating from the 19th century as their estate records. They reflect the historical evolution and development of the gas facilities and the supply of the service of the British Gas industry and their ownership. (BG 1999). Such types of UDA had been preserved at least as long as the life span of the structures relates to the built environment. Such records have multiple values, i.e. practical and research value, legal and administrative value, historical and current value, commercial and societal value. Major concerns in selection were their current and historical value; evidential, practical and research value. Major methods of acquisition were transfer or deposit according to laws, regulatory rules and administrative means and contracts.

3. UDA collected from outside employing bodies. This refers to UDA acquired from outside regardless of their provenance, relating to a particular UDA specialisation, such as architectural drawings, photos and manuscripts of RIBA. They were received from architects, architect's offices, architects' families, architectural historians,

photographers, authors, academics and others by donation, purchasing, in exceptional cases, on loan. (RIBA, Access Policy, April 1999). Such types of records always have research value of national importance and professional importance and have been selected and acquired for their research use and information value. There are various forms of methods for their acquisition and collection e.g. bequest, donation, deposit, loan, etc.

The following conclusions can be drawn from the facts:

1. The selecting and acquiring UDA in all types of archival repositories has a direct relationship with their parent or host organisation.
2. UDA of archival services came into existence from 3 sources:
 - UD functions, activities and transactions of parent organisation;
 - estate, property and construction activities of parent organisation and non-parent bodies;
 - UD specialised activities outside employing body.
3. The specialist repositories acquired the most comprehensive UDA resources among the 3 types of archival services. This might result from their varied methods of selection and acquisition.
4. Criteria of UDA selection vary from one to another in accordance with their provenance.
5. Methods of UDA acquisition vary from one to another in correspondence with their provenance.

5.2.3.3 Models of UDA documentation frameworks

In order to observe the similarities and differences of UDA resources in whatever service from whatever source, to identify their unique features in documenting UD issues, activities, geographic areas, etc, we can see that UDA documentation framework of archival services falls into three categories, which might be synthesised as 3 models. This can be seen in Figure 5.2.3.3-1 and Figure 5.2.3.3-2.

Types of documentation model	Example	Key functions	Unique Feature
Organisational	<ul style="list-style-type: none"> • Central government archives service • business archives service 	<ul style="list-style-type: none"> • Evidence • History 	Organisational and administrative structure
Territorial	<ul style="list-style-type: none"> • Local archival service 	<ul style="list-style-type: none"> • Culture • History 	Locality
Professional	<ul style="list-style-type: none"> • Specialist archival services 	<ul style="list-style-type: none"> • Information • History 	Particular specialisation

Figure 5.2.3.3 –1 Models of UDA Documentation Framework, their Key Functions and Unique Features

Types of UDA documentation model	Strengths	Limitations	UDA uses
Organisational model	Organisational history	Organisational structure	<ul style="list-style-type: none"> • Administrative • Legal • Practical • Research • Public
Territorial or Geographic model	Local culture	Territorial area	<ul style="list-style-type: none"> • Administrative • Legal • Practical • Research • Cultural use
Professional model	Professional information	Subjects	<ul style="list-style-type: none"> • Research • Commercial • Practical • Information • Knowledge
Recommendation	<ul style="list-style-type: none"> • Respect identity and diversity of different types of documentation frameworks. • Diverse UD demands should be met by diverse documentation frameworks. 		

Figure 5.2.3.3-2 Models of UDA Documentation Frameworks, their Strengths and Limitations

1. **Organisational model.** In such a case, the documentation framework was concerned with the adequate documentation of UD activity for a complete corporate memory in accordance with the principle of provenance and archival fonds theory. The provenance of UDA was from the creating organisation and its subordinates under the umbrella of the organisational structure and the administrative system. The priority in selecting the records for retention was their evidential and historical value. Central government and business archival services fall into such a category. Examples are PRO, MEPC, BG, London Transport Archives, etc. UDA materials were viewed as evidence of particular UD transactions, activities and functions of particular creating units as the memory of a corporate body. The source of the majority of holdings was the parent body or host organisation who transferred, and deposited according to statutory rules. The UDA context and scope in such a case is organisational and administrative.

2. Territorial or geographical model. In such a case, the documentation framework is concerned with the adequate documentation of UD activity in the geographic area. The provenance of UDA was from their locality. The priority in selecting the records for retention was for cultural and historical value. The city or municipal archives of a territorial area falls into such a category. Examples are Liverpool City Record Office, London Metropolitan Archives, Cheshire Record Office, etc. In such a case, UDA were viewed as part of the cultural heritage of the locality and as primary resources for the study of the physical development of the locality (e.g. metropolitan, city, county, borough, district, etc). The sources of the main holdings were the parent body and outside employing bodies and came by different methods of acquisition, e.g. transfer, deposit, donation, bequest, etc. The methods of acquisition were by transfer from the parent or host organisation. The context and scope in such a case was its locality, geographic, administrative and planning area.

3. Professional model. In such a case, the documentation framework was concerned with the adequate documentation of particular UD issues, activities, subjects, etc. The provenance of UDA was from particular UD subjects or disciplines or fields or activities. The priority in selecting the records for retention was their information and historic value. Specialist repositories fall into such a category. Examples are RIBA, National Monuments Record Centre, and National Museum of Science and Industry. In these cases, UDA were viewed as the memory of the UD professional association and as information resources about the development of theories and practice of the built environment. The sources of the majority holdings were from different provenance and by different acquisition methods, etc. transfer, donation, deposit, purchase, covenant or bequest, loan, etc. The UDA context and scope in such a case was a particular specialisation in relation to the social functions of planning, designing, constructing, maintaining and controlling of the built environment.

The following conclusions can be drawn from the facts:

1. Models of UDA documentation frameworks can be placed into 3 categories: the organisational, territorial, and professional model.
2. Different documentation models have different functions and features, thus the UDA context and scope differs from one to another in terms of documenting and preserving activity, the agent of activity and the place of activity, etc.

3. Different UDA archival services always have a different mission focus in selecting the documentation. Every documentation model has its own advantages in documenting UD functions and in supplies the bank of UDA information resources.
4. The study indicates that the archival custody of UDA in any archival practice has its limitations as far as the documenting of the complete memory of the life of the built environment and the preservation of complete archival information source of the UD practice and professions are concerned. Completeness and systematicness of UDA sources were relative rather than absolute.

5.2.3.4 Conclusion

The study shows that archival custody of UDA in UK archival services has following features.

1. The location of UDA. There are 3 types of archival places that are in the custody of UDA. They are:

- government;
- business;
- and specialist archival services.

The location of UDA corresponds to their provenance. UDA were located to archives services as an integral part of the corporate archives of their parent body or host organisation.

2. The provenance of UDA. The provenance of UDA is from 3 types of sources, by 3 types of creators, to 3 types of custody, by means of 3 acquisition methods.

The 3 types of sources are records of:

- UD functions and activities;
- construction projects or property or estate;
- particular specialisation.

The 3 types of creators are:

- parent body;
- outside employing body;
- parent and outside employing body.

The 3 types of custody are:

- evidential and research ;
- practical and research;
- information and research value.

The 3 acquisition methods are:

- transferring;
- transferring and deposit;
- transferring and other multiple methods.

Different types of UDA sources are from different types of creators and are preserved for different reasons and are collected by different types of acquisition methods.

3. Models of UDA documentation framework. There are 3 types of UDA documentation frameworks. They are:

- organisational;
- territorial or geographic;
- and professional model.

Different types of documentation framework have different social functions and different features and are appropriate for different archival services.

4. Archival custody of UDA in the UK has features of diversity and relative concentration. By diversity is meant that every archival service has its own priorities in the location and transfer of UDA, in selecting and collecting, in documenting the life of the built environment. Relative centralisation means that the custody of UDA has two sides. On one hand, there is no national archival policy or statutory rules to guide the location of UDA in the UK, and there are no designated places to be responsible for the centralised custody of the comprehensive UDA resources of the nation. On the other hand, in the real archival world, every archival service is a type of centralised archival place of specific sector or discipline or geographical area or organisation in the custody of particular types of UDA sources.

5. Every archival service has its own identity and unique features in society. It is the diversity of UK archival services that makes up the bank of national UDA resources. It is the diversity that develops the mutual understanding and accommodation of UDA to the archival culture; thus there have been few debates, arguments or conflicts

among the archival services and few overlap and duplication of UDA in archival holdings.

6. It is hard to judge where the best place is for the custody of UDA. There is no absolute best archival place in the real archival world, only a relatively most appropriate place in terms of the preferences and limitations of every archival service. This study demonstrated that specialist repositories are relatively the most appropriate place for the custody of UDA in terms of their particular specialisation and main priority in documenting UD issues, subjects and fields; their advantages in selecting UDA sources to build up a complete memory for the UD professional bodies and professional development; their dominance in acquiring comprehensive information resources about the life of the built environment.

7. This study shows that to see UDA as an independent and integrated body is an effective way of bringing separate UDA custodians together in a systematic study of the different UDA services in the archival community. Such a way of thinking could be regarded as an effective method for locating and distributing materials to the most appropriate archival place as well.

8. There is no model of local specialist archival service for the custody of UDA for its locality in the UK. Instead there are various national specialist archival services for the custody of records of different UD professional bodies and related disciplinary activities. This finding indicates that local specialist archival services are not absolutely necessary for a state, rather it is only a choice.

5.2.4 Summary and conclusion of the section

This section has reported research findings about two UDA themes; they are records and archives management in the physical development of the built environment and the permanent custody of UDA in archival service.

Three types of UDA management models were identified; they are +DM/+RM/+AM, +DM+RM/+AM, and +DM+RM+AM model. +DM+RM+AM model is recommended for UDA best practice for both modern paper and electronic records for cost-effectiveness, client-satisfaction and best value. Basic conditions of such a

model towards best practice are that records and archives management should be integrated service in the structure of their parent organisation; there should be a centralised and integrated archiving administrative system along the records movement; the archiving administration should correspondent to UD professional administration and demands.

Three types of archival services were identified as permanent places for the custody of UDA. These are government, business and specialist archives services. UDA in permanent custody may be divided into 3 categories; these are archival service of government, businesses and specialist institutions. The provenance of UDA is from 3 types of sources. These are UD functions of parent body, construction projects of parent body and non-parent bodies. Three models of documentation frameworks were identified. These are organisational, local and professional models. The permanent custody of UDA in UK has features of diversity. Each type of UDA models has its own reasons for existence. This study shows that specialist archives services are recognised as the most appropriate place for the custody of UDA. The author argues that that the identity and diversity of different types of UDA models should be recognised and respected and that there is no ideal place for the satisfaction of UDA to all types of UD demands, only a relatively appropriate place for the particular UDA information sources in respect of the particular interested groups.

5.3 A Cross-disciplinary Study of the UDA Thinking in UK

5.3.1 Methods of data generation and the data itself

1. Types of data sources and the methods of data generation and analysis. Two types of data source and data generating methods were used under the guidance of the aims and objectives set up in section 4.5.1. The first type of data is data about UDA thinking by UK archivists, generated by the planned questionnaire survey designed in chapter 4. This is the key data, which provided essential information for this study. The second type of data is data about UDA thinking by UK creators and users, generated by interviews and survey, arranged as opportunity offered in accordance with the research purposes. These provided complementary data to support the study.

2. The questionnaire survey of records managers and archivists and the data collected.

The design of the questionnaire survey was formulated in line with the idea of integration, based on the literature review, qualitative interview and field survey. It was piloted by a study done in the Liverpool Record Office, the HMC and the PRO. Questions were designed to test the author's perception of UDA and to identify the archival thinking about UDA of UK archivists. The questionnaires were used to find answers to the following questions from UK archivists:

- What are the UDA problems in UK?
- How do British archivists perceive UDA problems and their uniqueness as a special area of study?
- How have British archivists dealt with UDA problems?
- What would be the best archival practice approaches for UDA problems in China?
- Could integrated research offer a universal archival approach for the study of UDA? There were altogether 40 questions, 38 of them had multiple choice answers and 2 of them were open questions to allow differing responses (see the copy of the survey in Appendix A). The methods of sample selection were similar to the methods of selecting sites mentioned in 5.2.1.

55 questionnaires were sent out. There were a total of 26 responses to this survey, 21 were valid. 2 were returned without answers, and thus were deemed invalid. They demonstrated that some archivists thought they had no UDA archives in their holdings and they did not understand Chinese UDA concepts. 3 responded orally, which was also deemed invalid. These were from the pilot experiment of the questionnaire survey by personal interview. They were not totally consistent with the final form, so were disregarded except as a process of developing the survey. (see appendix A and B)

Survey methods	By post	By email	By distribution	By face to face interview	Total survey	Valid survey
Sending out	13	24	15	3	55	52
Respondents	7	12	2	3	24	21
Percentage	53.8%	50%	10%	100%	43.63%	40.38 %
Order	2	3	4	1		

Figure 5.3.1-1 Effectiveness of Surveys by 3 Means (Percentage is calculated from total.)

It can be seen that personal interviews was the most effective means of conducting the questionnaire survey, but while they produced the best responses and the most effective answers, it was a time-consuming and expensive process. Postal enquiries proved an effective way and cheaper than personal interview. Email came second in producing responses and was the most efficient, cheapest and speediest. Responses to the survey by distribution in person were the lowest among the 3 methods. This has two implications for the research. First, it means not all types of administrators, e.g. archival conservators, etc. who deal with the records of UD would be aware of the UDA issue. Second, the surveys were not sent to the people who would have the most direct knowledge and interest in UDA issues. In addition, it worth mentioning the author sent letters to some of the email address to ask them to respond many times before finally getting one.

The following data were generated:

- (1) A letter for survey and the survey questionnaire;
- (2) Logs of investigation by questionnaire survey. Data about the name, sector, scope of service of selected sites; means of sending by email, post, distribution and interview about each site; places of receipt and their status, etc.;
- (3) Answers to the questionnaires;
- (4) Statistics of the total responses to questionnaires;
- (5) Statistics of the responses to questionnaires for specialist institutions, businesses, local and central government;
- (6) A study report “ The management of records and archives of urban development practice in UK: a survey and the analysis”.

3. The random opportunities arising from investigation of creators and users and the resulting data. The second type of data was data about UDA thinking by creators and users. They were collected whenever the author found opportunities that suited the conditions of the basic research framework. These produced supplementary data used for understanding the entire context of UDA thinking in UK. Opportunities included professional visits to particular sites organised by the Civic Design Department for Chinese researchers and visiting scholars and the opportunities to study with UDA researchers. The conditions were: the sites belonged either to creating agencies or

users of UDA; the interviewee had undertaken some kind of UD activities e.g. planning and control, architectural design, conservation, construction, property development and management, or UD research or teaching, etc. Data were generated from both creators and users.

Sources of data	Channels of sources	Number of interviewee
Creators	<ul style="list-style-type: none"> • North West planning authority; • Liverpool city planning authority; • Chester conservation authority; • Urban designer of Leeds city; • consultant of Liverpool City Council; • teacher and researcher of Civic Design Department of University of Liverpool 	6
Researchers (users)	Researchers of Civic Design Department	8
Total		14

Figure 5.3.1-2 Data Generating about UDA Thinking from UD Professionals

For the creators, 6 groups of open questions about 5 UDA themes were designed and a face to face interview was used to conduct the survey on each site visited. For users, 12 questions with multiple answers were designed; the survey was conducted by distribution to UDA researchers of the Civic Design Department. The following data were generated:

- (1) Questionnaires for planning and development creators and creating agency.
- (2) Questionnaires for investigating ideal models for documenting, recordkeeping and archival information service in the UD field.
- (3) Logs of interview at 6 sites.
- (4) Documents of responses of researchers.
- (5) National legal documents for UD functional activities in relation to recordkeeping and information access to UDA in UK.

5.3.2 Findings about UDA thinking of records managers and archival administrators

This section analyses 3 issues based on the research results tabulated in Appendix B. The numbering system corresponds with the original questionnaire survey seen in Appendix A. The 3 issues are: features of the archival services; UDA management; the integrated model.

5.3.2.1 Features of respondents and responding services and the validity of the data
Appendix B shows that the data of the survey demonstrate the following evidence:

1. As responses by archivists and records managers were equal in number, they were quite representative to reflect views of records managers and archivists.
2. As the quantity of public funded services outnumbers the rest, the results may represent the opinions of public funded services better than others.
3. Each type of access was represented; the results were able to reflect different concerns relating to free access and charging for services.
4. The majority of services were involved in all stages of records management; the results were able to reflect their views about records continuum thinking.
5. As half of the services had played roles of archival administration, supervision and auditing, records management consultation and documentation management for their organisations, their opinions on archiving management and integrated models provided a valid basis for exploring the author's hypothesis and observations.
6. Though each of the sectors was represented, the results were limited by the proportions of each sector.
7. Though different types of scope of services were represented in respondents, the results reflect opinions of national and local services better than others.

In conclusion, the features of respondents and responding services were sufficiently valid to represent UDA thinking of records managers and archivist administrators, particularly in the national and local public sectors. Views of others sectors were less well represented.

5.3.2.2 Issues of UDA management and analysis

The responses show how UDA are managed and how UK archivists thought about UDA issues. The findings reflected some of their distinguishing features.

8. UDA records are widely held in UK archival services. The management of these types of documents is a universal problem in all types of archival services.
9. The provenance of UDA is from multiple sources, often neither from a single activity nor from a single sector, or often not in correspondence with a traditional single archival provenance.
10. There was a variety of ways of acquiring the UDA materials. The most common methods of acquiring UDA were through transfer and deposit.

11. There is a variety of reasons for UDA recordkeeping and custody. The main reasons are for information, evidential, administrative, historical, legal, and technical reference. Other reasons e.g. commercial reference, storing knowledge, cultural reference, facilitating communication are less often found.

12. The custody of UDA was undertaken for a variety of needs, the needs of corporate creating agencies being the first priority, public needs coming second. The results support the findings from question 11.

13. The survey found that it was widely agreed that the accessibility and availability of UDA had difficulties and problems universally.

14. The survey found that a variety of factors influenced UDA appraisal. 3 factors were widely agreed as variables difficult to control. These were the identification of current and historical value; the completeness and integrity of records; the identification of the originality and uniqueness of records in special formats or media and the question of duplication.

15. The survey found that the majority of archival services had no particular strategies or policies for the appraisal of UDA, only a few of them had, the rest of them did not understand the UDA issues.

16. The survey found the physical control problems of UDA were widely recognised while intellectual and integrated control problems of UDA were not widely recognised.

17. The survey found that UDA were widely viewed as an ordinary archives rather than a special category of archives.

18. The survey found that 4 functions of UDA were widely recognised in documentation framework. They were:

- UDA are important components of the cultural heritage of a city, a nation and the memory of the world;
- UDA are the evidence base for urban construction, development control, the use and maintenance of the built environment;
- UDA are legal evidence for the ownership of the built environment, which is concerned with the rights of creators and creating agencies as well as the public interest of citizens' legal rights;
- UDA are an important information source for academic research on movement patterns in UD, the economic development of a city, environmental study and

urban studies.

The survey illustrates the social functions of UDA in relation to the built environment. It indicates that UDA custodial services in the UK are culturally oriented public information services rather than professional-client oriented services. The results may only reflect the role of UDA services in government sectors, as their proportion is the largest.

19. The survey found that only the characteristics of UDA in authenticity were widely recognised, their other features such as specialist discipline, dynamic creation and accumulation, comprehensiveness, currency, locality were less often recognised. The findings support the UK perspective that UDA is seen as ordinary archives. However, they demonstrate the weakness of this perspective in that other characteristics of the UDA in archival management and use are not easy to be identified and recognised.

20. The survey found that the main users of UDA were not the public but those professionals and practitioners who were involved in the development of the built environment e.g. UD administrators and decision makers; technicians and engineers; property owners and developers, academic researchers and professional students. The results indicate that UD professionals are the UDA interested groups rather than the public.

21. The survey found that electronic images were not widely held in the services investigated.

22. The survey found that the majority of the archival services had or intended to have archival policies for electronic records.

23. The survey found that hybrid systems of paper and other media were widely used rather than electronic systems for digitised records.

24. The survey found that there were several strategies for long-term preservation and access of electronic and digitised records but none of them had been widely accepted. The findings indicate that electronic issues need further study.

25. The survey found that it was widely accepted that there should be integrated policies for protecting the integrity and authenticity of the recorded information of the built environment along the records continuum across institutions, disciplines and sectors.

26. The survey found that the following elements were widely selected as criteria for UDA collecting policies. They were:

- authenticity, accuracy and reliability of UDA;
- integrity, completeness and comprehensiveness of UDA;
- corporate memory of creators and creating agencies of UDA;
- legislation related records;
- originality and uniqueness of UDA.

The findings indicate that the criteria for UDA collecting policies are the same for ordinary archives. The evidence supports the findings from question 17 and 19.

27. The survey found that following variables were widely selected as elements in UDA intellectual control. They were:

- content;
- creators and creating agency;
- subject;
- data and address.

The findings indicate that little attentions has been paid to the readability of UDA related to the context of the built environment.

28. The survey found that the most widely used finding aids for UDA were:

- computerised finding aids;
- finding aids in paper form;
- organisation and creators-oriented finding aids;
- subject-oriented finding aids;
- and locality-address linked finding aids.

The findings demonstrate the characteristics of UDA in locality and specialist discipline has implications to intellectual control.

29. The survey found the following variables could be accepted as indicators of quality of archival service:

- timely access;
- authenticity;
- reliability;
- integrity and completeness;
- accessibility and availability of archival documents;
- client-satisfaction;
- cost-effectiveness;
- best value;

- sustainability of the service.

In conclusion, the findings demonstrate that the management of the records of UD is a universal theme but there is a lack of integrated control methods for UDA along the records continuum across institutions, disciplines and sectors in archival practice. It was widely agreed that there were many difficulties in the physical and intellectual control of records, particularly in their physical custody, appraisal, availability and accessibility. The majority of respondents did not look at UDA as a specialist category of archives. Thus some unique characteristics of UDA were not widely recognised, e.g. as a specialist discipline, comprehensiveness, locality, dynamic, currency. It is not surprising that there were few strategies and policies specific to UDA difficulties. The reasons for this might be that archival approaches to UDA are in accordance with traditional archival approaches, which are focused on physical control.

The survey also reflected that the specialist disciplinary characteristics of UD activities and demands influence the management of UDA. This phenomenon was seen from a number of facts:

- The provenance of UDA was across sectors;
- The purpose of UDA custody takes information and evidence reference as the first priority;
- The client-service takes creating agencies needs as first priority;
- The documentation framework takes practical and current needs as the first priority;
- The chief users of UDA are often UD interested groups;
- The criteria for collecting policy takes the primary value as first consideration;
- The intellectual control methods and finding aids as well as indicators of the quality of archival information services all related to UD professional demands.

5.3.2.3 Issues connected with the integrated model and analysis

The responses show the significance of an integrated framework and integrated model for the management of UDA.

30. The survey found collaborations and integrated programs for +DM+RM+AM

would be widely welcomed as a future records management model.

31. There are different concerns about types of collaborative programs for documents, records and archives along the records continuum. The most heavily favoured is for a united appraisal policy, retention scheduling and disposal plan. This corresponds with the already identified demands for strategies for major UDA problems.

32. It is widely agreed that collaborative approaches are the conditions for integrated +DM+RM+AM model to be cost-effective and have client-satisfaction.

33. It is widely agreed that integrated frameworks are functional requirements for best value of records management.

34. The survey found that there might be a variety of obstacles in the implementation of the integrated framework, the most widely agreed one was the ownership of UDA.

35. The survey found that there might be different reasons for the necessity of the integrated framework. The most widely accepted one was best value and good quality as well as sustainability and consistency of service.

36. The survey found that there might be different strategies for the feasibility of the integrated framework. The most widely accepted strategy was best records and archives management practice; second was legislation, regulations and rules and standardisation.

37. The selection of indicators for integration corresponded with the hypothesis of practical demands for integration and the levels of integration in UDA management process posed in 1.6. Common understandings and expectations among creators, users and custodians, as well as common and consistent standards during records movement and the records management were most heavily considered, they were the basic demands for integration. Next was UDA information sharing along the records continuum regime and co-ordination in records, archives and information policy making. Partnerships in the implementation of integrated documents, records and archives management programs were considered less important.

38. The survey found that a variety of elements might be considered as indicators for the quality of service using the integrated framework and model. The most widely accepted indicators were accuracy and completeness in information retrieval; timely access as well as reducing duplication, overlap and cost.

39. The survey found that the majority of records managers and archivists have no conscious thought of partnerships with creators, users, custodians for an UDA

integrated framework. However, there are a few thoughts on the roles of the three in the integrated frameworks and they strongly support the ideas of integration and partnerships.

40. The survey indicates that though integrated frameworks for +DM+RM+AM is widely acceptable in the archival field, very little experience had been achieved so far. Little could be learnt from the recommendations and comments.

In conclusion, the survey supports findings from earlier interviews that integrated frameworks and +DM+RM+AM model are essential conditions for UDA management towards cost-effectiveness and client-satisfaction.

5.3.2.4 Conclusion

The questionnaire survey showed that UDA had not been seen as an integrated and independent issue for study by the UK archival community. However, results proved that UDA difficulties are universal. The survey demonstrated the need for the development of integrated frameworks for managing UDA across sectors, disciplines and institutions along the life of the built environment by UK records managers and archival administrators. The survey also demonstrated that integrated +DM+RM+AM along records continuum would be acceptable as a best practice model for managing UDA.

5.3.3 Findings about UDA thinking of UD Professionals

UDA thinking of UD professionals can be seen in the UDA thinking of UD creators and researchers.

5.3.3.1 UDA thinking of creators

UDA thinking of creators can be seen in the findings and analysis by the interview of creators in 6 creating units.

1. The provenance of UDA and its physical control

The following questions were investigated: Who is responsible for keeping planning and development control records such as outline plans, detail plans, planning permission certificates, planning application forms, etc.? Where are these records likely to be located after their transactions or activities or finishing a project? Who is likely to be the custodian?

The answers to the questions can be concluded and analysed as:

(1). About planning and development control records. The recordkeeping systems of UD in UK were in correspondence with the administrative systems of UK planning systems. Those who create records are responsible for the documentation, recordkeeping and custody of their records in accordance with the administrative activities within their control. This relates to records of planning authorities which are distributed to different places in the custody of their creators or creating agencies and government archives within their administrative region. For instance, in England, there are 3 levels of planning control. The first is central government level, the second is at regional agency level and the third is local government level. Different levels of planning authorities are only responsible for activities within their jurisdiction and the same is true of planning records. According to the interviewee, only very few historical planning records have been transferred to government archives. The majority of them are still in the custody of their creating agencies, though some might already be over 50 years old, as the planning records always have long-term values for the present UD administration.

(2) Records of the built environment. Records of the built environment may be created by different bodies and owned by different persons, custody changing all the time. Different creators and owners keep records for different purposes; there might be overlap, duplication, and loss of files or without any record of what had been modified on site. Each owner of records have their recordkeeping systems and the majority of them are unwilling to transfer their records to public archives for where they would be subject to open access. The reason is simple, records of the built environment always have commercial and practical information values. Information is power, no one would like to lose the control of the information. However, documenting government and business accountability for public affairs and services, and open access to these records are required by UD laws and total quality management. The Freedom of Information Act, democratic government, the best value and good quality of the public service all requires good documentation, recordkeeping and good delivery of archival service to society. (Chancellor of the Duchy of Lancaster 1997; Cooling Penelope 1993; Cullingworth and Nadin 1997:288-290; DETR 2000, 1999 and 1992; Office of the Data Protection Registrar 1994.)

The investigation indicates that though the physical custody of UDA in UK is decentralised without any designated administrative authority, the documentation, recordkeeping and the delivery of archival service are under the centralised supervision and auditing by society in line with UD laws and professional ethics (Architects Registration Board 1999). Though there are no special archival laws or regulations for UDA, there are general policies and codes of practice on the management of records and archives, there are contracts and professional commitment in the creation, documentation, recordkeeping and managing UDA from and for the demands of UD practice (Lord Chancellor's 2000; National Archives Policy Liaison Group 1996; UK Government 1996 and 2000). The findings demonstrate that the accuracy, reliability, authenticity, availability and accessibility of records are assured by professional codes and legal obligations. Only the readability of records might have limitations due to lacking of centralised and integrated control. The interpretation of context, provenance and purpose of archival purpose may have limitations in decentralised system.

2. Standardisation of UDA management

The following questions were investigated: When you create or receive records, do you have filing schemes, retention schedules, and disposal guidelines for the processing, organising and transferring your records? Are you required to handle records in standardised ways while you are creating your records? What types of standards do you usually have to refer to?

The answers to the questions can be analysed as:

There were no professional standards for appraisal, classification, arrangement, filing schemes and retention schedules for UDA. But most departmental and local authorities had disciplinary standards for records creation and recordkeeping in their working units and subordinate administrative units. There were some national standardised methods for documentation and recordkeeping in UD practices, e.g. land and property-selling registry; register of application and enforcement and stop notices in planning registries, archives registries, archiving of records under UD regulations and keeping records in UD performance standards (DETR 1999). Use of IT had led to a trend towards standardisation in UD documentation, partly due to the

purchase of software packages. But so far, there had been a little action taken towards standardisation. There were some plans for co-ordination within central and local government. Since each local authority was affected by their specific interests, many of them did not want to be involved in standardisation.

The investigation indicates that the need for integrated control of documents, records and archives management is already recognised by creators. Integrated control might be feasible through standardisation of filing schemes, retention schedules and the software packages of organisations or administrative systems, particularly by automating UDA management. The obstacles to the standardisation were subjective factors such as the control of power and interests rather than objective factors such as promotion of best practice and best value.

3. Reasons for UD documentation

The following questions were investigated: Are there any functional requirements for records creation as by-products of activities or as a development process? What are they? What are the reasons for your creation of records?

The answers to the questions can be analysed as:

There are several legal duties for the creating of records:

- to facilitate communication; (DETR 1999)
- to prove the transparency of the government accountability and public participation e.g. Town and Country Planning Act 1968; Town and Country Planning Act 1990;
- to obey the legal obligations for open access to information. “ to ensure freedom of access to, and dissemination of, information on the environment held by public authorities and to set out the basic conditions on which such information should be made available.” (Cullingworth 1994:256) e.g. local government Act (Access to Information) 1985, Local Government Act 1999(Chapter c.27). Freedom of Access to Information in the Environment (Birtles 1991), Freedom of Information Act 1998, Code of Practice on the Management of Records under Freedom of Information (Lord Chancellor’s 2000).

This study indicates that a complete general and UD legal system, societal

democracy in decision-making of public affairs and professional accountability for society are the major reasons for the creation and custody of UDA. The study indicates that the criteria of documents management in the UD environment should be in accordance with its UD administrative rules and legal obligations.

4. Reasons for UDA retention

The following questions were investigated: What are the factors that you have considered in selecting records for keeping? What are the major purposes for your keeping them? What types of records are you likely to keep for long term use? And for what purposes?

The answers to the questions can be analysed as:

Factors such as the content, subject, function, activity, purpose, project, and organisation were what had influenced the selection of records for keeping. There were several reasons for the retention of UDA,

- to continue the sustainable service and consistent administration, “ Undertakers’ previous specific legislation imposes varying obligations with regard to the keeping of records.” (DETR 2001: article 2.5)
- for being informed about the updating information about the sites, “ The Code does not alter the common law responsibility of the excavator to take reasonable care by taking all reasonable steps to obtain the records of all apparatus installed in a street, before commencing excavation and thereafter in locating and avoiding damage to the apparatus”. (Ibid.: article 2.6)
- for monitoring the changes and actions undertaken under the development regulations. (DETR 1999 and 2001)

The investigation indicates that major reasons for the retention of UDA are for meeting the demands of UD legal administration and professional interest. The practical, administrative and information use are the primary reasons for UDA retention. It seems that such demands last as long as the functions of controlling the developing of the built environment, thus the retention of the records always has long term value and need to be kept in the custody of their creating units. “ Records should be retained for an appropriate length of time having regard to the statutory time limits on legal action.” (DETR 1999 article 7: 13 of 17)

5. Expectations on UDA product

The following questions were investigated: What types of information do you frequently use? For what purposes and for what reasons you would use archival documents?

The answers to the questions can be analysed as:

Primary sources and comprehensive archival data were the favourite information sources in most frequent use. They always contained facts about when, what, why, who, where, how information about sites. The records themselves speak of their accuracy, authenticity, reliability, originality, completeness. They are the basis for overall planning, consistent decision making and sustainable development for long time use.

The survey indicates that the expectations of UDA products from creators are accuracy, authenticity, reliability, originality and completeness in UDA contents; the availability, accessibility and readability of comprehensive information in UDA context and structure.

6. Expectations on UDA information service

The following questions were investigated: When you search for information resources for activities involved in the physical development of the built environment, where do you prefer to go, e.g. records centre, municipal archival repository, county archival repository, specialist archival repository, library, other information centre? Why?

The answers to the question can be analysed as:

The most preferred place to go is a specialist archival repository, as they have always gathered the most comprehensive information resources about the built environment. They always provide integrated information services, centralised information databases and networking most appropriate for professional interests and most effective and efficient for professional needs, although sometimes the services are not free of charge.

In conclusion, the UDA thinking of creators reflects the professional demands for an integrated +DM+RM+AM control and a centralised professional service. The reasons are obvious:

- Unified control enables standardised documents, records and archives management for good quality of information (accurate, authentic, reliable, complete, comprehensive, systematic);
- centralised professional services would be beneficial to information sharing across creators, disciplines, sectors and fields through the life of the records and through the life of the built environment. This would reduce duplicate work and overlap, cut costs, save human resources and result in a highly effective and efficient management of records and archives in the UD field.

The investigation shows that there are two types of problems in the implementation of integrated frameworks. The major problems are rooted from man-made problems. This kind of problems comes from the conflicts from individual benefits, the control of power, copyright, ownership, privacy, etc. The second types of problems are technical problems e.g. IT software packages of +DM+RM+AM for over time access of reliable, authentic and systematic UDA to various types of comprehensive UD information demands.

5.3.3.2 UDA thinking of researchers

A survey was sent to 8 UDA researchers in the Civic Design Department at University of Liverpool. The following findings were found from the responses. The raw data was tabulated in Appendix E.

1. The provenance of UDA and their physical and intellectual control

There are 3 findings related to the issue.

- There are different opinions on who should be responsible for keeping UDA. The results indicate that different places might have different archival authority for UDA keeping. The most widely recognised place was the records centres of the creating units.
- Users are not quite sure where UDA are located, as there are different interpretations of the UDA locations. The study corresponds with previous

findings that the custody of UDA in UK is decentralised and in a variety of forms.

- The findings found that the management of UD documents, records and archives were under the UD professional standards, guidelines and operational rules. There were internal standards for filing schemes, retention schedules and disposal plans; for processing, organising and transferring records; and for handling records in standardised ways while creating records. The results demonstrate that the idea of integrated control of UDA was already in existence in the processes of UD professional administration.

The study demonstrated that both UDA custody and their physical and intellectual control are dependent on UD professional administration and practice.

2.Reasons for UDA retention

The following related results were found:

- The major reasons for records creation and capturing are for historical reasons to provide evidence;
- The major reasons for recordkeeping and for archival use are for information and historical reference;
- The most frequently used records are administrative and technical records.
- Administrative records are the most difficult to get.

The results indicated that the selection of the records for retention should take historical, evidential and information values as the first priorities to consider. Administrative, technical and research records should be identified so that they can be explored for frequent use. The results show that the decentralised custody of UDA has caused difficulties for archival use.

3.Expectations on UDA information service

The study found that there are different expectations on UDA information service.

- Authentic, reliable and integrated primary sources are the most welcomed.
- The content and subject of records are the major elements for selecting the use of the records.
- Subject finding aids are the most widely favoured.

The study indicated that the intellectual control of UDA in content and subject are basic for effective use.

4. Expectations on UDA management and service

The following findings were found:

- The results show that specialist archival services are the preferred services for UDA researchers.
- Integrated control and consistent standards in managing UDA are demanded by UDA researchers to meet satisfactory results.
- The results indicate that researchers prefer a client-satisfaction marketing strategy to legal requirements and cost-effective best practice for implementing integrated control.

5.3.3.3 Conclusion

The surveys of UDA thinking of creators and researchers demonstrate that the management of UDA and its service has interrelationships with UD professional demands and administration. Evidences from two investigations suggest that an integrated +DM+RM+AM model is ideal for managing UDA to meet UD professional demands; and a specialist archival service is expected to be the most appropriate archival custodian of UDA instead of other types of services in meeting UD professional needs.

5.4 Evaluation and Conclusion Based on the UK Study

This part discusses the meanings of the research findings and their relationships with the research hypotheses and existing theories. It highlights the contribution and the limitation of the research.

5.4.1 UDA common culture

In speaking of common culture, the author understands common understandings and expectations are those have been identified in UDA thinking and practice, no matter who looked at it e.g. records managers, archival administrators, creators, researchers; no matter how people had perceived it e.g. as an ordinary archives or as a particular category of specialist archives; no matter where it had been located e.g. whether in

government, business or specialist archives service; no matter how it had been made available e.g. through organisational, territorial or professional documentation; no matter how it had been made accessible e.g. +DM/+RM/+AM, +DM+RM/+AM and + DM+RM+AM model.

The UDA common culture can be synthesised in 3 aspects:

1. Professional and special characteristics of UDA.

- Firstly, this relates to its special provenance. UDA are derived from professional functions and special activities in relation to the development of the built environment.
- Secondly, this relates to its special records movement patterns. The creation, documentation and recordkeeping process of records are often across sectors, institutions and disciplines, but they have interrelationships with the developing processes and procedures of particular construction projects.
- Thirdly, this relates to the records and archives management in the UD environment, which are dependent on UD information needs, administration and legislation.
- Fourthly, this relates to the fact that UDA comes in a variety of forms, formats and media, featuring special content and context, and with common types of forms and formats e.g. drawings, plans, and maps.
- Fifthly, this relates to the largest interested groups and major potential users of UDA who are UD professionals involved in professional functions and special activities of developing of the built environment.

2. Social functions and the multiple long-term preservation values of UDA. This relates to the functions of UDA, which not only benefit its creators and creating agencies but more importantly benefit the public interest. The following functions are widely recognised:

- UDA are important for the cultural heritage of a city, a nation and the memory of the world;
- UDA provide the evidence basis for urban construction, development control, and the use and maintenance of the built environment;
- UDA provide legal evidence for the ownership of the built environment, and are

concerned with the rights of creators and creating agencies, as well as the public interest of the citizens' legal rights;

- UDA are an important information source for academic research on movement patterns of UD, the economic development of a city, environment study and urban study. It is evident that UDA have multiple long-term preservation values which are of benefit to different types of potential users for different types of needs e.g. for information, evidential, administrative, historical, legal and technical reference, etc.

3. UDA issues. This refers to the universal UDA difficulties and problems that are widely recognised among creators, users and custodians. The physical and intellectual control of UDA have always had difficulties due to the diverse kinds of forms, formats and media of the records as well as their size and huge volume. Their accessibility and availability have problems due to the long-term preservation values of UDA and the different criteria used in the selection of records, as well as different reasons for UDA custody and different purposes of its documentation framework. The authenticity, reliability and completeness of UDA are always hard to guarantee due to the lack of an integrated framework in the records and archives management processes along records movement throughout the life of the built environment. The comprehensive social information demands for UDA are often hard to meet due to the lack of a conceptual framework in managing UDA.

5.4.2 Features of UDA management in UK

The study indicates that the management of UDA in the UK has 5 features:

1. Ordinary archives management thinking. The findings show that UDA is seen as being alongside ordinary archives in UK and it is widely thought by records managers and archival administrators that it is not necessary to see them as a particular category of archives. Such thinking demonstrates that the principles of archives management are universal to all types of records including UDA. However, it has a weakness in that no special archival strategies and no integrated frameworks are applied to UDA problems, and unique features of UDA might not be recognised.

2. Organisational provenance approach. This relates to the interpretation of the fonds is in accordance with the principles of provenance, while provenance should refer to

its creators and creating agency. Such thinking has its strengths and limitations. Such a view of provenance is easy to operate in protecting the complete individual and corporate memory of UD creators and creating agencies, when the UDA derive from a single provenance and from static organisations such as planning and architectural design records. It is weak when UDA arise from multiple provenance such as construction projects and property records. The accessibility and readability of UDA are often limited to contextualised information about the administrative history of the creating agencies rather than the functional purposes of the archives.

3. Physical control methods. UDA problems in UK are often identified as physical control issues. This has strength in providing special strategies for common structural problems such as special storage facilities and finding aids for maps and drawings. However, it is weak in that too much attention is paid to records at the expense of the recordkeeping process. Archivists are passive custodians rather than active partners responsible for the creation and maintenance of archival data. Thus archival services find it hard to guarantee the delivery of authentic, reliable, complete information to the satisfaction of their clients.

4. Diverse UDA services co-exist with a single purpose specialist UDA services, but without comprehensive multiple purpose specialist UDA services. This study shows there are various kinds of services in the delivery of UDA information. Such a case has both pros and cons. On the one side, diverse services provide diverse choices for diverse organisational information needs. On the other hand, it is hard to meet comprehensive social information needs from professional interested groups and public interest. There is no conceptual framework for co-ordination or co-operation among the services which aim to bring all the professional contextualized information together either in entity, content or context; although single purpose specialist UDA service is recommended as the most appropriate place for UDA custody in archival community.

5. Lack of integrated frameworks for managing UDA. The following problems were found:

- First, the documentation of UD functions and activities on functional purpose are often fragmented and separate because of diverse kinds of purposes of

custody operated in the creating agencies. Thus complete and integrated memory of the built environment and UD profession are hard to get.

- Second, without a conceptual framework, there is no possibility of front-end control and integrated control of records in regard to standardisation of recordkeeping processes and archives management. It may be hard to ensure consistent standards and sustainable archival service along life of records throughout the life of built environment, as well as to provide special strategies for UDA management in a dynamic UD and digital-working environment.
- Third, in case of the UD environment which has no integrated legal framework or standards covering both recordkeeping and long-term preservation in professional administration, there is no way to guarantee the timely access and preservation of UDA. The authenticity, reliability and completeness of records are also hard to safeguard. The accessibility, availability and readability of UDA are hard to achieve.
- Finally, without integrated frameworks, there is much duplication and overlap in the recordkeeping processes. The long-term preservation of UDA is hard to locate to its most appropriate place for client-satisfaction.

5.4.3 Principles of UDA best practice

The findings support the hypothesis of the idea of integration set up in section 1.6. The study has identified some widely accepted principles for UDA best practice, which are in 3 aspects:

1. Integrated frameworks for UDA best practice

The integrated frameworks of UDA best practice should cover 5 levels of integration:

- there should be common understandings and expectations among creators, users and custodians;
- there should be common and consistent standards during records movement and the management process;
- there should be mutual use of best practice criteria, policies and standards in business processes and workflow throughout the records continuum regime;
- there should be co-ordination in records, archives and information policies making;
- and there should be partnerships of creators, users and custodians in the

implementation of integrated frameworks.

This study found different levels of integration should be developed and integrated into archiving management business process and workflow from basic level to highest level. The first 4 levels are basic, they are needed by records managers and archivists. UDA thinking of creators, users and custodians demonstrate that integrated frameworks are necessary for best value and good quality UDA management as well as for ensuring a sustainable and consistent service.

2.Integrated control for UDA best practice

The integrated control of UDA best practice should include 3 components:

- UDA product control;
- UDA management process control;
- UDA client oriented service control.

Product control means that the output of a records and archives management can be measured by the quality and quantity of UDA. The indicators for quality would be accuracy, authenticity and reliability; the indicators of quantity would be completeness, system or integrity.

Process-control means that the process of records and archives management can be measured by the integrated frameworks used. The indicators would be cost-effectiveness and best value.

Service-control means that the delivery of the service can be measured by the sustainability and consistency of service to the satisfaction of the client. The indicators would be timely access, accessibility, availability and readability of UDA.

This study found that integrated control of product, process and service are fundamentals of UDA best practice. The following elements are requirements for guaranteeing the integrated control.

- The recordkeeping process of UDA along the life of the built environment should be seen a whole in order to provide integrated archival services.
- There should be unified physical and intellectual control and centralised

archiving administration along life of the records.

- Creators, users, records managers and archives administrators should be viewed as partners in the archiving framework. The responsibilities, legal obligations and relationships of each partner should be integrated into UD interdisciplinary performance standards and codes of conduct and practice.
- The multiple long-term preservation values of UDA should be considered as a whole to be shared by professional interested groups and major potential users along the records continuum regime.

3. Integrated approaches for UDA best practice

Integrated approaches of UDA best practice should use 3 tools:

- A post-modern archival thinking ;
- A records continuum regime model;
- A client-led marketing strategy.

This study found that a post-modern archival thinking should result in a front-end control and integrated control records and archives management service and should enable a collaborative approach for UDA services across sectors, institutions and disciplines along the life of the built environment to ensure availability, accessibility and readability of UDA.

This study found that a records continuum regime model should employ an interdisciplinary approach to develop integrated frameworks and integrated control through documents management, records management, archives administration, information services, UD administration and legislation along the life of the records to ensure the accuracy, authenticity, reliability, and systematic of UDA.

This study found that a client-led marketing strategy should take the UD professional needs as the first priority to consider for client-satisfaction to ensure the best value of UDA.

It has been widely recommended by creators, users, records managers and archival administrators that integrated +DM+RM+AM model should be the future trend of records and archives management for best practice for all types of records including UDA. This study found that such a model would be workable, if best records and

archives management practice are promoted; if unified legislation, regulations and rules are made; if consistent standardisation is implemented and if product, process and service control are also simultaneously implemented. Findings of the questionnaire survey suggest that the implementation of such a model could start from developing collaborative programs in a unified appraisal policy, retention scheduling and disposal planning along the records continuum throughout the life of the built environment.

5.4.4 Research contribution, limitation and implication

The study has made some contributions to research thinking yet it has limitations in data collecting and analysis; there are still a lot of gaps to be filled in research implications.

1. Research contribution

This study has made a contribution to the idea of integration for archival science. It has provided a disciplined way to study a category of special archives that have never been studied in another culture. The definition of integration, integrated frameworks, integrated control, integrated approach and integrated research (set up in section 1.1) have been tested and found to be effective for the identification of some universal UDA themes and finding appropriate models and approaches for managing UDA towards best practice across cultures.

The study has justified the view of looking at UDA as an independent and integrated body of materials. Though there is no such thinking in UK, such a study is important for identifying common understandings and expectations on this category of records as well as archival models and approaches appropriate to its special issues and problems. The study demonstrates that the classification of records by provenance of professional functional purposes instead of by creating agencies or creators along the life of the built environment is significant to both integrated control of the UDA recordkeeping process and the intellectual control of comprehensive UDA specialist information services. With such a conceptual framework, the context of UDA could be understood more broadly and read more widely across sectors, disciplines and institutions. Such a method is welcomed by UD professional interested groups. It seems that such an archival method is ideal for the integrated control of types of

UDA, which arise from multiple provenance in the context of a single professional context and a single functional purpose. Such a method may apply to records and archives management in other professional fields as well, if they have features of multiple provenance but with a similar professional functional purpose and records movement. Patterns such as hospital and health care and agricultural records may be examples. This needs further investigation.

2. Research limitation

The study has its limitations in the methods of data collection and analysis.

- First, limited by time and money, the selection of samples is limited to the smallest valid groups. Thus the data may not reflect the entire picture of UDA management in the UK and only reflects where investigations have been conducted and the time when the investigation took place (1999-2000) and the data collected (up to August 2001).
- Second, guided by the thought that records and archives administration of archival communities were the focus of the study, limited by time and resources, data about archival information demands and recordkeeping of creators and users were limited by the opportunities that arose during the investigation.

3. Research implications

The study raised as many questions as it answered. The following implications for UDA have been identified as significant reference points for China which need further study.

(1) The implications of a complete UD professional administration system and social legislation system to UDA management. It seems that all UDA best practice is dependent on a complete UD professional administration and social legislation system in a society. Although there is no UDA concept in UK, and no particular archival regulations and rules for UDA, the majority of UDA have been well documented and preserved. The success of UDA management in UK provide much implications to China, which need further investigation. Data needs to be collected in the following aspects: What are the UD professional administrative rules and legislation that are related to UDA management in UK? How do models and

approaches of UDA best practice work in such a case? What are the functional relationships of professional administration and legislation concerning with records and archival management in the UK?

(2) Implications of the three UDA management models. The study indicates that there are three models in the management of UDA in the UK in terms of the relationships of the +DM, +RM and +AM along the records continuum. They are +DM/+RM/AM; +DM+RM/+AM; and +DM+RM+AM. It seems that each has its strengths and weaknesses. They each might be appropriate to different types of records in the conditions in which they work. In such a case, it seems that there is no feasibility of developing an integrated archival model, which might be best for all conditions. However, it seems that the best practice for managing UDA to connect past to present and present to future for current contemporary UDA should be the integrated +DM+RM+AM model. If so, what are implications of this for Chinese UDA debates and conflicts? Who would be the archival authority for +DM+RM+AM overall planning and integrated control? Would it be the creating agencies? The records management service? A specialist repository? An archives bureau?

(3) Implications of diverse kinds of UDA services. This study indicates that different types of UDA services have different types of documentation frameworks and collecting policies depending on the different needs of different interested groups. It is widely recommended that a comprehensive specialist archival service is the most appropriate place for the custody of UDA and for the delivery of a broadly UDA information service to UD interested groups. Such a model is ideal for intellectual control but with limitations in physical control. It is quite difficult to establish a comprehensive specialist service for all UD professional demands as far as the location of resources and their administrative provenance is concerned. This might be the reason why there is no local specialist archives service in the UK. Following questions need to be justified in China case study: Is it true that it does not matter where the UDA are located if there is a professional integrated framework for UDA management and service? Is it true that it does not matter who is the archival authority for UDA management and service, if there is a set of coherent and consistent criteria for UDA best practice?

5.4.5 Summary

This section has discussed the meanings of key research findings in terms of a UDA common culture, features of UDA management in the UK and principles of UDA best practice. It has analysed research contributions and limitations and posed some questions for further study.

CHAPTER 6 - UDA MANAGEMENT IN CHINA

6.1 Introduction

This chapter analyses and discusses findings drawn from a national case study of UDA management in China. The organisation of the chapter is similar to Chapter 5 for the reasons mentioned in section 5.1.

The chapter consists of three parts:

- UDA models in Chinese archival practice observed by the author from field investigation and qualitative interview;
- UDA thinking observed by Chinese archivists, creators and users from interview and questionnaire surveys;
- Evaluation and conclusion based on the China case study.

6.2 A Study of UDA Models in Chinese Archival Practice

In this section, the author first introduces how the research data were generated. Then two UDA issues are examined and analysed. The issues relate to the management of records and archives in the context of physical development of the built environment, and the permanent custody of UDA. Finally the author gives a summary and conclusion based on the objective facts and the critical analysis.

6.2.1 Methods of data generation and the data itself

1. Methods of data generation and site selection

The data were generated under the guidance of the research questions posed in section 4.2 and under the guidance of the research aims and objectives set up in section 4.4.1. A qualitative interview was the major method for collecting the data. Various means have been used in conducting the interview i.e. conversation, semi-structured interviews; face to face interview and interview by phone.

Sites were selected because they met the criteria mentioned in section 5.2.1. In addition, they have other two features:

- The selected sites were all located at Beijing, for reasons of access and affordability as well as being representative of national UDA and UD best practice;
- As a rule, the sites were often good at both their archival management and their UD performance.

The sites were selected in the light of 3 considerations:

- Excellent records and archives management services that held titles of excellence measured by national archival performance standards (The State Archives Bureau and Scientific and Technical Committee of People's Republic of China and Ministry of Construction, 1991; The State Archives Bureau, 1996; The Ministry of Construction 1997b). They are either on the list of excellence (Urban Development Archives Journal, 2000, 6: 6-7) or recommended by archival authorities and experts of the State Archives Bureau, the Ministry of Construction, Beijing Municipal Archives Bureau, and Beijing Urban Development Archives Administration Division;
- Excellent UD performance institutions that held national level excellent titles on <http://www.ccia.com.cn> and <http://www.cin.gov.cn>.
- Typical records management services of UD creators.

A total of 20 sites was investigated. See Figure 6.2.1.

Types of sectors		Name of the sites visited	Total number of the sites
Government	Central	<ul style="list-style-type: none"> • Economic and Scientific Archives Administration Division of State Archives Bureau; • Archives Administration Division of Ministry of Construction 	2
	Local	<ul style="list-style-type: none"> • Beijing Municipal Archives and Beijing Municipal Archives Bureau; • Beijing UD specialist repository and Beijing UDA Administration Division ; • Beijing Land and Property Bureau; • Beijing Planning Bureau; • Beijing Urban and Rural Development Committee; • Beijing Municipal Works Administration Committee 	6
Business		<ul style="list-style-type: none"> • Beijing Engineering Corporation; • Beijing Urban Construction Corporation; • Beijing Urban Construction General Company; • Beijing No.3 Construction Company; • Beijing Zhongjianyiju Company 	5
Institution		<ul style="list-style-type: none"> • Beijing Urban Construction Research Institution; • Beijing Architectural Design Institute; • Beijing Municipal engineering Design Institution; • Architectural Design Institution of Ministry of Construction; • Urban Development Research Institution at Ministry of Construction; • China Academy of Building Research Institute; • China Academy of Urban Planning and Design 	7
Total			20

Figure 6.2.1 Sites Investigated

2. Data collected

Two types of data were generated for study. The first type of data was primary data about UDA in records and archives management services. It was generated by interview and field studies in accordance with the research design. Multiple sources of data were collected i.e. interview notes of the responses of interviewees to research questions posed, logs of sites visited or phone calls made; data about the sites such as archives administration regulations and rules, classification schemes, archival filing and transferral requirements, archives directories, archival editing and publications, cases of UDA uses, etc. The primary data was used to identify UDA best practice models and methods in China observed by the author.

The second type of data was primary data on contextual information about UDA management. For this there were 3 types of sources.

- national official documents and standards for archives management in China;

- national legal documents for UD functional activities in relation to UD recordkeeping in China;
- statistics of national surveys on UD information demands and UDA information services (1997-1998). They were used as supplementary or complementary sources of information to underpin assumptions and data analysis and to enable the author to qualify her personal views of the context of China to avoid subjectivity.

3.Methods of data processing and analysing

Data were processed and organised to follow the same pattern as the UK case study, they are critically examined and analysed by means of the idea of integration proposed in section 1.6.

6.2.2 Records and archives management in the physical development of the built environment

This section consisted of 3 aspects: an overview of UDA administration in China; the identification and classification of UDA management models; and an evaluation of UDA management models.

6.2.2.1 Overview of UDA administration in China

UDA administration in China follows the general principle of centralised management and decentralised custody (The People's Congress 1996: article 5). In addition, it follows the principle that scientific and technical archives should be in unified control in accordance with their professional administration (The State Council 1980: article 27). UDA administration in China is under the control of two administrative systems. These are the national archival and the UDA professional administrative system. The former is responsible for overall planning, co-ordination, organisation, supervision and guidance of the national archival endeavour. The Archives Law designates national archives administrative agencies as archival authorities of national archives enterprises (The People's Congress 1996: article 6). The latter is responsible for national UDA administrative work under the supervision and guidance of national archives agencies and at the same time under the direct leadership of national UD administrative agencies. National UDA administrative agencies are designated as such for national UDA work (The Ministry of

Construction 1997a: article 3). National UD administrative agencies are designated as national UD administrative authorities for national UD work including records and archives management in the UD environment (The State Council, 1998). Both have different levels of archival administrations e.g. national, provincial, municipal or city, county or district.

A general view of the UDA administration system is as follows:

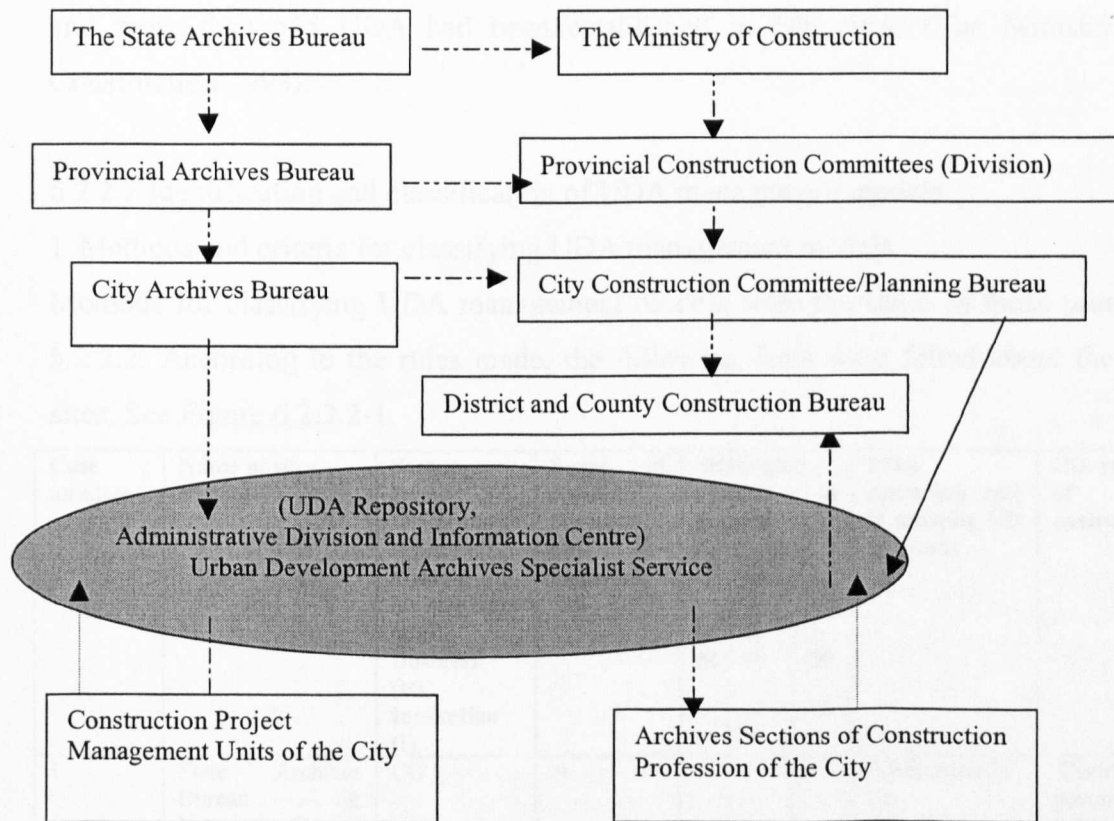


Figure 6.2.2.1 UDA Administrative System

- > direct leadership and financial support
- - - - -> professional (UD or archival) supervision and guidance
- > archival transferring
-> archival co-ordination and collaboration

From the diagram, it can be seen that the UDA administrative system was initially established in accordance with the national UD professional administrative system. The UDA repository is at the centre of UDA work, the archives sections of the

construction profession and the construction project management units of the city are the foundation of the national UDA work (The State Archives Bureau and former Ministry of Urban, Rural and Environment 1987: article 4). The diagram also shows the relationships between the UDA repository and the creators. The UDA repository has authority for supervision and guidance over the creators for inputting and transferring qualified UDA within UD administrative system, but has to co-ordinate and collaborate with creators that do not belong to the same administrative system. By the end of 1998, there were 22 UDA administrations established in 31 provinces, and more than 555 UDA had been established in 668 cities (The Ministry of Construction 1998).

6.2.2.2 Identification and classification of UDA management models

1. Methods and criteria for classifying UDA management models

Methods for classifying UDA management models were the same as those used in 5.2.2.2. According to the rules made, the following facts were found about the 20 sites. See Figure 6.2.2.2-1.

Case number	Name of sites Visited	Sector Local Government (LG), Central Government (CG), Business (B), Institution (I)	Scope of service: National (N) Regional (R)	Managing role records in continuum + Yes - No			UDA custodian role in meeting UD demands	UD role in life of built environment
				D M	R M	A M		
1	State Archives Bureau & National Central Archives	CG	N	-	-	-	Administrative use, information use, Historical use	Central government policy making on UD
2	Archives Division of Ministry of Construction	CG	N	-	+	+	Administrative, legal and information use	National planning and development administration
3	Beijing Municipal Archives & Beijing Municipal Archives Bureau	LG	R	-	-	+	Historical and research use	Local government administration
4	Beijing UDA specialist Archives & Beijing UDA Administration Division	LG	R	+	+	+	Administrative, Informational, historical use	Important local Construction projects, important local UD activities
5	Beijing Land and Property Bureau	LG	R	+	-	-	Administrative use, Legal use and information use	Land control and property administration
6	Beijing Planning	LG	R	+	-	-	Administrative	Planning

	Bureau						use and information use	administration
7	Beijing Urban and Rural Development Committee	LG	R	+	-	-	Administrative use and information use	Planning and development administration
8	Beijing Municipal Works Administration Committee	LG	R	+	-	-	Administrative use and information use	Municipal works projects Administration
9	Beijing Engineering Corporation	B	R	+	+	-	Commercial and legal use	Civil engineering and construction activities
10	Beijing Urban Construction Corporation	B	R	+	+	-	Legal use and commercial use	Construction activities
11	Beijing Urban Construction General Company	B	R	+	+	+	Legal use, commercial use, practical use	The construction and maintenance of public works and service
12	Beijing No.3 Construction Company	B	R	+	+	-	Legal, commercial and practical use	Construction activities
13	Beijing Zhongjianyiju Company	B	R	+	+	+	Legal, commercial and practical use	Construction activities
14	Beijing Urban Construction Research Institution	I	R	+	+	-	Information use and research use	Urban construction research
15	Beijing Architectural Design Institute	I(B)	R	+	-	-	Information use and commercial use	Architectural design
16	Beijing Municipal Engineering Design Institute	I	R	+	+	-	Information use, research use	Municipal engineering design
17	Architectural Design Institute of Ministry of Construction	I	N	+	+	+	Information use, commercial use, research use	Architectural design
18	Urban development Research Institute of Ministry of Construction	I	N	+	+	+	Information use, research use	Urban development research
19	China Academy of Building Research Institute	I	N	+	+	+	Research use, and information use	Building research
20	China Academy of Urban Planning and Design	I	N	+	+	+	Research use And information use	Urban planning design research

Figure 6.2.2.2-1 Cases of the Records and Archives Management of UDA

2. Types of UDA management models in archival practice

The investigation shows there are 5 types of UDA management models in the places visited, seen in Figure 6.2.2.2-2.

Types of UDA management models	Examples		Types of UDA records used
	Name	Number of Examples	
1. +DM/+RM/+AM	<ul style="list-style-type: none"> Beijing Municipal Archives; Beijing UDA specialist repository 	2	<ul style="list-style-type: none"> Local planning authority Local construction authority
2. +DM/+RM+AM	<ul style="list-style-type: none"> Archives Division of Ministry of Construction 	1	<ul style="list-style-type: none"> National planning and construction authorities
3.+DM+RM/+AM	<ul style="list-style-type: none"> Beijing Engineering Corporation; Beijing Urban Construction Corporation; Beijing No.3 Construction Company; Beijing Urban Construction Research Institute; Beijing Municipal Engineering Institute. 	5	<ul style="list-style-type: none"> Records of local construction corporation Records of local municipal engineering design and research
4.+DM+RM+AM	<ul style="list-style-type: none"> Urban Development Research Institute of Ministry of Construction; Architectural Design Institute of Ministry of Construction; China Academy of Building Research Institution; China Academy of Urban Planning and Design; Beijing Zhongjianyiju Company; Beijing Urban Construction General Company; Beijing UDA specialist repository 	7	<ul style="list-style-type: none"> Large local construction company Key and important local construction projects National UD design and research institutions
5. +DM/-RM/-AM	<ul style="list-style-type: none"> Beijing Planning Bureau; Beijing Urban and Rural Development Committee; Beijing Municipal Works Administration Committee; Beijing Architectural Design Institute; Beijing Property Bureau; National Central Archives 	6	<ul style="list-style-type: none"> Local planning authorities Local construction authorities Local property management authorities Local architectural design institute Central government policy making

Figure 6.2.2.2-2 Types of UDA Management Models in Archival Practice

(1) +DM/+RM/+AM model. In this, the role of archival services is responsible only for surviving historical records. There is no integrated control of UDA creation and capture, recordkeeping and archival disposal. Examples are the management of

records of planning authorities in the Beijing Municipal Archives and the Beijing UDA Specialist repository.

(2) +DM/+RM+AM model. In this model, the archival service is also responsible for the UDA filing, recordkeeping, disposal, and permanent custody but has no control of records creation. Examples are the management of records of national planning authorities at the Archives Division of the Ministry of Construction.

(3) +DM+RM/+AM model. In this model the records management service is responsible for UDA creation and capture, UDA filing, recordkeeping and archival disposal for corporate use but not for UDA permanent preservation. Examples are the Beijing Engineering Corporation, the Beijing Urban Construction Corporation, the Beijing No.3 Construction Company, the Beijing Urban Construction Research Institute, and the Beijing Municipal Engineering Institute.

(4) +DM+RM+AM model. Here the archival service is responsible for the integrated control of records creation and capture, recordkeeping, disposal, archival preservation and permanent custody for both corporate use and societal use. Examples are the management of construction projects archives in UDA specialist repositories; the management of UD construction corporation archives of the Beijing Zhongjianyi Company and the Beijing Construction General company; the management of architectural design and research archives at the Architectural Design Institute of the Ministry of Construction, the China Academy of Building Research and the China Academy of Urban Planning and Design.

(5) +DM/-RM/-AM model. There are two examples of such a model.

Though entitled archival repository, the archival service has no real archival function and responsibility for archives administration. Typical examples are the Archival Repository of Beijing Land and Property Bureau and the National Central Archives. The former is claimed as a permanent place for the centralised control and custody of all types of Beijing land and property archives. But true reality is that there are no archival programs for the control of land and property archives, and the archives are decentralised without any control. The latter is claimed as a permanent place for the custody of all types of archives of central government, including UD

policymaking. But as a matter of fact, there are no such holdings in the repository, the archives are decentralised and kept in departments.

3. UDA management models in different types of UD sectors and their features

The following results were found from the data, shown from Figure 6.2.2.2-3:

Types of Sectors		UDA models used	Case	Feature
Government	Central	• +DM/+RM+AM	• Archives Division of Ministry of Construction	Decentralised administration department control
		• +DM/+RM/-AM	• National Central Archives	
	Local	• +DM/+RM/+AM	• Beijing Municipal Archives • Beijing UD specialist Archives	Centralised administration but separate control
		• +DM/-RM/-AM	• Beijing Planning Bureau • Beijing Property Bureau • Beijing Municipal Works Administrative Committee • Beijing Urban and Rural Development Committee	
Business		• +DM+RM+AM	• Beijing Urban Construction General Company • Beijing Zhongjianyiju Company • Beijing UDA specialist repository	Centralised administration with integrated control
		• +DM+RM/+AM	• Beijing No.3 Construction Company • Beijing Urban Construction Company • Beijing Engineering Corporation • Beijing UDA specialist repository	
Specialist Institution	Local	• +DM+RM/+AM	• Beijing Urban Construction Research Institution • Beijing Municipal Engineering Design Institution • Beijing UDA specialist repository	Diversity: Centralised administration with integrated control or with separate control
		• +DM/-RM/-AM	• Beijing Architectural Design Institution • Beijing UDA specialist repository	
	National	• +DM+RM+AM	• Architectural Design Institution of Ministry of Construction • Urban Development Research Institution at Ministry of Construction • China Academy of Building Research Institute • China Academy of Urban Planning and Design	Centralised administration and integrated control

Figure 6.2.2.2-3 Features of UDA Management Models in Different Types of UD Sectors

(1) The UDA management model in the central government sector. The features of UDA management in central government are decentralised administration and departmental control. This means there is a lack of an integrated archival programme

and policy for UDA management across UD policy-making departments. The UDA management model for this is +DM/-RM/-AM. However, some features of UDA management within each department could be regarded as departmental control. This refers to a separate single departmental control of records filing, retention and disposal and long term preservation, but there is no archival supervision of UD creation and capture. The UDA management model within UD departments is +DM/+RM+AM.

(2) The UDA management model in the local government sector. The features of UDA management in the local government sector are centralised administration but with separate control or no archival control. There are two UDA management models in terms of +DM/+RM/+AM and +DM/-RM/-AM. The evidence for this is two facts. First, there are two separate archival authorities for the control of local government UD records; they are Beijing Municipal Archives Bureau and Beijing UDA Specialist Archives Division. Second, as a matter of fact, neither of the two archival authorities have real archival administrative power over the local government bodies. The investigation shows that there is a trend to withdraw the records management service in local government bodies in recent years, only designating a UDA specialist repository responsible for permanent archival preservation. Such a case reflects the fact that UD policy makers are the real UDA decision makers for UDA creation and capture and disposal instead of the two above archival authorities, and they have little archival consciousness of developing records management programmes for recordkeeping.

(3) The UDA management model in the business sector. The features of UDA management in the business sector is centralised administration and integrated control. Investigation shows that there are two types of UDA management models in the business sector. The first is a +DM+RM/+AM model. The records management service is responsible for UDA creation, retention scheduling and records disposal but not permanent preservation. Such a case is in accordance with the archival programmes and archival standards of UDA specialist repositories. The construction business corporations are often not large and have no permanent archival repositories of their own. There are more and more corporations following such a model. The second is a +DM+RM+AM model. As a rule, the records management service in a

business is responsible for the integrated control of records creation and capture, recordkeeping and archival preservation. But some of the records may come under the control of two or three different archival systems, and there may be double or multiple sets of UDA. For instance, one is under the control of the UDA specialist repository; another is under the control of the UD business archival repository. Such a case reflects the fact that there is overlap and duplication between different types of archival programme due to different archival purposes and different administrative systems. Large UD business corporations have their own repositories and UD business corporations which do not belong to the same administrative systems fall into such a category.

(4) The UDA management model in local specialist institutions. The features of UDA management in local specialist institutions are diverse. There are two types of UDA management models in local specialist institutions. The first is +DM+RM/+AM, the second is +DM/-RM/-AM. The former has been used since 1987 (The People's Congress, Archives Law); it has features of centralised administration and integrated control. The latter is a new thing occurring because of a recent innovation. Research institutions may change from national ownership to private business, where attention has been paid to benefits in the short-term. There is a trend of reducing costs of recordkeeping and even to withdraw the records management service.

(5) The UDA management model in national specialist institutions. The features of UDA management in national specialist institutions are centralised administration and integrated control. Their management model is +DM+RM+AM. Such a model is in correspondence with its administrative system and the structure.

6.2.2.3 Evaluation of the UDA management models

1. Measurement of UDA practice and the indicators for it

Three aspects are measured i.e. product-control, process-control and service-control. These have been evaluated using the same methods and indicators as in 5.2.2.3.

2. Features of UDA management models and their limitations

The study shows that the different UDA management models have different strengths and weakness. The following results were found. See Figure 6.2.2.3-1

Types of UDA management models	Features	Limitations
(1)+DM/+RM/+AM	<ul style="list-style-type: none"> • End-control; • Life-cycle management perspective; • Historical records 	No guarantee of the following: <ul style="list-style-type: none"> • Authenticity • Reliability • Completeness • Availability • Accessibility • Readability
(2) +DM/+RM+AM	<ul style="list-style-type: none"> • Stage-control; • Life-cycle management perspective; • Paper records 	No guarantee of the following: <ul style="list-style-type: none"> • Authenticity • Reliability • Completeness
(3) +DM+RM/+AM	<ul style="list-style-type: none"> • Stage-control and integrated control • Life-cycle management perspective • Both paper and electronic records 	<ul style="list-style-type: none"> • It needs unified administrative system and single archival authority; • It is to targeted client service.
(4) +DM+RM+AM	<ul style="list-style-type: none"> • Front-end control and integrated control • Records continuum regime • Both paper and electronic records 	<ul style="list-style-type: none"> • It needs unified UD and archives administration; • It may have overlap.
(5)+DM/-RM/-AM	<ul style="list-style-type: none"> • Without recordkeeping and archival control 	<ul style="list-style-type: none"> • No guarantee of quality and quantity of UDA • Risk of loss of records • No guarantee of client-satisfaction

Figure 6.2.2.3-1 Features and Limitations of UDA Management Models

(1) The +DM/+RM/+AM model. The investigation made similar findings to those found in the UK. The role of an archival service in such a model is end-control or to be a passive custodian. Such a model is suitable for managing historical records, but it has a weakness in modern UDA management. Not only is there no guarantee of availability, accessibility, readability, authenticity, reliability or completeness of records, but also there is much overlap and duplication in the archives management process. There are several reasons for the existence of such a model.

- Archives services have no archival inspection right to be involved in records management. According to the Archives Law in China (1996: article 8), archives services at all levels and all kinds are cultural institutions for the centralised custody of archives. They are responsible for accession, collection, arrangement, preservation and supply of archives within their charge, but they have no responsibility for records management supervision. As a rule, if archives services

played the role of archives supervision, they were regarded as illegal. The Beijing UDA specialist repository is an example.

- Archives services have no way of participating in UD records management, even they have an authorised additional administrative title, giving them legitimate archival administration rights. The management of planning records is also the example.
- The places where such models are used are archives services whose major roles are preserving historical sources already in existence; often they are in public service. Beijing Municipal Archives is an example.

(2) The +DM/+ RM+AM model. Its unique feature is stage-control, according to the life cycle of records. The management of UDA starts from the filing of the records after their creation, covers retention scheduling, records disposal, archives preservation and use. Such a model has advantages in the integrated control of records retention and use. However, it has a weakness in the lack of control of its input. Thus the authenticity, reliability, completeness of records can hardly be guaranteed. There are several reasons for using such a model.

- The archives service has double functions as a records management administration division and archives storage centre of its parent body or host organisation.
- The use of the archival service is internal.
- The UD documentation is oriented towards corporate memory or organisational memory. The Archives Division of Ministry of Construction is an example.

(3) The +DM+RM/+AM model. Its unique feature is its stage-control and integrated control, according to the life cycle of records. The management of UDA is divided into two stages, +DM+RM in the first stage, +AM in the second stage. Often there are integrated programmes for the documentation, recordkeeping and preservation of long-term value UDA which connect the first stage and the second stage, developed by local UDA specialist repository. The records management services are often responsible for recordkeeping of current and semi-current UD records, serving its parent organisation. The archives service is often responsible for the permanent preservation of long term value UDA, thus serving society. Such a model has

advantages in reducing overlap and duplication in retention as well as a clear division of archival functions and responsibilities for different clients. There are several reasons for using such a model.

- The records and archives management services belong to the same administrative system or are under the control of same UD professional authorities.
- The parent organisation of records management services are often in a business-oriented sector. The functions of UDA for social effectiveness and public interest are widely recognised in such sectors.
- Often there is a unified archival authority selected for the records management programme. Often the UDA specialist repository and its archives administration are selected as the archival authority. The management of construction archives and construction research archives among the Beijing UDA Specialist Repository and the Beijing Engineering Construction Corporation, the Beijing Municipal Works Research institution are the examples.

This last reason makes the Chinese +DM+RM/+AM model differ from UK +DM+RM/+AM model and makes it works better in the case of the UK. The key to the success belongs to its integrated control.

(4) The +DM+RM+AM model. Its unique feature is its centralised administration and integrated control in accordance with the records continuum integration model. Such a model has the advantages of authenticity, reliability and completeness of records. However, if there are too many archival authorities then there will be much duplication and overlap in records and archives management. There are several reasons for using such a model:

- Modernisation and automation has been widely applied in the UD environment; both paper and digital records co-exist. The computer is the major means of modern records management. An examples of this model is the Architectural Design Institute of the Ministry of Construction.
- Often the establishment of the UD corporation or institution has a long history. Their UD service is excellent and nationally famous. Recordkeeping has been regarded as part of its excellence in providing client-satisfactory service and in

public accountability. Examples are the China Academy of Urban Planning and Design.

- Archives services often have interrelationships with records management services either in same administrative structure and administrative system or same UD documentation framework. Examples are the management of construction project archives among the Beijing UDA Specialist Repository and the Beijing Urban Construction General Company.

(5) The +DM/-RM/-AM model. Its unique feature is that there is no archival control of recordkeeping and archival preservation. Evidence demonstrates that such a model has no advantages, but only weaknesses in product, process and service control. Reasons for the existence of such a model are:

- The importance of UDA recordkeeping reflecting government accountability for society and the public interest were not widely recognised among UD and UDA administrators. Examples are the management of UD administrative records in Beijing local authorities, such as the Beijing Planning Bureau.
- The UD environment is in undergoing dynamic change, so attention is being paid to current services and needs instead of to sustainable service and future needs. Records and archives management services have been regarded as a burden and a waste of resources. The case is Beijing Architectural Institution.

3. Types of UDA best practice models and their mechanisms

The above findings indicate that different UDA management models have different reasons for their existence. Sometimes it is hard to judge what is the best practice. The main criterion would be what is most appropriate to the conditions. However, we still can evaluate the types of UDA best practice models in existence, if we take the records and archives management in the UD environment as a whole to consider. We can employ the idea of integration for analysing product, process and service control of a record along its life cycle and along the life of built environment, if we stick to the same evaluation criteria. Such a study is important for identifying UDA best practice models. It is significant for discovering the underlying mechanisms, it is helpful for finding the roots of underlying problems, and it can supply ample evidence for promoting of UDA best practice widely in the future. Evidence can be seen in Figure 6.2.2.3-2.

Types of UDA control models	Product-control	Process-control	Service-control
(1)+DM/+RM/+AM	No	No	No
(2)+DM/+AM+RM	No	Partial	Partial
(3) +DM+RM/+AM	<ul style="list-style-type: none"> • Reliability • Completeness 	Integrated	Clients-oriented
(4) +DM+RM+AM	<ul style="list-style-type: none"> • Accurateness • Reliability • Authenticity • Completeness 	Integrated but may have duplication if many archival authorities	Clients-oriented but may for different purposes
(5)+DM/-RM/-AM	No	No	No
Recommendation	<ul style="list-style-type: none"> • +DM+RM/+AM • +DM+RM+AM • Conditions of under a united archival authority and an integrated framework 		

Figure 6.2.2.3-2 Evaluation of UDA Management Models

Study shows there are two types of UDA management models, which might be called best practice models. They are +DM+RM/+AM and +DM+RM+AM model.

The reasons are:

(1) Only the two models are suitable for managing digital and paper records in an environment where these coexist or in a digital environment. Only these two have integrated control programmes to ensure the quality and quantity of UDA. The mechanisms of their management are that there should be an integrated control.

(2) The study also finds that +DM+RM/+AM and +DM+RM+AM in managing UDA is a necessary condition for guaranteeing the reliability, authenticity and completeness of UDA, but this is not a complete reason for promoting these as UDA best practice. Evidence demonstrates that only using integrated frameworks and under the same umbrella of unified UDA specialist service-control would bring UDA practice towards cost-effectiveness, client-satisfaction and best value, in other words UDA best practice.

(3) Findings indicate that the success of UDA practice is dependent on the response of the +DM+RM+AM service to the demands of its creating agencies, its professional administration and professional interested groups. This requirement explains why UDA administration under the national archives administrative agencies have always been failures and were always looked on as burdens by UDA archival services in comparison with UDA administration under the Ministry of Construction. The management purpose of the former as a matter of fact is to

exercise administrative power so as to manage national UDA resources, but the management purpose of the latter is to meet the national UD professional information demands.

(4) Findings indicate that success of UDA practice depends on the archival consciousness of legal obligations, social accountabilities of the UD creating agencies and their organisational compliance. This requirement explains why the business sectors and that the excellent national UD academies are successful in UDA practice. These bodies understand that good recordkeeping can demonstrate their awareness of best practices for the industry or business sector to which they belong and the business functions in which they are engaged. This mechanism also explains why UDA management in both the central and the local government sectors always has difficulties. In particular local government is always poor in UDA management. Government bodies always regard themselves as governors of the citizens rather than their servants, and they hardly recognise that they should be accountable to society, or that they do have legal obligations to comply with the requirements for recordkeeping within the jurisdictions in which they operate. They should demonstrate their accountability by good recordkeeping and the transparency of their governance.

4. Reasons for Chinese UDA difficulties and problems

The investigation found that major problems of UDA in China were focused on issues concerned with the integration of control between services. In contrast to this, the main problems encountered in the UK were focused on issues concerned with physical and intellectual control of materials.

Integrated control issues were the subjects of debates, arguments and conflicts in China. Because different archival authorities have different interpretations of their archival jurisdiction. There were often separate and fragmented regulations, rules and standards in UDA documentation, recordkeeping, and permanent custody arrangements. As a result, custodians often have difficulty in deciding whose policy they should follow.

The root of the problem might be that there are no objective criteria or indicators to judge whose policy is best. The cause of the problems might be that there is a lack of common UDA culture among creators, users and archivists in Chinese society. There is a lack of information sharing, co-ordination and collaboration between the archival authorities in making national archival policies. There is lack of partnership in developing integrated frameworks for national UDA administration among UD, archives and UDA administrators. There is no integrated conceptual framework on what UDA is. There is no theoretical framework on what would be the UDA best practice models, what are the roles of different types of archival authorities in the archives profession and in the UD professions, what are the roles of records management services and different types of archival services for the UD professions and society, and where is the best place for the permanent custody of UDA.

Findings from face to face interviews and conversations with different types of national archival authorities demonstrate that there is a urgent need for theoretical research on developing integrated frameworks for managing UDA. Such integrated frameworks are necessary conditions for the improvement of present UDA work as well as significant guidance for its future development.

6.2.3 The permanent custody of UDA

This section reports on and analyses investigations into three UDA themes:

- the location of UDA and their permanent custody;
- the provenance of UDA sources, their selection and acquisition;
- models of UDA documentation framework.

6.2.3.1 The location of UDA for permanent custody

In this section, 3 topics were discussed. These include variables influencing the location of UDA; types of UDA custodians; difficulties in the location and custody of UDA.

6.2.3.1.1 Variables influencing the location of UDA

The location of UDA for permanent custody is complex. It is in accordance both with national archival administrative policies stipulated by the State Archives Bureau

and national UDA administrative policies stipulated by the Ministry of Construction. According to Article 10, Operational Measures of the Archives Law of the People's Republic of China (The State Council 1999) archival repositories of all kinds at all levels are the centralised places for the custody of materials with long term and permanent value. There are three types of variables that influence the location of UDA and the custody.

- The overall organisation of the national archival repositories and the overall planning and co-ordination of national archival resources by central government and national archival administrative agencies.
- Demands for UDA information service from urban planning, construction and management activities within UD profession.
- Demands for UDA for operational and evidential use from UD creating agencies within an organisation.

The above three variables influence each other and conflicts between them have caused a variety of custodians to emerge.

6.2.3.1.2 Types of UDA custodians

Influenced by the above three factors, there are three types of custodians that have custody of UDA.

1. UDA specialist services in particular places

This type of service was established for the purpose of meeting the comprehensive demands of urban planning, construction and management of the city. According to Article 28, Regulations for Scientific and Technical Archives Work (The State Council 1980), "Large and middling size cities should establish urban capital construction archives to collect and preserve archives of capital construction that have long term and permanent value". According to Article 5, Regulations on Urban Development Archives Management (The Minister of Construction Ministry 1997a), and UDA specialist archives service are responsible for the custody of three types of UDA of their cities. These are:

- all types of urban construction project archives;
- professional administration and technical archives of all types of UD agencies;

- official documents of policies, laws, regulations, planning concerned with urban planning, construction and administration;
- scientific research achievements and fundamental reference materials relating to the history, environment or economy of the city.

2. Public archives service at all levels. These include archives services of particular regions, time periods, media, departments or organisations, which are also custodians of related UDA. These archives services are established under the principles and schemes of the national network for archival repositories, stipulated by the State Archives Bureau. UDA archival custodians could be classified according to administrative regions in combination with the professions, time periods and the three variables identified in section 6.2.3.1.1. There are 3 types of UDA custodians in existence: the national archives services, local archives services, professional or specialised archives services.

National central archives services are responsible for the permanent preservation and use of archives i.e.

- with national significance of different historical periods;
- archives of central government;
- famous persons after the establishment of the Peoples' Republic of China.

Examples are National Central Archives (central government after 1949), the First Historical Archives of China (Ming and Qing Dynasties), the Second Historical Archives of China (Ming Republic), the Archives of the People's Liberation of Army, the China Films Reference Service, the China Photo Archives, the Archives of the Air Industry Department, etc.

Local archives services have different levels such as provincial, municipal, autonomous region, county, district, village, etc. Different local archives are responsible for the custody of provincial, regional, local or district archives significant for its local agencies, famous persons and other working units covering all historical periods. Local archives can be classified into two categories comprehensive and professional services. Municipal archives are examples of the

former. UDA specialist archives services, archives services of public security, archives services of post and telecommunications are the examples of the latter.

Specialised archives services are responsible for the custody of archives of importance to a particular profession. These cover comprehensive activities of particular social functions or inter-disciplinary work in some particular field. According to the coverage of their sources, these can be divided into national and local professional services. The National Geological Reference Archives, the Beijing UDA Specialist Archives, the Beijing Property and Real Estate Archives are the examples.

3. Internal archives services of particular organisations such as departmental or organisational archives services such as business and institutional archives services. According to the Archives Law these are not regarded as permanent places for the custody of archives, in reality they have never transferred their archives to other places from their establishment up to the year 2000. These archives services always keep archives of the built environment of their host organisations and the archives of the UD activities involved.

Among Departmental archives services, particular relevant to UDA are, e.g. the Archives of the Ministry of Transportation, the Archives of the Ministry of Railways, the Archives of the Ministry of Communications, etc.

Organisational archives services that are particularly relevant to UDA are, e.g. the Urban Construction General Company, the Urban Development Research Institute of Ministry of Construction, the Architectural Design Institute of Ministry of Construction, the China Academy of Building Research Institution, the China Academy of Urban Planning and Design.

There are therefore a variety of custodians that have permanent custody of UDA in China. Studies indicate that the location of UDA sources for permanent custody fall into three categories.

- The first is in accordance with the context and contents of records documenting activities of urban planning, construction and the management of their locality.

- The second is in accordance with the societal value of records that have national, local or professional importance or particular significance in terms of media, format, or period.
- The third is in accordance with the provenance of records in terms of their creation and values to the corporate bodies in question. Studies brought to light that while the second and the third categories render aspects of UDA information service, only the first category conscientiously delivers systematic comprehensive UDA information service.

6.2.3.1.3 Difficulties in the location and custody of UDA

Investigation found that Chinese archivists face many difficulties while dealing with the location of UDA and their custody. These include:

1. Who has custody of original copies of UDA? What are the roles and functions of the different archives services in society? According to article 12, Provisional Regulations on the Destinations and the Location of UDA (The State Archives Bureau 1997), original copies of administrative records of construction project records should be preserved by the creating agencies. UDA specialist repositories receive copies or duplication. But according to Article 5, Urban Development Archives Management Regulation (The Ministry of Construction 1997a), UDA specialist repositories should receive reliable and complete sets of construction project archives.

2. Who is the archival authority for the location of UDA? According to "Provisional Regulations on Archives Management in Developing Areas" (The State Archives Bureau 1995: article 16), construction project archives should be transferred to general archives services of the developing areas. But according to the official document "Announcement on Enhancing UDA work in developing areas" (The Ministry of Construction 1995b: article 1 and article 3), the planning, construction and management archives of developing areas should be under the unified control of the UD administrative agencies of the city. Archives of permanent and long-term value should be transferred to the UDA specialist repository of its locality.

3. Who is responsible for the custody of the permanent records of an UD

organisation that does not belong to professional administration, or is not scientific and technical archives. E.g. financial archives, labour and personal archives, etc. There is no official guidance on how to deal with such records so far.

These difficulties are caused by the lack of integrated frameworks for the overall planning, co-ordination, collaboration and arrangement of national UDA resources among the national archival administrative agencies, national UDA administrative agencies and other archives service at all levels and all kinds. The location of UDA resources has often been seen as the striving for power of archival administrations rather than a client-service for society. The root of the problems is the lack of agreement on what UDA are and what are the social functions of UDA specialist repositories in the Chinese community.

6.2.3.1.4 Conclusion and Summary

In summary, the allocation of UDA and their custody in China has following features:

1. Archives of different UD activities with permanent value are preserved by different types of archival services due to the influences of 3 different variables. They may be in the custody of following types of custodians:

- UDA specialist archives services of the locality;
- general archives services of the locality;
- archives services of creating organisations, particular departments or professional fields;
- the national historical archives services, etc.

2. UDA specialist archives services are designated and authorised as the centralised places for the custody of long-term and permanent value UDA of a city. The location of UDA entities to a UDA specialist service is regarded as the centralised control of archival resources of UD functions and activities of a city by government.

3. There are divided archival policies and separate arrangements on the location of UDA to places of custody. There is a lack of integrated frameworks on the location of UDA resources at both national and local level. There is a lack of co-ordination

and collaboration between archival administrators and custodians on the custody of UDA.

6.2.3.2 The provenance, selection and acquisition of UDA sources

1. The provenance and acquisition of UDA

The provenance of UDA often comes from three types of sources:

- archives of a unified administrative system;
- archives that cross administrative systems;
- multi-administrative systems.

Often UDA in public archives service of all kinds at all levels including UDA specialist repositories come from all the above three sources. UDA held in internal archives services come from the first and second sources.

There are several methods that have been used for acquisition in terms of how the records came into existence. They may be transferred to UDA because of public interest; they may be deposited in UDA for reasons of private ownership, purchasing and donation of historical materials. The most widely used method is that of transfer.

Often the means of transferring falls into three categories. They are:

- archival jurisdiction order;
- economic control;
- UD legislation.

Archival jurisdiction order refers to the issue of official documents by an archival authority as mentioned in section 6.2.3.1.3, which is a traditional means for getting UDA into public archives services of all kinds and into internal archives services. This method is effective for UDA arising from unified archival administrative systems within UD administrative system. However, it is not effective for UDA arising from cross-administrative systems and from multi-administrative systems.

Economic control refers to the deposit of 1-3% of a construction project funding to UDA specialist archives service for ensuring complete sets of UDA to be transferred to UDA specialist archives within 6 months after the project is completed. If UDA are handed in time meeting the quality requirements, the deposited money will given

back to its creators, only the interest will go to the UDA specialist archives services (The Ministry of Construction 1994). This method was used between 1994 and 1998. It has been very successful in guaranteeing the quality of UDA and the transfer from cross-administrative systems or cross-creators to the UDA specialist services. However, it was cancelled by the Chinese Government in 1998 because there were too many charged fees for record creating organisations. Since then there have been many difficulties in collecting UDA.

The third method is transferring in accordance with UD legislation e.g. article 38, City Planning Act of the People's Republic of China (The People's Congress 1989) and article 59, Regulations on Quality Management of Construction Projects (The State Council 2000). According to the former," The city planning authority may participate in the construction acceptance of important development projects within the city planning area, and related construction completion documents should be reported to the city planning authority no longer than 6 months after the completion acceptance." In practice, UDA specialist archives services are authorised to represent city planning authorities accepting important construction project records. Such legislation is not effective though it has been in force over 10 years now, as there is no punishment for those who do not transfer their records, and not many creators follow the rules. According to the latter, Construction units which do not transfer their archives to construction and planning authorities or other related departments after the completion of the construction projects will be punished to the extent of 10,000RMB (around 900 GBP) to 100,000RMB (9000 GBP). This method has been operated in UDA specialist archives services and seems effective and has been welcomed by archivists in recent years.

Types of UDA and their provenance have impact on the means of their acquisition. Different types of archives service collect different types of UDA from different types of provenance and thus have employed different types of acquisition methods. As a rule, UDA in the custody of non-UDA specialist archives services collect their UDA by transfer according to archival official documents stipulated by the State Archives Bureau. UDA in the custody of UDA specialist archives services collect UDA by way of transfer, deposit, donation and purchase and by means of archival administration and jurisdiction, economic control, under UD legislation. Traditional

archival acquisition methods depend on administration and jurisdiction, and reliance on legislation alone is not effective. Only the method of combined UD legislation and economic control seems effective for UDA acquisition.

2. The selection of UDA

Different types of UDA services have different concerns in the selection of UDA in correspondence with its goals. There are two factors that influence the selection of UDA both concerned with users and use. Users can be divided into three types e.g. internal organisational users, potential users from society and professional users. Use can be divided into three types as well such as operational, research or professionally oriented UD planning, construction and administrative use. Often internal organisational archives services select UDA for the operational use of the organisation and for internal organisational users; UDA specialist archives services select UDA for professional use and users. Other services select UDA for research use and for potential users from the public, without clearly aims at interested groups. Among the three types of archives services, only the UDA specialist archives services are purposely geared to giving services to the UD professional environment.

3. Types of UDA provenance and the principles of UDA physical control

Investigations found that the physical control of UDA in all the types of archives services are in accordance with the principles of provenance. However, different types of archives services have different understanding of the principles of provenance, in terms of the protection of the completeness of records as fonds or series. Variables that cause the difference in the interpretation of provenance are UD organisation, function and project. Thus archival methods in the selection and acquisition of UDA fall into three categories. The first concerns records of a UD organisation as fonds. It takes the value of the record to the organisational as the main selection criterion. The second concerns particular UD functions as fonds with functional value and use as the main selection criterion. The third concerns the project as fonds or series use to the project heirs as the main selection criterion.

The selection of UDA in internal archives services and other types of public archives services were the same. They were in accordance with the principles of organisational fonds for meeting the needs of historic research into the organisation.

This is the traditional universal archival method, which is good for reflecting complete information about context and it is easy to collect archives within the same administrative jurisdiction. The condition is that the organisation should be stable and single with little change over time throughout ages. Acquisition is then in correspondence with the administrative power and systems of the parent organisation.

The selection and acquisition of UDA in specialist repositories arises from a variety of sources, it is aimed at meeting manifold needs of the UD functions and activities of a city. Sources cover organisational, functional and project provenance. There are always difficulties in collection and acquisition due to crossing UD administrative boundaries and jurisdictions. Different archival methods have different strengths and weakness.

- The functional provenance method is ideal for the control of the memory of UD functions and activities in a dynamic UD environment. UD creators are always changing and are not stable; they cross institutions, sectors and disciplines. The problem is deciding which is the archival authority for the control of transfer and location, and how to bring the multiple values of UDA together to meet manifold UDA needs but avoid overlap and duplication in the custody. There may also be conflicts with organisational fonds in the permanent custody of original sources and achieving complete coverage.
- The project provenance method has been used to preserve complete sets of important records of the built environment of the city. This method seems very beneficial to public interests and societal demands as well as the demands of UD functions and activities of the locality. However, this method also has problems as against organisational fonds theory. There is no documentation strategy and no united and unified selection criteria to meet the many needs of both organisation and society. As a result, multiple copies and duplication co-exist and users hardly know where the original sources are located.

The physical control of UDA should be in accordance with the principles of provenance. There are three types of interpretations of UDA provenance. These are organisational, functional and project provenance. Different interpretations played

different roles in the physical control of UDA. There is a variety of archival methods to deal with diverse problems to meet manifold needs from diverse sides. However, these differences have caused difficulties for acquisition between different types of archival services and have caused difficulties for UDA users to access reliable and complete UDA sources. The three archival methods should be regarded as complementary instead of rivals; they should be co-ordinated with each other and integrated into a unified and united strategic UDA system, so that all the archives services could work together. It is evident that there is a need for a common culture and standards for the physical control of UDA and there is a need for co-ordination and collaboration among the different types of archival services for meeting diverse types of uses and users.

6.2.3.3 Models of UDA documentation frameworks

To observe common features and differences of the whole range of UDA resources in different types of archival services, to identify the unique features of their accessibility, availability and readability, UDA documentation frameworks fall into 2 models. See Figure 6.2.3.3-1 and Figure 6.2.3.3-2.

Types of documentation frameworks	Example	Key function	Unique features
Professional and territorial	<ul style="list-style-type: none"> • UDA specialist archives services of cities 	<ul style="list-style-type: none"> • Information • Evidence • History 	<ul style="list-style-type: none"> • Comprehensive • Specialised UD content • Locality context • UD professional users Oriented
Organisational	<ul style="list-style-type: none"> • National archives services of all kinds; • Local comprehensive municipal and city archives services; • Business archives services; • Departmental archives services; • Specialist institutional archives services 	<ul style="list-style-type: none"> • Culture • Evidence • History 	<ul style="list-style-type: none"> • Organisational fond • Organisational context • Administrative history users oriented

Figure 6.2.3.3-1 Models of UDA Documentation Frameworks, their Key Functions and Unique Features

Types of UDA documentation model	Strengths	Limitations	UDA use
Professional and territorial model	Professional information	Territorial area	Reliable , unique and comprehensive UD information of a city
Organisational model	Organisational history	Organisational structure	Evidence and history of a organisation
Recommendations	Respect identity and diversity of different types of documentation models, they are complementary as a whole to meet diverse UD demands.		

Figure 6.2.3.3-2 Models of UDA Documentation Frameworks, their Strengths and Limitations

1. The professional and territorial model. This model is purposely created for the adequate documentation of UD functions, activities and the construction projects within a geographic area. The documentation framework covers 18 categories of UDA records, 102 subjects and over 30 disciplines in National UDA Classification Schemes (The Ministry of Construction 1993). The goals of the documentation framework are to serve planning, construction and management of a city. The priority in selecting the records for retention was societal value for present and future use, seeing UDA as important to the development of urban planning, construction and the management of a city. According to the national archival administrative agencies only large and middling size cities are permitted to establish such a documentation framework. In archival practice, 75% of 668 cities established and 100% of large and middling size cities have established such a framework. Small cities, small towns and districts of cities in advanced economic areas have established or are going to establish such a documentation framework of their own under their UD administrative authorities. There are debates on whether there is a need for such a documentation framework for small cities and towns. The debate is between the Ministry of Construction and the State Archives Bureau. However, in real practice, the one who controls the UD activities and who administers the budget controls the documentation. Specialist archives services fall into this category.

2. The organisational model. This model is not purposely established to document UD functions, or activities, but exists to provide adequate documentation for the memory of the creating organisation. Records of UD functions and activities are there because they are part of the series or subgroups of the organisational fonds. The reasons for the existence of UDA are their value for research and historical study. UDA in other public archives services and in internal archives services belong to this model.

The following conclusions could be drawn from the facts:

1. Different documentation frameworks have different functions and features, and so the purpose varies from one to another in terms of documenting and preserving the activity, the agent of activity and the place of the activity, etc.
2. Different types of archives services select different documentation models thus have different profiles in the supply of the information.
3. Custody of UDA in any type of archival services has its own advantages and weaknesses as far as documenting the life of the built environment is concerned, and as far as preservation of archival sources of UD practice and professions is concerned. The completeness of UDA sources is always relative rather than absolute.
4. The professional and territorial model is the most appropriate for meeting the UD professional demands of a territorial area, as far as the importance of UDA to the needs of the physical shaping of a city and its sustainable and consistent services are concerned. It can be recommended as best practice for preserving and sharing the UDA of a city.

6.2.4 Summary and conclusions of the section

This section has reported research findings on two UDA themes; the records and archives administration in the physical development of the built environment and the permanent custody of UDA in archival practice. The author employed an idea of integration in the analysis and evaluation of Chinese UDA practice.

The UDA management and permanent custody in China is under the control of two administrative systems; the archival administrative system and the UD administrative system. This is due to lack of collaboration in national UDA policy making. There is a need for developing integrated frameworks for UDA management in both UD environment and in the archival world. UD administrative agencies are the real authority for UDA practice. Demands from urban planning, construction and management agencies are the real reasons for the creation and promotion of UDA specialist archives services.

The most appropriate best practice for the permanent custody of UDA is in UDA specialist archives services, within a professional and territorial documentation

framework, by means of UD legal and economic control for transfer of acquisitions from organisational, functional and project provenance. As they are the only client-oriented services, purposely created for UD use and for meeting the comprehensive needs of UD professional interested groups. Evidence for this appears from a variety of observations of UDA custody in different types of archival services by analysis of the location of UDA and their permanent custody; by synthesis of the provenance of UDA sources, their selection and acquisition; by synthesis and evaluation of models of UDA documentation frameworks.

The study has found that there are 5 types of UDA management models in Chinese archival practice. They are:

- +DM/+RM/+AM model;
- +DM/+RM+AM model;
- +DM+RM/+AM model;
- +DM+RM+AM model;
- +DM/-RM/-AM model.

An archival integrated framework for +DM+RM+AM or +DM+RM/+AM is the best practice for UDA to connect past to present and present to future. Evidence for this appears from a variety of observations of UDA management models, such as analysis and classification of the models; evaluation and measurement of UDA best practice; analysis of the features and limitations of each; examination of difficulties and problems of each, and synthesis of best practice mechanisms.

6.3 A Cross-disciplinary Study of UDA Thinking in China

This section first gives information about how data was generated, then analyses and discusses findings on the UDA thinking of the UDA specialist archives services and UD professionals.

6.3.1 Methods of data generation and the data itself

1. Types of data sources and the methods of data generation

Three types of data have been generated by three types of methods under the guidance of the aims and objectives set up in section 4.5.1. The first type of data is about UDA thinking by records managers and archivists. This data is generated by

the pre-planned questionnaire survey set out in section 4.5. It is the key data to this study. The second type of data is about UDA thinking of UD creators. Respondents were selected as opportunities arose for investigation. It is complementary data for analysis. The third type of data is about the UDA thinking of UD users. This data comes from an analysis of statistics from the resulting database. It is a subordinate data for analysis.

2. Questionnaire survey of records managers and archivists and analysis of UDA thinking of typical UDA custodians

The design of the questionnaire survey was based on the UK questionnaire survey, but supported by a face to face interview done in the Archives Repository of the Ministry of Construction, the Beijing Municipal Archives Repository, the Beijing Urban Development Archives Specialist Repository. There were a few changes in the multiple choice of questions and the open questions in relation to the China context. The methods of samples selecting were the same as the methods of site selection mentioned in 6.2.1. In order to reflect integrated UDA thinking of different types of custodians, questionnaire surveys were sent to 3 types of sites by 3 types of channels through different means. A copy of the survey may be seen in Appendix C. The answers to the survey may be seen in Appendix D.

The first type of site was the UDA specialist archives services, delivered by the Archives Division of the Ministry of Construction through the post and at working meetings. 28 survey forms were sent out, 20 got back, 18 were valid, representing 64.29% of the total surveys. The 18 respondents were from 18 cities covering representatives of 8 super-large cities ($\geq 1,000,000$ population), 4 large cities (500,000-1,000,000 population), 4 middling size cities (200,000-500,000 population), 2 small size cities ($< 200,000$ population) from 9 provinces and 3 municipalities directly under Central Government.

The second type of site was the general archives services of the municipality and districts in Beijing, delivered by the Supervision Division of Beijing Municipal Archives. 5 survey forms were sent out but got no response. The reasons for not responding are that the services had few UDA in custody.

The third type of site was archives services in the UD government, business and institution sector, delivered by myself by post. 15 survey forms were sent out but only 2 came back. The majority of services thought the permanent custody of UDA are out of their business and they are not interested in UDA administration.

Survey methods	Face to face interview by author	Distribution and post by the Ministry of Construction	Distribution by the Beijing Municipal Archives Bureau	Post by author	Total survey	Valid survey
Sending out	3	28	5	15	51	28
Responding	3	20	0	2	25	
Valid	0	18	0	0	18	18
Percentage	0	64.29%	0	0		64.29%

Figure 6.3.1- Effectiveness of the Survey

The above facts demonstrate that the UDA specialist archives services have the most comprehensive and complete types of UDA, they are the typical UDA custodians in the real world. They also show that only UDA specialist archives services care about the systematic and overall strategic management of records and archives in the UD environment, they are the real administrators and custodians of UDA in archival practice. They are the most interested groups in this research and are the real clients who may benefit from the research. Limited by availability of data and the limited time, and the validation of the data, this project only selected the bank of data reflecting the thinking of UDA specialist archives services for analysis in a cost-effective study. The analysis has both advantages and limitations. It has advantages in focusing on the UDA thinking of those who do the real job and those who need the UDA best practice in the UD environment. It has limitations in reflecting others who might also be passive custodians of UDA in the general archival environment.

In order to guarantee the validity of the data when correlated, responses from face to face interviews and others which do not correspond with the standard form were not counted, but were only used for a pilot study.

The methods of survey and the results indicate that the most effective approaches to conduct the survey are by collaboration between the academic researcher and the research clients. The research clients are not those who we assumed to be but those

who really need the guidelines of best practice. In the real archival world, the UDA specialist archives services are the real research clients of this project. They care about the product, process and service control of the UDA.

3 . Random opportunity-arising questionnaire survey of UD professionals and analysis of UDA thinking of creators

This survey was conducted by face to face interviews and a questionnaire survey on 10 creators of the Shanghai Planning Bureau during their professional visit to Liverpool in 1999. The design of the survey and the analysis was to check the feasibility of implementing best practice model in the UD environment. I selected them to reflect the UDA thinking of UD creators. The questions and answers can be seen in Appendix F.

4 . Database of investigations on UD information needs and services and analysis of UDA thinking of users

This database was established in 1999 after the first national-scale questionnaire survey on two items, in terms of the UD information needs from users and the supply of UD information from UD information services, which was conducted during 1997-1998. It was a product of a national research project authorised by the Ministry of Education and financially supported by the Ministry of Construction in October 1996. The two questionnaire surveys were designed by myself but had been modified by an information management expert. Surveys had been delivered and collected by the Ministry of Construction; the data processing was under my guidance and supervision but conducted by an archival computer teacher and one of my MA students. The investigation had a double function. It was an academic research work and a national UDA work of the Archives Division of the Ministry of Construction. Thus the data can be regarded as scientific and reliable. The questionnaire survey was delivered face to face to respondents and got 100% response rate. The project got 685 users responding and 210 services responding from 18 provinces and 4 municipalities directly under the Central Government. The following subjects were investigated from UD users and information services.

Users of UD information. (1) personal status e.g. age, education, professional title, social position, subject of expertise, etc; (2) UD information needs e.g. subjects and

disciplines which access UD information; types of media and formats of UD documentation, types of UD information products, time periods of UD information expected, purposes of information use, etc; (3) what UDA information services were expected, e.g. patterns of daily use, the most welcomed service, daily ways of access, time requirement for access, time occupied for access, operational ways of communication, (4)types of services visited and used, e.g. types of services, quantity of documents used, etc.

Information services of UD suppliers. (1) administrative systems and the status of them; (2) quality of information managers; (3) buildings and facilities; (4) types of holdings ; (5) quantity of information sources; (6) use of information sources; (7) tools of information retrieval; and ways of information use; etc.

The investigation had generated a bank of information about UD information needs and the service. The data has provided sources for different types of analysis for different research purposes. In this thesis, the author has only analysed data in relation to the arguments and the research objective of this project. That is the UDA thinking of users reflected from the survey and the gaps between the supply of UDA services perceived need. The data can be seen in two research reports by An Xiaomi and Zhou Xiaoying (1999a and 1999b).

6.3.2 Findings about UDA thinking of the UDA specialist archivists

This section analyses 3 issues based on the research results tabulated in Appendix D. The numbering system is correspondence with the original questionnaire survey seen in Appendix C. The 3 issues are: features of the UDA services; UDA management; and the integrated model.

6.3.2.1 Features of respondents and responding services and the validity of the data

The findings show that the data of the survey has following features.

- 1.The respondents were only from UDA specialist archives services and they only reflect the views of archivists of UDA specialist archives services.
2. As the number of public and self-supporting services exceeds all the rest, the results may represent opinions of this interest group better than others.
- 3.The status of the respondents indicates that the results may reflect different

concerns in open access and charging for services, but the majority of Chinese UDA services had limited conditions for access and no free of charge services.

4. The majority of services were involved in all stages of records management.

This was effective to reflect their understanding and expectations about UDA records continuum thinking.

5. As the majority of services had played roles of archival administration, supervision and auditing, over half of services had played roles of records management consulting and recordkeeping, their opinions on archiving management and integrated models would be a good and valid basis for justifying the author's hypothesis and observations.

6. Limited by the status of respondents, the results would only reflect opinions of UDA specialist archives service and the institutional sector they represent.

7. Though there were different ranges of service in respondents, the results reflect opinions of city services better than others do.

In conclusion, the features of respondents and responding services were valid in representing the UDA thinking of key type of UDA custodians: these are the UDA specialist archives services of various kinds. They also reflect the opinions of city services but have limitations in reflecting others. The strongest responses reflected opinions of services where the sources of funding were both government and self-funding, but were limited in reflecting others.

6.3.2.2 Issues of UDA management and analysis

The above data shows how UDA has been managed and how UDA issues have been regarded by archivists in Chinese UDA specialist archives services. The distinguishing features are reflected in the following ways.

8. The holdings of UDA in the custody of Chinese UDA specialist archives services are not all possible types of UDA. The most widely held types of UDA are those of planning and development control, construction projects, civil engineering and architectural design. Very few services keep property and estate documents, due to lack of unified archival policies for the acquisition of these.

9. The provenance of UDA is typically multiple across sectors e.g. provenance from government, business and institutional activities.

10. Generally speaking, ways of collecting UDA in China are traditionally passive.

They commonly wait for the transfer of materials depending on administrative orders to deposit rather than the promotion of best service. A variety of ways of acquisition have appeared in some services. It is interesting to find some active archiving acquisition methods have been used such as documenting by UDA specialist archives services. For instance, documenting the changes in appearance of the physical environment of the city was initiated by the UDA specialist archives service.

11. The survey found there is a variety of reasons for keeping UDA. The main reasons are administrative, legal, historical and evidential reference. Other reasons e.g. information reference, to facilitate communication, cultural reference, technical reference, or knowledge storage are often less found. This indicates that the thinking of archivists is quite government-service oriented rather than society-service oriented.

12. The survey found the custody of UDA was for a variety of needs. Public needs were the first priority to have been considered. The second was the needs of professional functional bodies and activities. The needs of corporate creating agencies were less often considered. This reflects the fact that UDA specialist archives services belong to public service in their nature.

13. The survey found that it is widely accepted that the accessibility and availability of UDA always had difficulties and problems.

14. The survey found different archives services have different difficulties in selecting criteria for the appraisal of UDA, there were not many common features in identifying the difficulties. However, the identification of practical and research values, the identification of the originality and uniqueness in formats and media were the most heavily considered difficulties. The study indicates that UDA appraisal difficulties have not been widely recognised in China. It might be said UDA appraisal issues have not been receiving full attention in China.

15. The survey found the majority of archives services had no particular strategies for UDA appraisal. A few of them had, but others did not understand the UDA appraisal problems.

16. The survey found their main problems in the physical and intellectual control of UDA were integrated control problems rather than physical or intellectual control problems. This is because there is no unified theoretical framework to deal with the conflicts between multiple values of UDA for practical, current and economic use,

and the different purposes of custody for corporate, collective and professional memory.

17. The survey found it is widely accepted and recognised that records of UD should be seen as an integrated body and a category of archives distinguished from other types of records for particular management methods and strategies.

18. The survey found that 5 functions of UDA were widely recognised in documentation strategy. They were:

- UDA are the evidence base for urban construction, development control, the use and maintenance of the built environment;
- UDA are important aids for reconstruction, redevelopment, and conservation of the built environment;
- UDA are a foundation for urban planning and planning control;
- UDA are legal evidence for the ownership of the built environment dealing with the rights of creators and creating agencies as well as the public interest of the citizens' legal rights;
- UDA are important information sources for academic research on movement patterns of UD, the economic development of a city, environmental and urban studies.

The survey illustrates the social functions of UDA in relation to the built environment. It indicates that Chinese UDA specialist archives services are professional information oriented services rather than knowledge and culture oriented services.

19. The survey found that the characteristics of UDA in specialist, dynamic creation and accumulation as well as comprehensiveness were widely recognised and accepted, other features like currency, locality, multiple purposes, etc. were less recognised.

20. The survey found major users of UDA were technicians and engineers, administrators and decision-makers, designers and property owners. The results indicate that UD professionals are the UDA interested groups rather than the public.

21. The survey found electronic images were in existence in half of the services investigated.

22. The survey found that a few services had policies for electronic records.

23. The survey found hybrid systems of paper and electronic records in co-

existence were widely used rather than electronic systems for digitised records.

24. The survey found the majority of services did not know how to select for long term preservation in the case of electronic and digitised records. Among those methods, conversion was the one chosen by the majority of services

25. The survey found it is very widely accepted that there should be integrated policies for protecting the integrity and authenticity of the recorded information of the built environment along the records continuum across institutions, disciplines and sectors.

26. The survey found that following elements were widely selected as criteria for UDA collecting policies. They were A. authenticity, accuracy and reliability; B. integrity, completeness, and comprehensiveness; C. originality and uniqueness; D. legislation related to records; E. evidentiality.

27. The survey found there were not many common elements and methods in UDA intellectual control. The most heavily selected variables as elements in UDA intellectual control were subject, creators and creating agency. These results indicate that there is a lack of collaboration and standards in UDA intellectual control. Little attention has been paid to intellectual control of UDA in China.

28. The survey found that the most widely used finding aids for UDA were computerised finding aids and finding aids in paper form. After these, subject-oriented finding aids, and finding aids classified by media and format were most heavily used. The result provided two facts. First, the importance of access to UDA has not been widely recognised in UDA specialist archives services; more attention has been paid to preservation rather than use. Second, finding aids were much more likely oriented to access by information search rather than access by provenance. The types of finding aids corresponded to subject content, multi-media and format, but the ways of access in the majority of services vary because of a simple lack of standardisation.

29. The survey found the following variables have been widely accepted as indicators of quality of archival service: authenticity and reliability of archival documents; sustainability of the service; cost-effectiveness and best value; client-satisfaction.

In conclusion, findings demonstrate that it is significant to regard the records and archives of UD as an independent category of archives, and these can be studied as a

distinct unit in both UD environment and in archives science. The study found some universally accepted features of UDA which might be developed as a common culture for understanding the types of records e.g. multiple provenance and values, built environment-oriented multiple information functions etc. The study supported the idea that UDA management models and methods have specific features of professional-dependence, which are closely in relationship with UD professional demands and activities. This shows from the provenance of UDA, the purpose of UDA custody, the interest groups seeking access to UDA and the methods of UDA intellectual control, etc. The study also found some serious problems in the management of UDA, e.g. lack of integrated frameworks for UDA policy making, theoretical frameworks for UDA appraisal, collaboration and standardisation in UDA access, archival policies and methods for managing UDA electronic records, etc. The study shows the necessity of integrated research on UDA and the expectations of integrated control methods for UDA along the records continuum across institutions, disciplines and sectors, such as product-control to guarantee the authenticity and reliability of archival documents; process-control to improve the cost-effectiveness and best value of archival management business process; service-control to promote the client-satisfaction and sustainability of the service.

6.3.2.3 Issues connected with the integrated model and analysis

The survey shows the necessity and feasibility of an integrated model for the management of UDA

30. The survey found a few services had policies for integrated +DM+RM+AM programs.

31. The survey found the feasibility of application of the integrated programs in the following archival work have been widely accepted: classification scheme; filing system; documentation strategy and collecting policy; appraisal policy; description standards and cataloguing network; archival document registry system.

32. It is widely agreed that collaboration among creators; users and administrators are ways of implementing integrated +DM+RM+AM.

33. It is broadly agreed that integrated +DM+AM+AM model is the best practice and future direction of UDA management.

34. The survey found there might be a variety of obstacles in the implementation of

the integrated model. The most widely agreed one was power over information control of UDA in custody.

35. The survey found there were different reasons for the necessity of an integrated model. The most widely accepted reasons are improving effectiveness; client-satisfaction, business enterprise; sustainability and consistency of service.

36. The survey found there could be a variety of strategies for the feasibility of an integrated model. The most widely accepted strategy was standardisation, second was modernisation. The survey found over half of the services did not select legislation, regulation and rules as ways for implementation. This fact is in correspondence with the objective needs of an integrated model in a digital environment.

37. A few services gave their opinions on the role of creators, users, and custodians for the integrated model. It is suggested that creators, users and custodians should have different roles in an integrated model. Creators should have consciousness of accumulation and transfer of archives for centralised custody, users should have consciousness of access and use and giving feedback, and custodians should have consciousness of providing good quality and best value service. Each of them contributes a part to the total quality management of product, process and the client-service.

38. A few services gave their opinions on the integrated model. For those who gave their opinions, it is suggested that integrated +DM+RM+AM is ideal for managing UDA towards best practice. But there should be united and unified integrated frameworks for UDA administration in both the UD environment and the archival profession. The results reflect the fact that collaboration between the UD environment and the archival profession is a necessary condition for the success of the integrated model.

39. A few services gave their recommendations on models of UDA best practice and the criteria for these. The points reflect the fact that there are two variables in defining the criteria for best practice. The first is clients' expectation; the second is services' expectation. According to the clients' expectation, UDA best practice means there should be a rational holding structure, allowing modernisation. This permits accurate retrieval and complete availability and best value of records for economic and social benefit. For services' expectation, UDA best practice means integrated framework in legislation, regulation, standardisation, and administration and

integrated +DM+RM+AM for cost-effective management. Findings supported the author's hypothesis of using best value, client-satisfaction and cost-effectiveness of archival management as indicators of UDA best practice.

40. The survey found it is widely agreed that the above survey and the study had both theoretical and practical value.

In conclusion, the survey shows that the integrated +DM+RM+AM model have been widely supported as future directions for UDA best practice. The need to implement such a model is to provide sustainable and consistent client-satisfactory service and cost-effective archival management. The ways of implementing the integrated model would depend on collaboration among creators, users and custodians, and collaboration between the UD environment and the archival profession by means of standardisation, modernisation and legalisation.

6.3.2.4 Conclusion

The questionnaire survey has shown that UDA has been widely viewed as a category of archives in China. However it has seldom been seen as an integrated and independent subject of study so far. There are no theoretical frameworks to guide the development of integrated, physical and intellectual control. The difficulties and problems of UDA management and the needs of Chinese UDA specialist services point to the needs to develop integrated frameworks and integrated +DM+RM+AM models for managing UDA across sectors, disciplines, fields throughout the life of the built environment and throughout the life of records along the records continuum. These developments are suggested as future directions of Chinese UDA best practice. The findings indicate that the methods of integrated research and study have both theoretical and practical value.

6.3.3 Findings about UDA thinking of UD professionals

6.3.3.1 UDA thinking of UD creators

Interview and questionnaire survey of 10 UD creators reflects the UDA thinking of the UD professions and their responses to the integrated framework and model. Questions and answers of the survey were tabulated in Appendix F.

1. The custody of UDA. The survey found the custody of UDA after the UD

professional activities were various, the majority of them were held by records management services of the creating units; some of them were held by local UDA specialist archives services; a few of them were held by the creators. This variety of practice leads to the problems of accessibility and availability.

2. Ideal place for the permanent custody of UDA. The survey found that most professionals recommend that UDA specialist archives service is the best place for the permanent custody of UDA. However, a few professionals think it is ideal to keep materials in the creating unit. The reason is that the UD professionals wish to retain control of access to information and think that custody by them will be convenient for access.

3. Standardisation of UDA management. The survey found every UD working unit had normalisation requirements for the content, context and structure of UDA at creation stage; most of them have filing and classification schemes, retention schedules and rules for transfer of materials. The survey found that the standardisation of the UDA management in UD environment is already in existence in accordance with the laws and regulations of UD administrative authorities, but not with those of the national archival authorities.

4. Managing electronic records. The survey found that most working units have electronic and digital records and have standards for security, exchange and long-term access to these. The survey found the management of electronic records in UDA specialist archives service is lagging behind general UD practice.

5. Purposes of the creation of records. The survey found different UD professionals have different purposes for the creation of records. Most of them think the purpose of creation is for decision making administrative reference, information exchange and historical reference, a few of them think the purpose of creation is for legal evidence. None of them think the creation of records is for cultural promotion or in compliance with the total quality management requirement. The results reflect the fact that the majority of UD professionals do not recognise that they have legal obligations to create records for the accountability of what they are going to do and for the transparency of information for citizens' rights in participation of public affairs.

6. Use of UDA for long term preservation. The survey found there is a variety of UDA uses for long term preservation. The highest selected one is historical reference, next is legal evidence and information exchange, and the last is administrative reference. None of them think the creation of records is for cultural

promotion or in compliance with the total quality management requirement. The survey indicates that archival preservation of UDA in the UD environment should be focused on connecting past to present and present to future to meet UD professional information demands.

7. Opinions on the integrated +DM+RM+AM model. The survey found that all the UD professionals welcomed the model.

8. Opinions on the role of UDA specialist archives services serving as the archival authority for the centralised administration of local UDA and as a centralised places for the custody and use of UDA. The survey found all the UD professionals support the suggestion.

9. Difficulties in UDA information access and use. The survey found some difficulties. It is widely demonstrated that major difficulties in UDA information access are reliability and authenticity of records and timely access. The results are corresponding with the above findings that traditional archival management had paid too much attention to passive preservation and not enough attention to quality of access to archives.

10. Expectations on UDA archival information service. The survey found different types of expectations on UDA information services; the most widely expected UDA services were the supply of reliable and authentic records. The result supports the necessity of integrated +DM+RM+AM model for providing reliable and authentic records. Without such an integrated control, archives services can hardly improve their holding structure and overall use, and can hardly meet the clients' expectations as to the quality of information they provide.

In conclusion, findings suggest that an integrated +DM+RM+AM model is necessary for implementation in the UD environment. This model is fully supported by the UD creators. There are two major reasons for the necessity of the +DM+RM+AM model.

- First, most activities in UD environment have been carried out in a digital environment. The management of electronic records needs an integrated model as a condition for best practice.
- Second, the problems of UDA access, the difficulties of the availability of UDA and the expectations of UDA information services show that there are demands for an integrated framework and model for sustainable and consistent archival

information services and the quality of archives as to reliability and authenticity for client-satisfaction.

The results show that the integrated model would be feasible for implementation, if we take the following advantages of present practice into consideration.

- First, the management of UDA in UD environment is already moving towards standardised management under the leadership of UD administrative authorities as part of UD professional administration.
- Second, the UDA specialist archives services have already played the role of UD professional administration as far as archives are concerned on behalf of the UD professionals. This corresponds with the purposes of UD creators, and has been regarded as the ideal place for the permanent custody and use of UDA. These observations indicate that UDA specialist archives services have already carried out multiple archival functions in the UD environment and have been widely recognised as the most appropriate unified archival authority for records and archives management in the UD environment. If the UDA specialist archives services could employ integrated approaches for developing UDA policies and standards and could collaborate with creators, users, other custodians and administrators under the same framework, an integrated model might be workable in the real world.

6.3.3.2 UDA thinking of UD users

The analysis of the findings of investigations on UD professional demands gives the following information, which reflect the UDA thinking of 685 UD users. The original data can be seen in two research reports by An Xiaomi and Zhou Xiaoying (1999a and 1999b)

1. The role of UDA information in UD information demands. The survey found that the demand for primary information on UD activities is more common than for other types of UD information. A variety of information sources are usually asked for in addition to the archives e.g. secondary documentation.
2. Contents of information asked for. The survey found that the contents of UD information asked for covers a variety of disciplines and a variety of UD activities, among which UD administration, public works of municipalities, civil engineering,

engineering design, urban planning are the most common. The result indicates that the range of UDA services should cover comprehensive UD disciplinary subjects.

3. Types of media asked for. The surveys found a variety of UDA media were demanded. The most widely sought media are printed documents, photos, computer-readable records, and audio-visual materials. In addition, optical materials, microfilms are also needed. The result reflects the fact that different media carry different types of information for different uses, thus it is important that all types of media are included.

4. Purposes of information access. The survey found that the major purposes of UD information are for storing knowledge, information reference, evidential reference, reference for academic research, legal evidence. The survey found UD professionals are potential users of UDA.

5. Types of UD information services and access to these. The survey found a variety of information services had been accessed by UD users. These included records management services of creating units, technical sections of creating units, municipal libraries, information consulting services, municipal archives, UDA specialist archives services, other organisations, etc.

- Among these the number of users accessing the UDA specialist archives service was the largest.
- Second were municipal libraries and information consulting services.
- Third were the records management services of creating units.
- Fourth were the municipal archives services.
- Last were the technical sections of creating units.

These results correspond with the various types of information demands from UD users and reflect the fact that demands for UD information services are in a variety of forms, no single information service can take place of another. The findings show that UDA specialist archives services have played an important role in meeting UD information demands and are most welcomed by the UD users.

6. The most frequently used types of information services. The survey found that:

- UDA specialist archives services were the first;
- second were the libraries of the working units;
- third were records management services of the working units;
- fourth were the secretary offices of the working units;

- fifth were the public libraries;
- sixth were information and investigation sections of the working units;
- seventh were the professional libraries;
- eighth were the information research institutions of the UD field ;
- ninth were theoretical research academies;
- tenth were news agencies;
- eleventh were academic associations;
- twelfth were national archives services and national statistics;
- thirteenth were municipal archives;
- fourteenth were other units;
- fifteenth were policy research units;
- sixteenth were the information consulting services.

The survey found that the use of the types of UD information services is various. This corresponds with the information demands of UD users for multidisciplinary contents, multiple types of information source, media and purposes, etc. The results also reflect the different positions of different information services in meeting UD information demands. The findings show that UDA specialist archives services have been the most frequently used among other information services. The reasons for this are that UDA specialist archives services are seen as a central place for the custody of comprehensive UD recorded information created by UD organisations and activities.

7. The ideal place for the establishment of UD information centre. The survey fund that:

- UDA specialist archives service was the most common chosen ideal place for the establishment of UD information centres.
- second were UD library and reference departments;
- third were urban planning departments;
- fourth were municipal archives;
- fifth were architectural design departments;
- sixth were comprehensive libraries and information services;
- seventh were municipal works departments;
- eighth were UD professional libraries;
- last were other services.

The results show that UDA specialist archives services are most welcomed as the ideal place to act as UD information centres, but half of respondents think UD libraries and reference departments and UD planning departments can also be the ideal place for establishing UD information centres.

In conclusion, the above findings indicate that UDA are one important type of UD information resources and that they are most frequently and broadly used by the UD professions. The demands from UD professions indicate that multiple disciplines of UDA in contents, multiple media of UDA in structure, multiple purposes of UDA in context are expected by UD professionals. However the facts indicate that no single information service can meet all types of information demands from UD professionals. The study demonstrates that UDA specialist archives services are the most comprehensive services for the permanent custody and use of UDA. The study provides reasons for the necessity of integrated frameworks for UDA information services. It demonstrates the values of collaboration among the suppliers of UD information for client-satisfaction and best value of information services.

6.3.3.3 Conclusion

The surveys of UDA thinking of creators and users show that the records and archives management in the UD environment, and the permanent custody and use of UDA are related to UD professional demands and administration. It is widely suggested that the integrated +DM+RM+AM model is the future direction for managing UDA in response to UD professional demands. The study indicates that UDA specialist archives services are expected to be the ideal place for the permanent custody of UDA, the most popular place for the establishment of UD information centres, and the most appropriate archival administrative authority responsible for implementing the UDA integrated model.

6.4 Evaluation and Conclusion Based on the China Study

This part discusses the meaning of the research findings and how they relate to the research hypotheses. It points out the contribution made by this research as well as its limitations, and finally gives recommendations for future study.

6.4.1 UDA concepts in China

The China case study observed and investigated how UDA have been understood by creators, users, records managers, archives administrators (including custodians) in the UD environment and in the archives profession. It shows the feasibility of developing a common UDA culture and the limitations of this.

1. The UDA common culture

The study indicates that the following assumptions are supported by UDA creators, users and administrators (including custodians).

(1) UDA is a collective term, which refers to a particular category of archives that arises from functional provenance and purposes in the creation of records. The provenance of records is from urban planning, construction and development functions and activities. This includes a variety of creators, disciplines and sectors but with the same context. They all have a relationship with the process of development procedures for shaping and making the built environment. UDA covers a variety of special archives in a variety of forms and media with similar professional special characteristics, similar social functions, multiple long term preservation values, and common archival management difficulties and problems.

(2) UDA requires specific types of archival management thinking, oriented to providing services to UD professionals. Concepts of UDA originated from the general demands for information from different UD disciplines and sectors for authentic and reliable contextual information on the built environment. They came into existence from the awareness of the need for accountability and the discharge of legal obligations of UD functional bodies and from the archival consciousness of UD administration.

(3) UDA imply types of post-custodial archival management paradigms, which are focused on the integrated control of records and archives management in the UD environment, corresponding to UD professional administration and information demands, as part of process of developing the built environment. This paradigm demonstrates a way of achieving integrated control and front-end-controlled archival administration as a means to guarantee the reliability and authenticity of records. It

provides a centralised archival service, which documents the memory of the life of the built environment. It delivers comprehensive primary information sources to UD professional bodies and activities.

2. Limitations of Chinese UDA concepts and the need for innovation

The investigations achieved the same results and these correspond with the findings of the literature review in Chapter 2. This study found that Chinese UDA concepts have the following limitations. There are different interpretations of UD context in terms of describing archives, their agent and place. There are different interpretations of 'long term preservation value'. The lack of integrated thinking on these questions has produced a variety of archival policies and fragmented archival programmes in managing UDA. From this many difficulties and problems have arisen in the management and use of UDA.

The study indicates that there should be innovation in studying UDA concepts.

- First, any such study should be based on a dynamic and open post-modern mindset, based on records continuum thinking and using interdisciplinary and multidisciplinary integrated approaches and including a client-oriented marketing research strategy.
- Second, integrated research should be a functional requirement in developing the research framework. Integrated research implies that needs of all types of research clients (educators, records managers, archivists, creators, users, etc.) should be considered as a whole as the context for research.
- Third, the research methodology should be scientific and systematic, and should use a variety of research methods that are interrelated and complementary. The different methods provide different ways viewing UDA from different angles and different aspects at different levels and so form an organic UDA methodology.

The study indicates that a broadly accepted UDA concept could be promoted for UDA best practice. This UDA concept could be developed from common expectations and the purposes for these. The study indicates that no matter where UDA are located, no matter who preserves them and no matter how they have been preserved, the expectations on the accuracy, authenticity, reliability and completeness of UDA are the same. Thus I suggest that the concept of UDA should

be changed from focusing on the physical control of UDA custody or the intellectual control of UDA access, to a focus on the integrated control of the context of records creation, maintenance and use. The context of UDA can be understood broadly to cover all the types of UD activities in the UD environment. The locality can be in diverse forms as global, international region, state, internal region, municipality, city, county, district or countryside, etc. The provenance can be in a variety of forms as organisation, function or project, etc. Purposes for the existence of UDA can be individual, corporate, collective, professional, societal, national demands or the general demands of people, etc.

6.4.2 Features of UDA management in China

The study indicates that the management of UDA in China has 6 features:

1. Centralised archival administration dependent on professional administrative control. The findings show that UDA has been seen as an independent category of archives to be centrally controlled by two separate types of professional administrative authorities. These are the national archival agencies and the national UD archival agencies. The study shows that collaboration and co-ordination are expected among different archival authorities to have integrated control policies for UDA administration, in order to avoid conflict and confusion in the normalisation of UDA management.

2. Success of centralised UD professional administration, UD integrated control methods and client-oriented service. The findings show that the integrated control of records and archives management in accordance with UD professional demands and administration, corresponding with the patterns, processes and procedures of UD functions and activities, and with movement patterns, values and functions of records, have brought significant social and economical benefits. Findings indicate that UD professional integrated control methods are the most cost-effective archival administrative methods, in contrast to separate national archival administrative control methods. The key to success here is that the integrated control dependent on UD professional administration and focused on client-satisfaction service while the separate control focuses merely on the power or control of national archival resources. The former relates to the accountability, legal obligations and social functions of UD professional administration, while the latter has no investment in

UDA business and has no responsibility for the quality of UDA and the provision of service. Finally the former always has expert knowledge of both UD and archives for the control of UDA while the latter can only have archival knowledge for the control of UDA.

3. The question of government administrative tools as a major obstacle in managing UDA. Evidence was found from the investigations, questionnaire surveys and literature review. This study indicates that UDA in China are still traditionally regarded as tools of government control. Thinking like this was important and effective when there was no archival consciousness of archives service and in a time of planned economy. However, in the current market economy, administration in all trades and professions is moving towards legalisation and total quality management. Organisational accountability for recordkeeping, and the citizens' rights of access to archival information are getting increasingly recognised in society. This study indicates that archival theory has lagged behind archival practice, particularly in the UD environment. Innovation is needed in UDA administration. Emphasis should be put on the provision of a service based on client-satisfaction rather than on the power of control. It is time that best practice and setting indicators and criteria for it should be put in place. These should be the basis for legalisation and normalisation of UDA management. They are the guarantee of the client's expectations for accessibility, availability and readability of reliable, authentic and systematic UDA. It is time for a modification of the ranges of UDA archives administration in the Archives Law, regulations, and policies. This should be focused on the criteria for best practice, no matter who is responsible for the archival administrative control. There must be an integrated records and archives management programme for the UD environment.

4. Provenance by function and by project are unique features of UDA. The findings show that a variety of archival approaches to provenance have been co-existing in the management of UDA. For example, there is provenance by organisation, by function or by project. The findings demonstrate that provenance by function and by project are unique approaches for UDA, which has to deal with records of multiple creators, disciplines and sectors and with creators that are always in a state of dynamic change while the purposes and objectives of the records creators remain constant. Different archival approaches have made different contributions to the completeness of the

records, and have different limitations on the accessibility and readability of UDA. This study shows they should be complementary with each other and based on integrated UDA approaches instead of taking one and neglecting the others.

5. Where diverse UDA custodians co-exist, UDA specialist archives services relate specially to UD professionals and the environment. The study shows that a variety of archival services provide UDA. The UDA specialist archives services are the only services that are purposely established to meet the needs of UD professional activities and bodies. Thus they are the most welcome to UD professionals. The findings also show that traditionally the range of UDA specialist archives services was focused on the city, due to the significance of UDA to the development of the city and the importance of the built environment of cities to a nation. Due to great changes in the modernisation and urbanisation of the built environment, different ranges of UDA services at different levels are also needed such as national, regional, municipal, city, district, county, countryside. The national specialist UDA services of the UK are good examples for further study.

6. Lack of integrated frameworks for managing UDA. The study shows though there are national policies and standards for managing UDA, there is no united integrated national framework for managing UDA either in theory or in practice. This applies when records and archives management in the UD environment is seen as an integrated whole or when the documentation of the complete memory of UD professional bodies and activities and the life of the built environment is considered, or when records creation, maintenance and use is seen as a continuum, or when the demands of different UD creators, users and administrators are brought together. Findings support the hypothesis that integrated frameworks are necessary for managing UDA towards best practice. The integrated frameworks should be integrated into the total quality management of UDA covering UDA product, process and service control.

6.4.3 Research contribution, limitation and recommendations for continuing research

This section outlines the research contribution and the limitations of the China study and gives recommendations for continuing research.

1. Research contribution

It has been seen that the idea of integration (section 1.6) provides a way of conducting research on a specialised category of archives, which has up to now no intellectual or practical framework. Such a study has brought different ways of UDA thinking together, has demonstrated the similarities and differences of UDA understandings and expectations together to create a common UDA culture. The study has brought theory and practice together, has brought different types of models and different types of methods together to identify UDA best practice. It is through the idea of integration that the role of UDA in the UD environment and in the archives profession and their relationships can be systematically observed and comprehensively analysed. It is the integrated way of thinking that enable those arguments, debates, conflicts, difficulties and problems of UDA issues to be understood from different angles, perspectives, and in different time periods and places. Thus the universal characteristics of UDA and their implications can be broadly demonstrated and the universal principles of UDA best practice can be objectively recognised.

2. Research limitations

The study has its limitations in methods of data collection and analysis.

The methods of data collection had two major limitations. First, the data collecting was limited by cost, time available and particular place in conducting research. Second, data collecting was limited by the identification of research clients and the interested groups and research problems.

The methods of data analysis had two limitations. First, it was limited by the research purposes set up in section 1.3. There are many possible implications from the research results. The analysis of the data was much focused on research questions posed in section 4.2.2 and the research aims and objectives set up in section 4.4.1 and 4.5.1. Second, investigation of UDA thinking was limited mostly to UDA specialist archives services, UD creators and users.

3. Recommendations for continuing research on UDA

The study raised as many questions as were answered. Chinese archivists face dynamic changes in the UD environment and meet the challenges of Chinese innovation in administrative systems, organisational structures, the market economy, office automation, information society and the knowledge economy, etc. The future of Chinese UDA work needs research as a way of solving existing problems and a way of pre-emptive future problems. Research is also a way of creating new archival knowledge and new methods and techniques for the future. The following recommendations can be suggested to continue this study.

- The idea of integration (formulated in section 1.6) as a way of overall research thinking. Integration refers to a client-oriented marketing strategy for research to view all types of research needs of various clients as a whole. A start might be made by looking at the overall interests of the majority as the first priority. Interdisciplinary and multidisciplinary approaches are needed in order to view different ways of thinking as forming part of an organic whole. A collaborative approach is needed to promote partnerships between researchers and clients, with an emphasis on best practice. These could be directed through well-organised and purposely-designed collective research instead of individual spontaneous research.
- Integrated research (formulated in section 4.2.3) and integrated methods as ways of disciplined research process. The research process should connect historical issues with present problems and future directions connect theory with practice and case studies as well as enabling practical problems to be solved via methodology of analysis and guidelines to solutions instead of either by purely theoretical research or by purely problem-based and experience-based research. It implies carrying out research innovation based on research achievements and cross-national studies; carrying out traditional research methods with new ways of research thinking, new research knowledge and techniques.
- Issues of integrated policies and operational guidelines as contents for continuing research. This study demonstrates the significance of integration as an approach to the Chinese UDA problems and as the direction for future UDA practice. It suggests integrated frameworks and models for best practice. What would be the integrated archival policies and operational measures for practice? How might

one overcome the obstacles to integration in the real world? These questions need further study. The purpose of such study would provide workable procedures and methods for implementation in the work-based environment.

6.4.4 Summary

This part discusses, synthesises and evaluates research findings and results on 3 UDA issues. First, it discusses UDA concepts in 3 aspects. Second, it synthesises features of UDA work in 6 aspects. Finally, it evaluates the research contribution by the research and its limitation and then gives recommendation for future research.

CHAPTER 7 – CONCLUSION

7.1 Introduction

This chapter discusses three topics: an overview of the Chinese UDA paradigm; an overview of the cross-national conclusions on UDA; evaluation and suggestions for future research. The author tries to answer questions posed in chapter 1, 2, 3 and 4. The hypothesis was measured from theory, practice and research. All evidential facts were brought together by this study to support the conclusions.

7.2 An Overview of the Chinese UDA Paradigm

This section synthesises the strengths of the Chinese UDA paradigm; it critically evaluates its limitations and finally analyses the trends of Chinese UDA practice.

7.2.1 Strengths of the Chinese UDA paradigm

Cross-national studies of this project show that the uniqueness of the Chinese UDA paradigm consists in taking interdisciplinary groups of UD records worth archiving as an organic whole so that they can play a full role in meeting the comprehensive demands of UD professional fields across disciplines, sectors, creators and throughout the life of the built environment. The paradigm provides a way of seeing records and archives management in the UD environment as an integrated part of UD professional administration. This kind of management approach has important implications for the integrated control of UDA. The Chinese UDA documentation framework is oriented towards the professional and geographical areas. Thus the integrated +DM+RM+AM model depending on UD professional administration is widely endorsed by archivists and UD professionals. In addition, the permanent custody of UDA in specialist archives services is broadly endorsed by UD professionals.

The Chinese paradigm has two distinctive strengths.

First, it focuses on integrated records and archives management from the point of view of professional accountability in the public interest. The paradigm provides an

active front-end archival approach for achieving an integrated control of UDA products, management processes and client services. Chinese experience already shows the success of this model, such as:

- documentation on a functional basis gives reliable and accurate information, so providing accountability, no matter how the structure of organisations change;
- documentation on a project basis gives consistent and sustainable information on the creation, maintenance and use of the built environment, no matter how the creators and owners of records change;
- the centralised administration and custody of UDA by specialised archival services provides supervision, guidance for long-term preservation and access to UDA.

The paradigm has advantages in ensuring that there will be well organised, accurate, reliable, authentic and complete UDA for long term use.

Second, the paradigm focuses on meeting UD professional needs as the goal of archival custody. The many and varied values of records are maximised for interdisciplinary management and use. The paradigm provides a model for customer service. This aspect has been clear from the creation and development of Chinese UDA concepts, as well as from the following features of Chinese UDA experience.

- Centralised archival custody and use of UDA for the comprehensive needs of the UD professions and interdisciplinary field;
- Comprehensive needs of UD professions have been identified and are the first priority when considering the acquisition of new materials. Thus, the establishment of the UDA documentation framework is oriented to the needs of the UD professions;
- The establishment of UDA specialist archival services has been expanded from large and middling size cities to small size cities and towns , because of the needs of urban planning, construction and management;
- The work of UDA specialist archives services has been the focus of the national Chinese UDA enterprise.

The Chinese UDA paradigm has advantages in that it identifies the needs of major interested groups as the first priority for consideration when developing Chinese UDA services.

To conclude, the Chinese UDA paradigm is unique in providing a post-custodial mindset for records and archives management in the UD environment. It focuses on the " context, purpose, intent, interrelationships, functionality, and accountability of the record, its creator, and its creation processes, wherever these occur". (Ketelaar 2000: 326.)

7.2.2 Limitations of the Chinese UDA paradigm

This study found that Chinese UDA practice met more and more difficulties through the 1990's. The Chinese UDA paradigm appears to have the following limitations.

1. The present Chinese UDA paradigm lacks an independent and integrated UDA theoretical framework which looks forward to future UDA development. Chinese UDA thinking has evolved directly from the needs and experience of Chinese UD practice under the guidance of traditional Chinese archival theory. This theory does not provide a suitable basis for UDA management at present, nor for the future. There are four evidences for this.

- First, the objectives of traditional Chinese archival theory are to support the administrative records of government activities. Its application is not to appreciate broader categories of records which result from wider activities.
- Second, traditional Chinese archival theory sets out the principle that provenance relates only to static organisational structures and single types of creators. This needs amending in order to encompass creators who constantly undergo dynamic change, multiple creators and multiple types of provenance.
- Third, traditional Chinese archival theory is based on the paper world and the planned economy. This needs to be amended to cope with a context where paper and digital records co-exist and one where records are digital. The administrative environment has changed from a planned economy to a mixture of planned and market-based and a full market economy.
- Fourth, archival theory should derive from the success and failures of many and varied archival models and methods. The present UDA practice lacks an independent and integrated theoretical framework. It lacks integrated best practice indicators and criteria for future evaluation.

In conclusion, Chinese UDA thinking has a weakness in that it is dependent on traditional archival theory, and does not provide an assessment of its applicability or the flexibility to amend and modify it as appropriate.

2. The present Chinese UDA paradigm is heavily influenced by a planned economy thinking that has following limitations.

- First, it has a weakness in that it thinks only in a single way and excludes variety. Thus archival models and methods that are different from those of traditional archival theory are regarded as excluded, and there is always disagreement and debate on variations. There are conflicts between archival administrators on policies relating to types of UDA. There are separate different standards for UDA management; and thus there are no coexisting complementary approaches. There is a lack of competition and collaboration between UDA services.
- Second, it has a weakness in that it is managed by autocracy, dependent on compulsory rules which lack legal consciousness and universally accepted standards for the assessment of the performance of UDA services.
- Third, it has a weakness in that it focuses on serving governors rather than citizens. Thus attention is only paid to the single interests of administrators rather than to the varied interests of creators, users, custodians and administrators.

3. The present Chinese UDA paradigm lacks open and dynamic solutions to keep abreast of the times, to adjust archival theory and policy to the dynamic changes of the creation process and creators of the UD environment. Thus UDA services, despite the dynamic changes of organisational structures, reengineering and ownership of records, are still regarded as passive keepers only responsible for the end-control of records. This means that the supervision and auditing of records by the archival services are regarded as against archival laws. This means that the creation of UDA specialist archives services for small towns and cities is regarded as against archival regulations. Thus, the proper documenting, recordkeeping and preservation of an accurate, reliable, authentic and complete memory of the built environment has many obstacles to overcome.

In conclusion, the limitations of the Chinese UDA paradigm have three implications.

- First, facts indicate that traditional archival theory trails behind Chinese UDA practice. There is a necessity of developing independent and integrated theoretical frameworks for UDA for its overall and future development.
- Second, the facts indicate that planned economy based thinking is out of date in the context of the new Chinese market economy environment. It is necessary and significant to have cross-national studies on best practice models and methods as well as assessment systems for the present and future of Chinese UDA work.
- Third, the facts indicate that it is necessary to formulate integrated research to provide new archival thinking and the most appropriate archival approaches to the solution of the current UDA problems and the endlessly emerging new UDA issues.

7.2.3 Trends of the Chinese UDA practice

Influenced by the demands of the Chinese UD environment and the changes of the Chinese UD environment into the digital city and the social environment into an information society under a market economy, Chinese UDA practice has the following trends:

1. This study found that the national UDA administration is moving towards legal administration and standardised management integrated into UD professional administration under the market economy. UD professional authorities are the real authorities for UDA administration in the real world. The following evidence reflects such a trend:

- the legal accountabilities of creators and creating units for documenting accurate and reliable project records and transferring complete sets of records to centralised custody has been written into UD professional laws and regulations as part of UD professional administration and as part of quality management of UD products e.g. Planning Act(The People’s Congress 1989, Article 38), Regulations for Qualities Management of Construction Projects (The Ministry of Construction 2000, Article 16, Article 17, Article 59 and Article 73) ;
- independent professional national UDA policies and standards have been issued by UD professional administrative authorities and have been widely implemented in the Chinese UD environment, e.g. Description Standards for Urban

Development Archives (The Ministry of Construction 2001), Urban Development Archives Management Regulation (1997a), Standards for the Examination and Evaluation of Urban Development Archives Objectives Management (The Ministry of Construction 1997b), Measures for the Management of Urban Pipes and Power Lines Project Records, (The Ministry of Construction 1997c), Quality Requirements for Urban development Archives Files (The Ministry of Construction 1995a), Classification Standards for Urban Development Archives (The Ministry of Construction 1993), etc.

The successes and failures of the past have demonstrated that UDA administration would be better settled based on integrated UDA management and integrated into UD professional work. UDA administrative agencies representing UD professional administration are more appropriate archival authorities for records and archives management in the UD environment than national archival administrative agencies. This is because only the former focuses on UD customer-driven service and has the necessary professional expertise, knowledge and interdisciplinary advantages to direct Chinese UDA enterprise towards best practice.

2. This study found that the objectives of models and methods of UDA management are going to change in correspondence with the changes of UD professional activities and the changes of the needs of UD environment.

- It seems that the context, content and structure of UDA are changing from paper records to electronic and digital records as the main types of media, alongside other varied media (photos, microfilms, audio-videos etc). They are changing from a simple focusing on construction projects to include all types of UD activities recorded in the UD environment.
- Management tools therefore need to change from manual to modernised tools and equipment e.g. microfilming, digital, automation, networking, extranet, intranet, Internet, etc.
- Management methods need to change from an autocratic archival administration to modernised management methods e.g. systems management, total quality management (TQM), key focus management (A.B.C), objectives management (targeting management), legal and economic control, standardisation and modernisation, etc.

- The best practice management models have evolved from the +DM/+RM/+AM to the +DM/+RM+AM, then to the +DM+RM/+AM and into the +DM+RM+AM model.

The investigations of this study show that present Chinese archival theory and policies are backward in guiding the present Chinese UDA practice. The surveys of UDA thinking reflect the fact that the archival knowledge of Chinese archivists lags behind meeting the new challenges of electronics and the new changes of the needs of the UD environment as well as the new changes in UDA practice. In addition, the archival consciousness of creators and UD administrators vary from one to another. There are two trends in understanding the needs of UDA management. One trend is that more and more creators and UD administrations are coming to recognise that they are legally accountable for good recordkeeping and that it is important to have integrated +DM+RM/+AM or +DM+RM+AM for consistent services to society. Thus more and more creating units would like to keep records in the long term on their own. Another trend is that some UD creators and administrations are coming to focus on the economic benefits of their activities at present, in so doing losing their social responsibility for the public interest in the long run. Thus they are cutting the cost and resource and even the archival units for recordkeeping and would shift all the recordkeeping duties to UDA specialist archives services. The above facts indicate that it is important to establish universally accepted best practice criteria and the assessment systems for customer-driven UDA services.

3. This study found that the widely suggested UDA best practice model for the digital era and information society would be an integrated +DM+RM+AM model within integrated archival frameworks. The indicators of best practice are widely identified as being the authenticity, reliability and best value of archival documents; the cost-effectiveness of the UDA management processes; the sustainability and client-satisfaction of the UDA services. The power of UDA information control over the custody and administrative authority for integrated programs is widely recognised as key obstacles to implementing an integrated framework. Integrated frameworks can be achieved by means of standardisation and modernisation. Such a model is widely found to be applicable to developing united classification schemes, documentation strategy and collecting policies, filing systems, appraisal policies,

description standards, cataloguing networks and archival documents registry systems.

4. This study found that the role of UDA specialist archives services in society are going to change in correspondence with the changes in the needs of the UD professional field and with the changes in the needs of the social environment. This study shows that the most appropriate place for the custody and use of UDA is widely suggested as being the UDA specialist archives services. Three major functions of the UDA specialist archives services are expected by creators and users. They are:

- to act as the UDA administrative authorities for the integrated control of +DM+RM+AM.
- as centralised places for the custody and use of UDA for a particular administrative and geographical area, e.g. city, town and district, etc.
- as information centres for the access to UD professional information.

This study shows that the focus of UDA specialist archives work is expected to change from preservation to the creation, maintenance and use of UDA; from an emphasis on the physical entity by end-control to a focus on process by integrated front-end control; from being passive keepers to being active partners of the creators, users, administrators, custodians and information managers of UDA. This study shows that such a UDA experience is against the traditional archival theory and the Chinese archival law. According to the archival law, the role of a UDA specialist archives service is to serve as the only centralised place for the custody and use of UDA and that administrative agencies can not operate this service. The role of archivists there are actually as keepers rather than administrators of records. Thus there are debates between the national archival agencies and the UDA administrative agencies. It is time archival theory and laws should be changed to correspond with current needs.

5. It seems that due to the influence of the market economy, the following changes have taken place in the creation and development of UDA services:

- Types of UDA services are changing from single type of UDA specialist service to a variety of types of UDA services each having different priorities and

interests to respond to the many and varied needs of the UD field and the public interest. They are also changing from a single form of UDA specialist archival service to a variety of forms of UDA specialist archives services to provide different types of UDA use for different types of interested groups, for different purposes focusing equally on different roles of different types of UDA custodians along the records continuum. It seems in the future there will be no single type of UDA specialist archives services, which could collect and provide all types of comprehensive UDA sources in a locality for all kinds of societal needs. Services based on the records of an organisation, a particular function or project each have their own advantages and limitations. This investigation shows that there is a need for all three types of needs of the UD profession and the public are to be met.

- The establishment of UDA specialist archives services is changing from corresponding with the needs of administrative authorities to corresponding with the needs of the UD practice of a geographical area. More and more UDA specialist archives services are established in small towns and cities. The need for regional and national coverage by UDA specialist services are increasing. In future, the range of UDA specialised archival services will be determined by competition and collaboration. They will also market their services in collaboration under mandatory rules.
- The management of UDA specialist services is facing challenges in the market economy and has to pay attention to the indicators of their performance. This is seen from a variety of facts. For instance, the funding of UDA specialist archives service is in a variety of forms, both public and private. There is less and less financial investment in the preservation and use of UDA by government. UDA custodians have to pay attention to the cost-effective management process, the appraisal and overall use of the records. Open access to UDA services is facing copyright challenges and the citizen's right to access records. UDA services have to pay attention to both the promotion of the use of records and the protection of the record creators' needs.
- The traditional collection of records by transfer in accordance with compulsory national archival policies is getting less effective, as in a market economy the provenance and ownership of records come in a variety of forms. Records are owned by the state, private and joint bodies. UDA specialist archives now have

many difficulties in collecting UDA sources. The collection of UDA sources is fundamental for guaranteeing the quality of UDA services to users. To solve endlessly emerging UDA problems, the existence and the improvement of UDA services must depend on good performance and service to clients. This performance must comply with legal administrative control, compulsory measures and regulations, and also financial administrative control in which there is an element of reward and sanction. This aspect is shared by the conditions imposed on UD professional bodies under contract.

Looking to the future, national Chinese UDA enterprises are moving forward on the road of legislation, standardisation and modernisation. Chinese UDA services are meeting the challenges of the market economy, digital and networking. Trends of Chinese UDA practice are moving towards becoming competitive and collaborative. The direction of Chinese UDA work is towards integrated frameworks as an assurance of best practice. The need to formulate integrated and unified assessment criteria and indicators of UDA best practice is becoming imperative.

7.3 An Overview of the Cross-national Conclusions on UDA

This section discusses the cross-national conclusions of the present study on UDA in 4 aspects: UDA concepts; UDA models and best practice criteria; UDA management employing the idea of integration; universal issues for further study.

7.3.1 Types of UDA concepts and the conceptual framework

This study indicates that UDA has two meanings. One relates to subjective concepts arising from people's perception and interpretation of UDA. The other relates to objective concepts deriving from people's experience with UDA. Subjective concepts vary in line with different interpretations of context, provenance and purposes of archival preservation for UDA. Objective concepts are derived phenomena about the social functions and characteristics of UDA. A conceptual framework towards a common culture for UDA can be suggested as follows. See Figure 7.3.1-1.

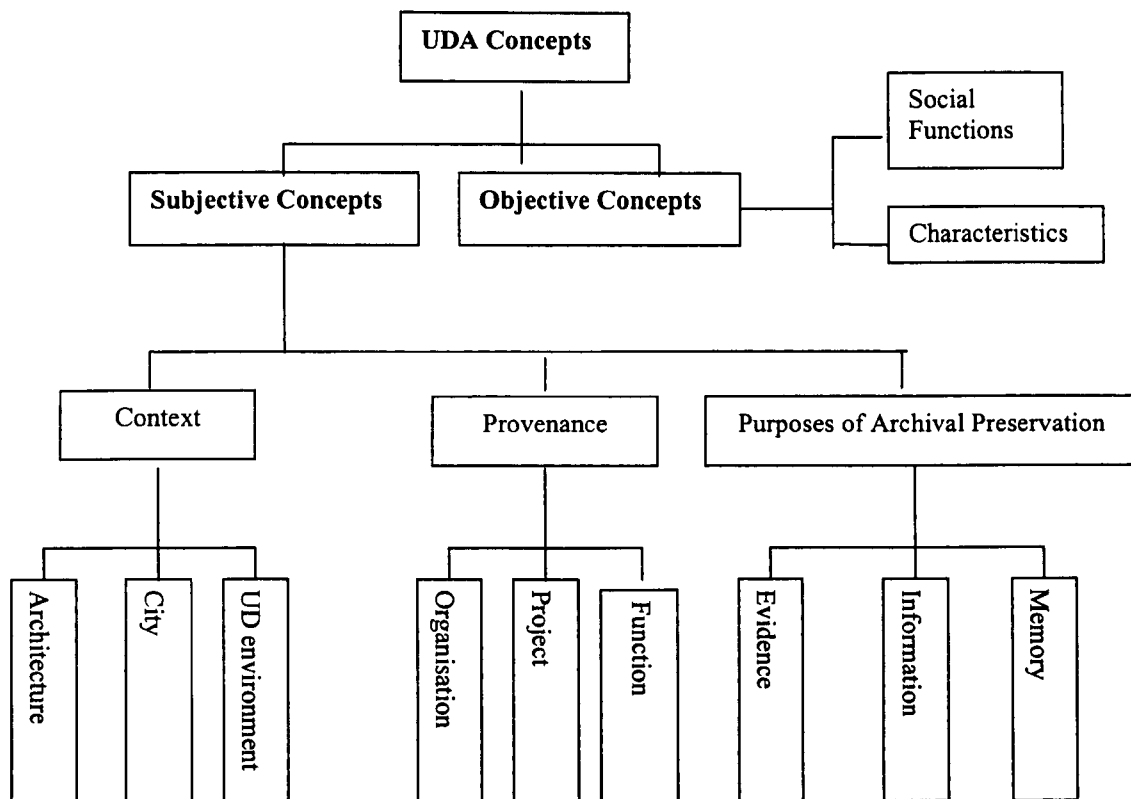


Figure 7.3.1-1 A Conceptual Framework towards a Common Culture for UDA

1. Subjective concepts about UDA

This study found that the existence of subjective concepts about UDA was determined by basic factors such as time, place, the archival culture of a country, the types of UDA needs of that society, the UD legal system and the archival administrative system of the state. For instance, UDA in the UK are regarded as ordinary rather than an specialist archives. Their first objective is to provide for the corporate creating agency's needs; their second objective is to meet public needs and their third objective is to serve the needs of UD professional functional bodies and activities.

However, things are different in China. There is a variety of UDA terms and concepts in China according to different interpretations of UDA needs and according to the changes of those needs across time periods and places. The move from a planned economy to a market economy has also affected the question. In a planned economy, archival custody for public needs is the first priority; the needs of professional functional bodies and activities are the second priority; the corporate

creating agency's needs are the last consideration. However, in a market economy, the corporate creating agency's needs are the first priority, the needs of professional functional bodies are the second priority, the public needs are the last consideration.

2. Variables and the types of subjective UDA concepts

There are three variables that bring about the dynamic features of these subjective UDA concepts and determine their characteristics. These are context, provenance and the purpose of archival preservation.

- Context as a variable

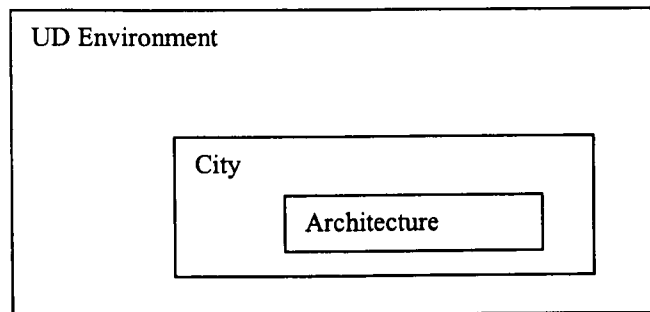


Figure 7.3.1-2 The Contexts of UDA

According to different interpretations of UDA context, such as those provided by architecture, city, the UD environment, UDA concepts can be classified into three categories, moving from narrower to broader categories. The first type focuses on architecture. This represented in the Architectural Archives Section of the ICA, and in the European and North American countries. The second type focuses on the city. This is case in China. The third type is the overall UD environment. This one has been the category used in this paper.

- Provenance as a variable

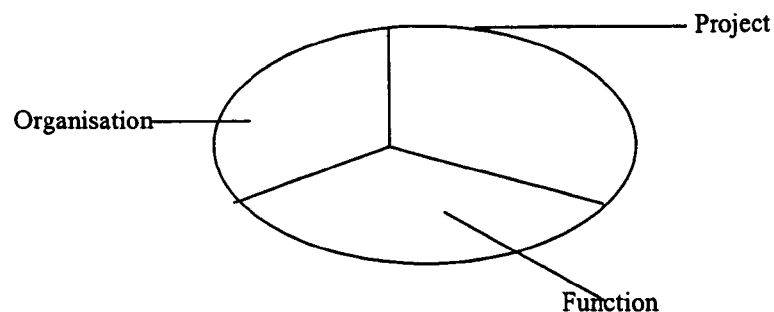


Figure 7.3.1-3 The Types of Provenance of UDA

The three different interpretations of UDA provenance are by organisation, by project, and by function. Concepts about these can be classified into three categories. The first is oriented around organisation. This orientation was normal in architecturally-focused UDA concepts. It was represented by European and North American countries (section 3.4.3). The management of UDA in RIBA is a good case (chapter 5). The second is oriented around project. This was normally in city-focused UDA concepts. It was represented by chief Chinese national archival agencies (The State Archives Bureau, 1961, Huan 1997: 856). The archival policies for capital construction project records by Chinese national archival agencies reflect such a concept (The State Archives Bureau 1988 and 1997, The State Archives Bureau and National Planning Committee 1988). The third is oriented towards functions. This is a feature of the UD environment concept. It was represented by Chinese UDA agencies and specialist archives services (The Ministry of Construction 1997 a: article 2; Wang & Zhou 1993:5). The UDA policies and documentation frameworks of the Chinese UDA specialist archives services reflect such a concept (chapter 6).

- Purpose of preservation as a variable

Provenance of	Organisations	Projects	Functions
Use Focus on	Past	Present	Future
Preservation for	Evidence	Information	Memory

Figure 7.3.1-4 The Purposes of UDA Preservation

According to different interpretations of the main purpose of preservation, such as evidence, information, memory, UDA concepts can be classified into three categories. The first is evidence. This arises from the focus towards UD organisations. The second is information. This arises from the focus towards projects of a city. The third is memory. This arises from the focus towards the functions of the UD environment. This study shows there are many purposes for UDA preservation rather than a single purpose. However, UDA management by different

provenance have different focuses on the first priority of UDA use and thus the main purposes of different UDA preservation may vary from one to another. The coverage of purposes of preservation by different provenance is from single to pluralistic, see arrow of Figure 7.3.1-4.

In conclusion, there is a variety of UDA concepts in the archival world. The many and varied UDA concepts are caused by different interpretations and understandings of the context, provenance and purpose of preservation of UDA, and the interrelationships and influence of the three variables.

3. Characteristics of subjective UDA concepts

This study has found that it is necessary to formulate coherent criteria for common understandings on characteristics of UDA concepts. The following elements can be suggested as components of criteria. They are:

- time of creation : static or dynamic;
- place of creation : closed or open;
- attitude of custodian: passive or active;
- concept of archives: single or pluralistic;
- range of UD administration: narrower or broader.

Assessed by the above criteria, the following conclusions can be given.

- UDA concepts varied according to context.

Criteria/ Context	Architectural	City	UD Environment
Time of creation	Static	Relatively dynamic	Dynamic
Place of creation	Closed	Relatively open	Open
Attitude of custodian	Passive	Active	Most Active
Concept of archives	Single	Single	Pluralistic
Range of UD administration	Narrower	Broader	Broadest
Recommendation of the most appropriate use	Architectural needs	Needs of the physical development of a city	Needs of shaping and making of built environment of human kind and society

Figure 7.3.1-5 UDA Concepts Varied according to Context

Interpretations of the UD context are developed to correspond with the development of UD activities and needs. In this way interpretations of UD context are derived

from a focus on an individual architect's needs, extended to the collective needs of the physical development of a city, and taken on towards the needs of the built environment of humankind and society. The relationships of different interpretations to the UDA context are from narrower to broader.

- Provenance in various types of UDA concepts.

Criteria /Provenance	Organisation	Project	Function
Time of creation	Dynamic	Relatively dynamic	Static
Place of creation	Closed	Relatively open	Open
Custodian attitude	Passive	Active	Active
Concept of archives	Single	Single	Pluralistic
Range of UD administration	Narrower	Relatively broader	Broader
Recommendation of the most appropriate use	UD Corporate needs	UD Collective needs	UD Professional needs

Figure 7.3.1-6 Provenance in Various Types of UDA Concepts

Different interpretations of UDA provenance have a different focus on the question of the comprehensive needs of its most interested groups. These are many and varied and no single one can take the place of any other. Provenance by organisation relates to UD transactions in a static organisation, providing complete corporate memory and serving the corporate information needs of that single creator. Provenance by project relates to transactions in the processes and procedures of dynamic project activities, providing collective memory of a completed project, serving the information needs of multiple creators. Provenance by function relates to transactions supporting UD functions, providing complete memory of the built environment, serving professional and societal needs.

- Purposes in varying types of UDA concepts

Criteria / Purpose of Preservation	Evidence	Information	Memory
Time of creation	Static	Dynamic	Dynamic
Place of creation	Closed	Open	Open
Attitude of custodian	Passive	Active	Active
Concept of archives	Single	Single	Pluralistic
Range of UD administration	Narrower	Broader	Broader
Recommendation of the most appropriate use	Past use	Present use	Future use

Figure 7.3.1-7 Purposes in Varying Types of UDA Concepts

This study has found that the purposes of UDA preservation are to meet the manifold needs of the past, present and future. These three purposes should be simultaneously

considered while making archival decisions, instead of one to taking place of another or one coming after another.

In conclusion, different types of UDA concepts have different advantages and limitations as far as the particular UD needs at a particular time period are concerned. UDA thinking should be open and dynamic, active and responsive to its latest UD needs.

4. Objective UDA concepts

Objective UDA concepts relate to the universal common understandings on the relative characteristics of UDA, the way they are created and used, no matter how time and place changes; no matter how the archival cultures and the archival administrative systems and the UD administrative systems vary. For instance, in both UK and China surveys, the characteristics of UDA are equally recognised as comprehensive in provenance, dynamic in creation and accumulation, contextualised in a particular locality. Four functions of UDA are equally recognised:

- UDA are the evidential basis for urban construction, development control, the use and maintenance of the built environment;
- UDA are important aids for reconstruction, redevelopment, and conservation of the built environment; for prevention of disaster (e.g. war, fire, earthquake, flood, etc.) defence, and disaster plans, as well as the reconstruction and rebuilding of a city.
- UDA are legal evidence for the ownership of the built environment dealing with the rights of creators and creating agencies, as well as the public interest of citizens' legal rights.
- UDA are important information sources for academic research on movement patterns in UD, the economic development of a city, environmental study and urban studies.

In conclusion, there are subjective and objective UDA concepts in the archival world. The two types of concepts have interrelationships, which influence each other. The subjective UDA concepts can be divided into three categories in accordance with different interpretations of context, provenance and the purposes of archival preservation. In real archival practice, objective UDA concepts are universally

existing facts that might be recognised or not recognised by way of the various subjective UDA concepts. The successes of the Chinese UDA practice indicate that broadly subjective UDA concepts can benefit for widely awareness of UDA social functions and purposely exploring UDA characteristics for better UDA management. The above analysis shows that broadly subjective concepts are often open and dynamic, active, responsive and inclusive. With such concepts, social functions and characteristics of UDA can be widely recognised for sharing. This study shows that there is a need to promote broadly UDA concepts for common understanding of UDA and their implications in records and archives management. This has significance for developing a conceptual framework for viewing the various UDA concepts as an organic whole for overall interests and needs of different types of UDA creators, users and custodians. Therefore a conceptual framework towards a common culture for UDA can be suggested as figure 7.3.1-1.

5. The effect of UDA conceptual framework on archival science

The above conceptual framework for UDA provides a common culture for UDA. It offers a universal approach for managing the records of the UD environment. The perspective of the conceptual framework is new in terms of traditional archival theory. This perspective has changed the very *raison d'être* of traditional archival fonds theory. There has been a collective shift from focusing on the individual interests of organisations to the focusing on the broader UD professional interest of society. It has changed from focusing on what is already collected to what should be documented and preserved over time. It has also made changes in considering the value of UDA simultaneously as evidence, information and the memory of the shaping and making of the built environment rather than chronologically selecting one instead of another or one after another. The processes and procedures of the developing physical environment are seen as a unit for documentation, recordkeeping, retention and use. Such a way of archival thinking provides an archival method for "value-adding", thus the contextual functionality of the UDA could be maximised to multiple levels, e.g. collective, corporate and individual; the value of records could benefit the manifold demands of diverse clients, e.g. architecture, city and UD environment. However, Chinese experience shows that such a paradigm has met many challenges and difficulties in operation. Lack of united and integrated frameworks, a lack of integrated approaches and the idea of

integration are the major reasons for the failures. To be successful in practice, it has to overcome the present weakness. A united and integrated framework should be developed to bring creators, users, custodians and administrators together to work under the same umbrella. There should be professional commitments for safeguarding accuracy, authenticity, reliability, completeness and integrity of the records through the life of the built environment and the life of records.

The conceptual framework for UDA might offer an international archival approach for records and archives management in the UD environment, not limited to China. It is a promotion of common culture for UDA management across disciplines and sectors; and across creators, users and custodians. This study shows that though the term UDA has not been used outside China, the existence of records of UD are universal. The significance of the records as evidence, information and memory of corporate bodies and society, the importance of the records for the use, maintenance, and continuity of the built environment are universally accepted and recognised. Everywhere in the archival community records managers, archivists and curators have been meeting difficulties and challenges in managing UDA. They have made similar efforts to ensure that the quality and quantity of UDA information is accurate, reliable, authentic and complete. They have the same experiences in making UDA available and accessible, understandable and readable. These facts indicate that the archival activities of managing records of UD practice are not limited to China. This study shows the above conceptual framework for UDA may offer an alternative approach for records of UD environment to archival science.

7.3.2 Types of UDA management models and the best practice criteria

This study has found that UDA are held by various types of archival services. This is because they arise from different types of provenance either by accident or by deliberate policy. There is a variety of UDA management models in the records and archives management of the UD environment. Models can be classified according to different archival management criteria. Take two key important UDA issues for instance. To deal with the question of physical and intellectual controls, in the UK there are the +DM/+RM/+AM, +DM+RM/+AM, +DM+RM+AM models; in China there are +DM/+RM/+AM, +DM/+RM+AM, +DM+RM/+AM, +DM+RM+AM and +DM/-RM/-AM models. To deal with the question of permanent custody, in the UK

there are three models i.e. (1) the organisational model, (2) professional model and (3) territorial model; while in China there are two models i.e. (1) organisational model, (2) professional and territorial model.

This cross-national study has shown that it is feasible to establish a set of criteria for the assessment of these models and to recommend the best practice. It has been shown that UDA creators, users and custodians have broadly accepted the assumptions of the UDA best practice criteria. The UDA best practice criteria consist of three components. These are :

- product-control to ensure quality of accuracy, authenticity, reliability and quantity of completeness or systematic or integrity to UDA;
- process-control to support effectiveness, economy and efficiency to UDA management process;
- service-control for client-satisfaction in the availability, accessibility and readability of and timely access to UDA.

The three components should be regarded as an organic whole while being used for the evaluation of UDA models and approaches.

This study demonstrates that the integrated +DM+RM+AM model is the best model for digital records and archives management as applied to all types of records including UDA. However, the implementation of such a model to the UD environment should be in accordance with the creation patterns and procedures of UD activities and should be integrated into UD administration to ensure the integrated control of the quality of UDA products. There should be a single authority to represent varying types of archival administrators responsible for the overall strategic planning of the integrated frameworks and the implementation of them. The authority should have expert knowledge of both the archives and the UD world, with close relationships with the UD environment and the UDA clients, e.g. creators, users and custodians. This study has found that these are necessary conditions for the cost-effective UDA management process and a satisfactory service to clients.

This study has shown that professional UDA specialist archives services are the most welcomed by UDA creators and users, and have been recommended by them as the most appropriate permanent place for the custody and use of UDA. This fact

indicates that the advantages of such a model are their customer-driven service to the UD professions and their specialisation in the UD professional context. They provide an appropriate documentation framework dealing with relatively complete and systematic UDA materials on UD organisation, functions, activities, disciplines and subjects.

In conclusion, the establishment of best practice criteria for UDA is in response to the need for integrated frameworks for managing UDA. The criteria have been formulated from an observation of modern international archival best practice, that is they are based on the idea of a records continuum model, on post-modern thinking and client-oriented marketing strategy. This study has been shown that such best practice criteria are workable where paper and electronic records co-exist and where records are digital. They are workable both where there is a marketing economy for the UD environment and for archives, no matter who is the UDA administrative authority, or where UDA are held, or what archival administrative system exists. These criteria can be recommended as goals of the UDA integrated framework, providing best practice for the standardisation, modernisation and legal support of records and archives management of the UD environment for the future.

7.3.3 Types of UDA management employing the idea of integration

The two national case studies found that there is a variety of UDA management approaches co-existing in the UD environment. They have some degree of integration in one aspect or another (see definition of integration in 1.1). To summarise, there are 9 ways in which archival integration may be observed.

1. As far as the administration of integration in UDA is concerned; there are two approaches. They are the centralised administration of UDA into:

- the national archival administrative system;
- the national UD administrative system.

This study found that the former is not obligatory in every archival culture, as not every archival culture has a national archival administrative system. But the latter is necessary if there is to be total quality management, legal and economic control and information management of the UD professional field. (McGeorge & Palmer 1997)

2.As far as the UDA context of integration is concerned, there are three approaches.

These are recordkeeping focused on:

- the architecture;
- the city;
- the UD environment.

This study found that these approaches accord with different interpretations of context and thus have relative advantages and limitations in the way they deal with the question of the custody of materials. Recordkeeping focused on the UD environment covered the broadest range of records.

3.As far as the UDA provenance of integration is concerned, there are three approaches that documentation is based upon. These are:

- Organisations;
- Projects;
- Functions.

This study found that these approaches accord with different interpretations of the principles of provenance. Each has its own reasons for existence.

4.As far as the elements underpinning integration are concerned; there are three approaches. These are:

- structure;
- content;
- context.

This study found that the structural based approach has a physical entity mindset; the content-based approach has an intellectual mindset; while the context based approach has an integrated mindset. This suggests that an integrated mindset is the future direction for best practice.

5.As far as the range of integration is concerned, there are six approaches. These are:

- international;
- national;
- regional;
- city;

- district;
- working unit.

Each may have a different focus or a mixed focus on organisational, project and functional provenance; with different specialisation in UD issues, disciplines, subjects, activities, functions, creators, etc. This study found that range of integration is changing in accordance with the needs of the UD professions.

6.As far as the forms of integration are concerned, there are three approaches. These are:

- partnerships of creators, users and custodians in co-ordination, collaboration and networking to support UDA policies;
- UDA information integrated into UD, archives, library and museum information systems;
- UDA management integrated into UD workflow, business processes, and administrative systems.

This study found that the first approach is basic for the success of any type of UDA integrated framework, the second approach is a direction of UDA work into the information society and socialised service; the third approach is a functional requirement of UDA work towards best practice in the digital world.

7.As far as the archival management processes of integration are concerned, there are many and varied approaches to unify archival management. To name the most widely used, they are:

- the unified classification scheme;
- the unified appraisal policy;
- the unified description standards;
- the unified registry system;
- the unified filing system;
- collaborated collecting and acquisition policies;
- unified IT software and hardware standards.

This study found that the most heavily used integrated frameworks for archival management processes in the UK are the unified appraisal policy and the unified IT software and hardware standards; while the most heavily used ones in China are the

unified classification scheme, the unified filing system, the unified appraisal policy, the unified description standards, and the unified archival registry system. This study shows that integrated frameworks have already been applied in UDA management. A broader integrated framework which covers wider archival management processes would be welcomed and needed for cost-effective UDA business enterprise.

8. As far as the functions of integration are concerned, there are many and varied approaches. To name the most broadly recognised, they are the improvement of :

- effectiveness;
- client-satisfaction in the business enterprise;
- sustainability and consistency of service;
- best value and good quality of service.

This study found that there are different needs for an integrated approach. Integrated approaches may vary in correspondence with the varying types of needs for integration.

9. As far as the means of integration are concerned, there are many and varied approaches. To name a few, they are:

- legal means;
- administrative means;
- economic and contract means;
- standardisation;
- modernisation;
- digital;
- networking;
- total quality management;
- best practice promotion;
- client-led marketing;
- interdisciplinary partnerships and team approach;
- post-custodian thinking and the front-end control approach;
- records continuum strategic overall planning and integrated control.

This study found that standardisation is the most common means for integrating UDA frameworks in both UK and China. In addition, different cultures have

different focuses for the ways of implementing integrated UDA frameworks. In the UK, the most favoured means are best practice, standardisation and legal means; while in China, the most broadly favoured means are standardisation and modernisation. The selection of means of integration are in correspondence with the degree of development of the economy, legislation, technology, archival culture, social consciousness, the latest archival knowledge and methodology of the nation.

In conclusion, this study suggests that integrated approaches to UDA management are the future direction of UDA best practice across cultures. The author found that the following factors are obstacles or variables that may influence the selection and implementation of integrated approaches. They are:

- the ownership of UDA;
- accountability and the liability of partners;
- strategies and methodologies for strategic archival management;
- the power of information control over materials held in custody;
- administrative authority for integrated programmes.

The author recommends that more attention should be paid to promote partnerships between the creators, users, and custodians in roles, responsibilities and accountabilities in the context of UDA integrated frameworks. A proposal for the professional commitments of creators, custodians and users is given in figure 7.3.3-1.

A proposal for partnerships between creators, users and records managers and archivists is given in figure 7.3.3-2.

Goals of UDA integrated frameworks	Creators	Custodians	Users
Client-satisfaction	<ul style="list-style-type: none"> • accuracy • reliability 	<ul style="list-style-type: none"> • authenticity • completeness • integrity 	<ul style="list-style-type: none"> • availability • accessibility • readability • information sharing
Cost-effectiveness	<ul style="list-style-type: none"> • reduce duplication and overlap 	<ul style="list-style-type: none"> • rational holdings structure • maximised total use 	<ul style="list-style-type: none"> • timely access
Approaches to integration	<ul style="list-style-type: none"> • total quality management • Information management 	<ul style="list-style-type: none"> • post-custodian • interdisciplinary • collaboration approach 	<ul style="list-style-type: none"> • archival consciousness • awareness of UDA use
New role	<ul style="list-style-type: none"> • quality controller • information manager 	<ul style="list-style-type: none"> • administrator • inspector 	<ul style="list-style-type: none"> • customer • auditor

7.3.3-1 A Proposal for Professional Commitments in Responsibilities

Partnerships	Creators	Records Managers	Archivists	Users
Role in UDA integrated frameworks	<ul style="list-style-type: none"> records creator project documents manager collaborator in meeting requirements of integration 	<ul style="list-style-type: none"> corporate memory administrator institutional information manager co-ordinator in using unified criteria 	<ul style="list-style-type: none"> collective memory and societal memory administrator information manager of socialised service leadership in making plans of integration 	<ul style="list-style-type: none"> customers users feedback
Functions in archival management process	<ul style="list-style-type: none"> UDD collecting and UDR creating selecting and transferring of UDR & UDA <p>Major function: output of activity data</p>	<ul style="list-style-type: none"> UDR custodian arrange, process and preservation of corporate memory <p>Major function: output of project and organisational data</p>	<ul style="list-style-type: none"> UDA custodian Arrange, process and preservation of collective memory and societal memory <p>Major function: output of functional and professional data</p>	<ul style="list-style-type: none"> access to data pay fees for service provide feedback of social and economic benefit
Accountability	<ul style="list-style-type: none"> reliability and accuracy of UDA documentation 	<ul style="list-style-type: none"> selecting long-term value UDA in accordance with integrated retention schedule 	<ul style="list-style-type: none"> making integrated archival programs and policies control and inspect the DM and RM archival custody and use 	<ul style="list-style-type: none"> provide use directions for intellectual control provide feedback of service for improving integrated frameworks
Indicators of best performance	<ul style="list-style-type: none"> economy and high efficiency meeting legal accountability and individual needs 	<ul style="list-style-type: none"> cost-effectiveness integrity of corporate memory meeting corporate needs 	<ul style="list-style-type: none"> cost-effectiveness integrity of collective memory and professional memory meeting professional and societal needs 	<ul style="list-style-type: none"> users-satisfaction best value

7.3.3-2 A Proposal for Partnerships of Creators, Users and Administrators

7.3.4 Conclusion and universal issues for further study

This study has come to some overall conclusions for records and archives management of the UD environment. These might be regarded as universal UDA

issues for further study in correspondence with the changes of archival culture, time and place.

1. An intellectual and pragmatic framework is necessary and feasible for managing UDA towards best practice. Such a framework should be regarded as an open and dynamic organic system consisting of three elements. These are:

- UDA concepts;
- UDA models and;
- UDA approaches.

UDA concepts, models and approaches should be understood in accordance with the culture, time and place of their use, they should be modified and justified in correspondence with the changes of culture, time and place.

2.UDA concepts may differ in accordance with different interpretations of context, provenance and purpose of archival custody. A common culture is necessary and important for common understandings and expectations of UDA. A conceptual framework for a common culture for UDA can be seen in figure 7.3.1-1.

3.UDA models may vary in accordance with UDA management issues and the variety of UD professional needs at any particular time and place. It should be recognised that UDA models are many and varied, they have different advantages and limitations. One can not take the place of another. Integrated complementary approaches by means of co-ordination and collaboration are the only way to solve debated issues and conflicting problems. Unified best practice criteria are the only way to evaluate and select the best practice models for their most appropriate use. The best practice criteria can be seen in 7.3.2.

4.UDA approaches may vary in accordance with different UDA management problems and the need for integration. The direction of UDA approaches should be towards integration. Integration should be a requirement for UDA best practice. The many and varied approaches to integration have provided different strategies for developing and implementing integrated UDA frameworks (see definition in 1.1 and hypothesis in 1.6). Two proposals have been given, as shown in figures 7.3.3-1 and 7.3.3-2.

5. It might need a broader cross-national examination of the idea that the universal principle of UDA management towards best practice would be a centralised archival administration integrated into the UD professional work flow, procedure, business process, plan, administrative system and needs. The existence and the development of UDA work are directly decided by the needs of the UD professional bodies and their accountability to public interest. It is recommended that a single archival administrative authority in partnership with different types of creators, users and custodians is necessary for the success of a centralised UDA administration. The centralised administration should be based on a common culture, unified best practice criteria, and integrated frameworks.

6. The author recommends that cross-national study and integrated research are effective methods for finding solutions to conflicting national UDA problems, or single and narrow national UDA thought. Such methods have provided an objective and scientific way for developing open, varied and co-ordinated UDA thinking, and originating a systematic body of the latest UDA knowledge for finding new information and for making unceasing progress towards UDA best practice. Integrated frameworks with an interdisciplinary approach, records continuum model, post-modern thinking and a marketing strategy for UDA research are effective means for UDA research leading to the digital world and information society.

7.4 Evaluation and Suggestions for Future Research

This section evaluates the contributions and limitations of the entire study; then recommends research strategies and suggests topics for future research.

7.4.1 The contributions and limitations of this study

The above discussion indicate that the main contributions of this study are its thinking and methodology across time, place and cultures. It is the idea of integration (see 1.6, the hypothesis and analytical framework) that has the basis of reasoning, observation and communication between the various research clients, that include creators, users, records managers, archival administrators, custodians, researchers and educators. It is a cross-national study that has presented diverse forms of UDA

models and methods. It demonstrates that integrated research by means of the study of cross-national cases has produced results that are not limited by time and place, or by culture. This study has made the following contributions:

1. The significance of integrated research can be seen in the following ways:

- It is a way of finding new information for the UDA common culture;
- It is a process of gathering and analysing diverse models and methods for UDA best practice;
- It is a means of observation, inference and generalisation and analysis of issues and problems for UDA research.

2. The significance of a cross-national case study is:

- it helps to broaden UDA thinking in avoiding closed autocracy;
- it helps to identify universal principles, best practice criteria, models and methods in avoiding narrow nationalism;
- it helps to identify the identity and the features of the Chinese UDA paradigm and apply integrated approaches to the debated issues.

The weakness of this study is that the findings and data are limited by time, place and resources and the selective ways of generating and analysing data. In addition, the research objectives and methodology were also limited, as they were aimed at solving the problems of Chinese UDA specialist archives and administrators in the Chinese context.

7.4.2 Recommendation of research strategies for future study

This study has demonstrated that an integrated research (set up in section 4.2.3) is an effective methodology for UDA research. To overcome the weakness of previous studies (identified in section 2.5 and section 3.6), the author recommends the integrated research for future UDA study. The integrated research means the following factors should be taken into consideration and integrated into the research design, process, analysis, evaluation, and outcomes. They are:

- diverse types of research clients and the needs, e.g. understandings and expectations of the different types of UDA custodians, archival administrators,

- creators and users;
- different types of archival management models, including life-cycle and records continuum regime model;
 - different types of UDA approaches, including the structure, content and context approaches;
 - different types of archival controls, including product, process and service control;
 - different tools of an integrated approach including client-led marketing strategy, post-modern archival thinking and records continuum model;
 - different types of UD activities for the same functional purposes of making of the built environment, including activities of planning, architectural design, construction and property management;
 - different experiences of national UDA practices through national case studies.

The investigations of this study shows that the future of records and archives management in the UD environment has to face the challenges of electronics, digital, high technologies, a market economy and information society in general. It shows that integrated research for UDA has both theoretical and practical value for the guidance of the Chinese UDA enterprise into the new century, meeting new contexts, new backgrounds, new issues and new problems. It is important to promote integrated research as a methodology for achieving best research value and as an effective way of finding appropriate methodologies and techniques of creating new knowledge to solve the various emerging problems. It is necessary to promote integrated research as an effective way of actively changing the relative backwardness of UDA theory as compared to its practice. This study indicates that the future of UDA research should lie in carrying on research experience and achievements at home and abroad based on previous UDA and related interdisciplinary research. It should be based on the needs of various research clients. It should seek to provide UDA best practice in product, process and service control. The following research strategies are recommended for future research. These are: (An 2001).

1. It is recommended that UDA research should be based on many and varied models and methods, pluralistic concepts, multidisciplinary and interdisciplinary approaches. The research should cover the varied provenance, functions and values of UDA. The results should provide a basis for developing and improving universal UDA principles and a common understanding to suit the dynamic UD environment.

2. It is recommended that post-modern archival thinking and the record continuum model should be used as a basis for leading research in dealing with electronic and digital UDA issues. Such systematic, open and active research thinking will produce universal principles for archival best practice in the digital era. These can also be guidelines for developing and improving UDA best practice in the digital era and the information society.

3. It is recommended that integrated research should seek to collaborate between varied researchers and varied research clients. This integrated research should combine theory with practice, individual research objectives with collective research expectations, and should formulate overall research frameworks and plans in the process of conducting research. Such integrated research is essential for the study of matters of overall importance and for the consideration of all-round understanding. Under such a framework, there would be partnerships among UDA creators, users, and custodians. There would be co-ordination and collaboration among the UDA policy makers of UD agencies, UDA agencies and general archival agencies. There would be teamwork among archival educators and researchers, UDA research associations and the practical sectors. There would be a body of theory derived from past and present practice as well as guiding present and future practices.

4. It is recommended that cross-national UDA best practice indicators should be developed as indicators of UDA research performance. These would be used to measure the success of the research output instead of agreeing to compromise with administrative regulations and rules as indicators of research success. The indicators of research would be based on client-satisfaction in UDA services, best value in UDA products and cost-effectiveness in archival management processes, which have been broadly accepted by UDA creators, users and custodians.

7.4.3 Suggestion of topics for inclusion in the tenth five-year Chinese UDA research plan

The research results from the field and questionnaire surveys from the two UDA case studies, together with current topics, debated issues, major difficulties, key problems in UDA thinking and practice, can be considered for the tenth five-year plan of Chinese UD enterprise, the tenth five-year plan of Chinese archival enterprise, the tenth five-year plan of Chinese UDA enterprise. 4 UDA research topics are suggested for inclusion in the tenth five-year Chinese UDA research plan. They are: the framework of UDA theory and UDA practice; the future of 21st century Chinese UDA specialist archives services; the management and use of electronic records in the UD environment; the management and use of particular UDA archives; etc. Fuller comments on these are as follows (An 2001):

1. Research into the frameworks of UDA theory and practice. This research topic has universal intellectual and pragmatic research value for the guidance and deepening of Chinese UDA work in a dynamic and changeable environment. The topic would include research into the following UDA issues:

- the elements of UDA concepts;
- the distinction between UDA and other categories of archives;
- the social functions of UDA;
- the selection criteria for UDA;
- the relationships between UDA creation, movement and recordkeeping patterns;
- the relationships between laws and regulations of UDA, UD and archives administration;
- models and methods of UDA best practice in cross-national case studies;
- methodologies of UDA study.

2. Research into the future of 21st century UDA specialist archives services. This research topic has important practical research significance for the guidance of the archival work of the Chinese UDA specialist archives, which has been widely

accepted as the central tasks of the Chinese UDA enterprise. The topic would include research into the following UDA issues:

- the socialised services of UDA specialist archives;
- the optimisation of the range of holdings in UDA specialist archives services;
- the exploitation of information resources in UDA specialist archives;
- the necessary conditions for the digital and networking use of UDA information and the types of information services;
- the construction of UD information databases based on UDA specialist archives services.

3. Research into the management and use of electronic records in the UD environment. This research topic has significant value for the future development of Chinese UDA. The topic would include research into the following UDA issues:

- categories of electronic records, their creation and value in the UD environment;
- models, methods and strategies for the integrated management of electronic records and archives in the UD environment;
- methods and techniques for the front-end control and filing of electronic records in the UD environment;
- the integrated classification and retention scheduling of electronic records and archives in the UD environment;
- the integrated appraisal and description of electronic records and archives for the UD environment;
- the acquisition, preservation and use of electronic archives in the UD specialist archives.

4. Research into the management and use of particular UDA archives. This research topic has pragmatic research value for the guidance of practical UDA work in a particularly concrete context. The topic would include research into the following issues:

- the integration and standardisation of records and archives management of construction projects;
- archives management in the development of small towns and rural areas;
- the management and use of planning records and archives;

- the management and use of records and archives of architectural design;
- the management and use of construction records and archives;
- the management and use of real estate records and archives;
- the management and use of historical archives of urban development.

7.5 Summary

This chapter has provided an overall discussion of the research findings set out in Chapter 5 and 6 and how they have developed academic debate in the chosen area in line with research questions posed in Chapter 1, 2, 3 and 4.

It has synthesised the strengths and limitations of the Chinese UDA paradigm, and has analysed the trends of Chinese UDA practice.

It has discussed cross-national conclusions on UDA concepts, models and approaches and has recommended a common culture, unified best practice criteria, the idea of integration and integrated research for future study.

Finally, it has evaluated the contributions and limitations of this study and has recommended research strategies and has suggested topics for future research.

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Appendix A

Copy of the Questionnaire Survey for UK Case Study

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02/12/99

Dear Colleague

My name is An Xiaomi, an associate professor of Archives College at Renmin University of China. I am currently doing a research project on Integrated Frameworks for Managing Urban Development Archives (UDA) in China at Liverpool University Centre for Archive Studies. The research aim is to formulate an integrated framework for managing documents, records and archives of urban development for China both in theory and practice, both for present and for future. The research objectives are: (1) To define UDA concepts and the distinctiveness, which could be shared among creators, users and custodians in the partnerships of archival business processes e.g. documenting, recordkeeping and information service; which would be connecting past to present and present to future towards client satisfactory. The purpose is to establish a theoretical framework for managing UDA in China. (2) To evaluate models in the management of urban development documents, records and archives. The purpose is to provide ideal models and the approaches to the best practices of physical control and intellectual control of UDA in China. (3) To develop research methodologies to archives of urban development. The purpose is to provide ways of observation, inference, generalisation, and analysis of theoretical and practical UDA issues.

As part of the research I am conducting a survey of investigating models in documenting documentation, recordkeeping and archival information services of urban development practice in UK. The aim is to help Chinese government to be informed about ideal models for managing UDA in China, the necessities and the feasibility for its implementation, learning best practice and problems from experienced countries. The results of this survey, may be published both in English and Chinese archival journals and a research thesis.

The data collected by this questionnaire will be treated with absolute confidentiality and used to produce a document within which no individual service will be identified or identifiable. I have enclosed a copy of the questionnaire and I would be grateful if you would arrange for it to be completed and returned by 23 December, due to the reason of my leaving for China on December 23.

If you have any queries please do not hesitate to contact me via the communication address given above.

Thank you for your time and your help. I look forward to hearing from you.
Yours sincerely

An Xiaomi

Please tick the proper answers with ☐. The answers could have single choice or multiple choices.

Section One: Features of Your Service

1. Could you describe your status-----?
 - (1) librarian
 - (2) archivist
 - (3) records manager
 - (4) information manager
 - (5) clerk
 - (6) others
2. Could you describe the funds for your service-----?
 - (1) public funds
 - (2) private funds
 - (3) public and private partnerships
 - (4) others
3. Could you describe the open access of your service-----?
 - (1) open to the public and creators
 - (2) only to creating agency
 - (3) with limited access for public, open to creators
 - (4) with some charge for using facility and service
 - (5) with charge for using the information
 - (6) free of charge
4. Could you describe the coverage of your service in the life cycle of records? including archival administration, supervision, auditing, and custody , information access and use-----?
 - (1) current records
 - (2) semi-current records
 - (3) non-current records
 - (4) semi-current records and non-current records
 - (5) all of the above
5. Could you describe the role of your records management service for your organisation and public ?
 - (1) archival administration, supervision and auditing
 - (2) records management consulting
 - (3) documentation management
 - (4) recordkeeping management
 - (5) information resources management
 - (6) knowledgement management
 - (7) cultural heritage management
 - (8) others
6. Could you define the sectors of your service belongs to -----?
 - (1) government
 - (2) business
 - (3) institution
 - (4) others
7. Could you define the range of your service focus -----?
 - (1) local
 - (2) regional
 - (3) national
 - (4) international

Section Two: Issues of Urban Development Archives Management

8. Which types of the following urban development documents do you have in your holdings, -----?
 - (1) planning and the development control documents
 - (2) architectural design documents
 - (3) construction project and civil engineering documents

- (4) property and estate documents
9. Where do the urban development documents come from?
- (1) government activities
 - (2) business activities
 - (3) institutional activities
 - (4) others-----
10. In which way you have got these types of documents-----?
- (1) collecting and transferring
 - (2) acquisition and buying
 - (3) donation
 - (4) communication and exchange
 - (5) selling records and archives service
 - (6) borrow
 - (7) deposit
 - (8) creation
 - (9) recreation
 - (10) others-----
11. For what purposes you preserve and make the urban development documents available for access-----?
- (1) facilitate communication
 - (2) administrative reference
 - (3) evidential reference
 - (4) information reference
 - (5) historical reference
 - (6) legal reference
 - (7) cultural reference
 - (8) commercial reference
 - (9) technical reference
 - (10) knowledge storage
 - (11) others
12. For whom you are in the custody of urban development documents -----?
- (1) corporate creating agencies' needs
 - (2) professional functional bodies and professional activities needs
 - (3) individual creators needs
 - (3) public needs
 - (4) others
13. Do you agree that the accessibility and availability of modern urban development archival documents always have difficulties and problems----?
- (1) yes
 - (2) no
14. What types of following factors you may agree with as difficulty elements in the appraisal of urban development documents and records ---- ?
- (1) practical value and research value
 - (2) current value and historical value
 - (3) first value and secondary value
 - (4) evidential value and information value
 - (5) current, semi-current and non-current records
 - (6) frequent use and seldom use
 - (7) authenticity, reliability and accuracy
 - (8) completeness and integrity
 - (9) purpose of keeping as corporate memory or social memory or both
 - (10) difficulties in identifying the documents , records and archives in digitised world
 - (11) difficulties in identifying the originality and uniqueness in formats and mediums e.g. drawings, maps, plans ; photos, tapes, disks, duplications
 - (12) others
15. Do you have particular strategies or policies for the problems mentioned above----? If yes, please list them out-----.
- (1) yes

- (2) no
16. What are the major problems in the physical control and intellectual control of urban development archival documents at your service -----?
- (1) physical size of the maps and plans demanding special handling and finding aids
 - (2) different mediums and formats of a series demanding different preservation methods for decentralised storage , but users needs integrated finding aids for access of complete archival information
 - (3) modern construction project records having huge volumes, bottom-up traditional archival
 - (4) methods are not effective and not efficient
 - (5) without co-ordination in archiving polices and consistent standards for documenting documentation, recordkeeping and archival information service, there are much duplication and overlap in records and archives management
 - (6) for integrated UDA documentation, recordkeeping and the archival information service, archival knowledge and archival administration are not enough, urban development professional knowledge and the professional archival administration are needed as well
 - (7) because of practical value, current value and economic value of UDA, the centralised control and the custody of UDA always have problems
 - (8) because of different purposes of documenting documentation and different aims of recordkeeping and different objectives of archival information service, the complete memory of the development of built environment is very difficult to get
 - (9) others
17. Do you agree that archives from urban development practices could be looked at as a whole as a particular category of archives differ from other types of archives for searching particular strategies for documenting the complete memory of the making of built environment as well as for developing particular research methodologies to its management issues -----?
- (1) yes
 - (2) no
18. Which of the following UDA functions your institution has already been aware of and has aimed to guarantee in your documentation strategy -----?
- (1) UDA are means of technology storehouse and knowledge reservoir for urban development Practices.
 - (2) UDA are foundations for urban planning, and the planning control.
 - (3) UDA are evidential basis for urban construction, development control, the use and maintenance of built environment.
 - (4) UDA are important aids for reconstruction, redevelopment, and conservation of built environment; for disaster, calamity, catastrophe(e.g. war, fire, earthquake, flood, etc.) prevention, defence, and disaster plan, as well as reconstruction and rebuilding of a city.
 - (5) UDA are legal evidence for ownership of built environment, which is concerned with rights of creators, creating agencies, as well as public interest of citizen's legal right.
 - (6) UDA are important information source for academic research on movement patterns of urban development , the economic development of a city, environment study and urban study.
 - (7) UDA are important culture heritage of a city, a nation and the memory of the world.
19. What are the characteristics of this category of records you may agree with -----?
- (1) Speciality: By speciality, it means that as primary recordings of urban development (UD) functions, the provenance of UDA is from UD activities, the contents of UDA have features of UD speciality. The arrangement of UDA has to respect provenance of the UD speciality in its special creation procedure, creation process and original order, which should be in the orders of its creation pattern. The description and cataloguing of the content and context of the records needs specialised knowledge. The implication of the characteristics of speciality is that the management of UDA should have certain knowledge of UD background beside archives knowledge.
 - (2) Comprehensive: By comprehensive, it means that the provenance of UDA are from multicreators, multicreating agencies , multi-sectors, and ultidiscipline. As by-products of UD activities, UDA have mutlimediums and in multiformats. There are two implications of the comprehensive. First, UDA resources contain comprehensive information which is benefit for different users from different needs at different time. Second, because of cross-disciplines, cross-creating agencies, cross-higher authorities, cross-periods, there is a need for unified UDA archival documentation strategy and integrated archiving recordkeeping programs along the records continuum.

- (3) **Dynamic:** By dynamic, it means that the development of built environment of the city is always dynamic with the changing of the needs of built environment, with the changing of the technologies, political and economical context. Therefore the accumulation of UDA should have dynamic features to capture reliable and authentic archival information in order to document complete and accurate memory of the making of the built environment.
- (4) **Current:** By current, it means that UDA always have both current value and practical value. The use of UDA is quite often to serve both present and future. The use of UDA always not only has social benefit but economic benefit as well. The use of historical UDA for current urban planning, development control, the use and maintenance and reconstruction of the built environment have significant features of current use. Therefore, the exploring of the archival information resources and the editing and publication of the UDA should be integrated into current urban development needs for client-satisfactory.
- (5) **Locality:** By locality, it means the context of urban development activities are always related to certain space or sites in a certain locality, the contents of information reflecting historical, cultural, political, economical, technical development factors always have symptoms of the region and locality UDA is an important image of the development of the locality, the window and bridge to connect the past to present and present to future for the continuity and sustainability of the development of the built environment.
- (6) **Authenticity and Accuracy:** By authenticity and accuracy, it means that UDA are direct foundations for planning decision making and development control, the use and maintenance of built environment. The authenticity and accuracy of UDA means the quality of creating agencies' service and quality of their products. It means whether the legal rights of customers could be guaranteed or not. It means the legal accountabilities of creating agencies whether have been documented and could be audited or not. As far as underground utilities or completed construction project concerned, as-built drawings have direct impact on its future use and maintenance, on security of people's lives in living and working .The documenting documentation of such projects must be accurate.
20. Could you inform who are the users or interest groups of UDA in access of your holdings-----?
- (1) academic researcher and professional student
 - (2) administrator and decision maker
 - (3) designer
 - (4) property owner
 - (5) developer
 - (6) technician and engineer
 - (7) media
 - (8) public
 - (9) others
21. Do you have electronic images in your holdings?
- (1) yes
 - (2) no
22. Do you have or intend to have archival policies for electronic records?
- (1) yes
 - (2) no
23. If yes, what kind of systems do you have or may you like to have -----?
- (1) hybrid system with both paper, electronic records and other mediums
 - (2) electronic system only with digitised records
 - (3) others
24. What are your strategies for the long term preservation and access of electronic and digitised records-----?
- (1) migration
 - (2) conversion
 - (3) emulation
 - (4) others
25. Do you agree the documentation of the making of the built environment should be in multi- mediums, muti-formats with integrated archival policy cross-institution, cross-discipline and cross-sectors from the creation of the records along the records continuum to protect the integrity and authenticity of the recorded information-----?
- (1) yes
 - (2) no

26. As custodians, which of the following factors of records you might like to select as important elements in making collecting policy for your holdings ----- ?
- (1) Integrity, completeness and comprehensives
 - (2) Authenticity, accuracy and reliability
 - (3) originality and uniqueness
 - (4) evidentiality
 - (5) transactionality
 - (6) functionality of primary sources
 - (7) discipline or speciality scope of primary sources
 - (8) accessibility of primary sources
 - (9) availability of primary sources
 - (10) copyright and ownership
 - (11) legislation related to records
 - (12) representatives , importance and significance
 - (13) higher age
 - (14) corporate memory of creators and creating agencies
 - (15) social memory (local/regional/ national/world)
 - (16) others
27. What elements of recorded information have you used in intellectual control -----?
- (1) content
 - (2) subject
 - (3) context
 - (4) activities and transactions
 - (5) functionality
 - (6) creators and creating agency
 - (7) date and address
 - (8) others
28. What types of finding aids does your institution have for archival information access-----?
- (1) organisation and creators-oriented finding aids
 - (2) function and activities classified finding aids
 - (3) locality-address-linked finding aids
 - (4) specialisation and discipline classified finding aids
 - (5) subject-oriented finding aids
 - (6) medium and format of recorded information classified finding aids
 - (7) paper form finding aids
 - (8) computerised finding aids
 - (9) website finding aids
 - (10) others
29. As custodians, what factors have you used as indicators of quality of archival information service-----?
- (1) integrity and completeness of archival documents
 - (2) authenticity and reliability of archival documents
 - (3) originality of archival documents
 - (4) accessibility of archival documents
 - (5) availability of archival documents
 - (6) timely access
 - (7) client-satisfactory
 - (8) sustainability of the service
 - (9) cost-effectiveness and best value
 - (10) others

Section Three: Issues of an Integrated model

30. Does your working institution have or intend to have any collaborative or integrated programs to develop common standards in documentation, recordkeeping and archival information services for mutual interest and benefit to creators, users and custodians-----?
- (1) yes
 - (2) no
31. If yes, could you name the types of collaborative programs you have had or

intend to have for documents, records and archives along the records continuum
-----?

- (1) united filing system
 - (2) united classification scheme
 - (3) united appraisal policy, retention scheduling and disposal plan
 - (4) united documentation strategy and collecting policy
 - (5) united description standards and cataloguing network
 - (6) united IT software and hardware standards and functional requirements
 - (7) united archival documents registry system
 - (8) united archival administration and custody system
 - (9) partnerships of creators, users and custodians in archival policies and information policies as well as their accountabilities for public
 - (10) others
32. Do you agree those collaborative approaches to integrated framework for documenting documentation, recordkeeping and archival information service is cost-effective and client-satisfactory for managing records and archives into future no matter what the formats and mediums are , no matter they are papers records, or electronic records -----?
- (1) yes
 - (2) no
33. Do you agree that integrated framework for documenting documentation, recordkeeping and archival information service should be a functional requirement for best value records management-----?
- (1) yes
 - (2) no
34. Could you tell your opinions on what problems and obstacles will be in the implementation of the integrated framework for documentation, recordkeeping and archival information service -----?
- (1) ownership of UDA
 - (2) economic value of UDA
 - (3) copyright of UDA
 - (4) power of UDA information control in custody
 - (5) administrative authority for integrated programs
 - (6) accountabilities and liabilities of partners
 - (7) strategies and methodologies for strategic archiving management
 - (8) others
35. What elements that you may select as reasons for the necessity of the integrated framework -----?
- (1) best value and good quality of service
 - (2) client-satisfactory business enterprise
 - (3) Freedom of Information Act and Data Protection Act
 - (4) risk management
 - (5) sustainability and consistency of service
 - (6) image of service
 - (7) survival of fitness
 - (8) others
36. What elements that you may select as strategies for the feasibility of the integrated framework -----?
- (1) legislation, regulations and rules
 - (2) best records and archives management practice
 - (3) client-led marketing
 - (4) standardisation
 - (5) digitalisation
 - (6) modernisation
 - (7) total quality management
 - (8) multidisciplinary approach
 - (9) partnerships
 - (10) post-custodian archival mind
 - (11) integration among records management business processes
 - (12) others

37. What factors you may select as indicators of levels of integration among archiving records management business processes-----?
- (1) common understanding and expectations among creators, users and custodians
 - (2) common and consistent standards during records movement and the records management
 - (3) information sharing along the records continuum regime
 - (4) co-ordination in records, archives and information policies making
 - (5) partnerships in implementation of integrated documenting documentation, recordkeeping and archival information programs
38. What indicators you may like to select for better quality of service if using the model of integrated framework ----?
- (1) integrity in social memory
 - (2) authenticity in information flow
 - (3) systemactiness in information content
 - (4) comprehensives in information context
 - (5) accurateness and completeness in information retrieval
 - (6) timely access
 - (7) rational resources allocation and rational holdings structure
 - (8) reduce duplications, overlaps and cost
 - (9) information sharing among creators, users and custodians
 - (10) others
39. How would you like to define the roles of creators, users, custodians, IT people in the integrated framework, e.g. responsibilities, authorities, accountabilities, liabilities?
40. What recommendations or comments you would like to give for the model of integrated framework for documentation, recordkeeping and archival information service?

Thank you for completing this questionnaire and return to me.

If you have any queries regarding any of the questions or anything else related to the subject matter of the questionnaires please feel free to contact me at the address given below.

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Report Recipient

Other Contact

Name:

Rank:

Job title:

Full postal address:

Telephone number:

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Thanks a lot for your gracious help!

Appendix B

Answers to Questionnaire Survey of UK Case Study

Section 1 Features of Investigated Services

0. Table0 – Methods of delivery survey

Survey methods	By post	By email	By distribution	By face to face interview	Total (survey)	Valid (survey)
Sending out	13	24	15	3	55	52
Respondents	7	12	2	3	24	21
Percentage	53.80%	50%	10%	100%	43.63%	40.38%
Order	2	3	4	1		

1. Table 1- Status of respondents

Table-1 The status of respondents

Types of custodians in investigation	Total (service)	Percentage (%)	Order
(1)archivist	7	33.33	1
(2)records manager	7	33.33	1
(3)information manager	1	4.76	3
(4)both records manager and archivist	5	23.81	2
(5)others	1	4.76	3
Highest choice			(1) (2)
Total	21	100	

2. Table 2- Funds of responding service

Types of funds	Total (service)	Percentage (%)	Order
(1)public funds	15	71.42	1
(2)private funds	4	19.05	2
(3)both public and private	2	9.52	3
(4)others	0	0	4
Highest choice			(1)
Total	21	100	

3. Table 3-Access of services

Types of service	Total (service)	Percentage A(%)	Percentage B(%)	Order (restrictions to the access)	Order (charges to the access)
(1)open to public and creators	10	23.81	47.62	1	
(2)only to creating agency	3	7.14	14.29	3	
(3)with limited access to public, open to creators	8	19.04	38.09	2	
(4)with some charge for using facility and service	4	9.52	19.05		2
(5)with charge for using information	1	2.38	11.33		3
(6)free of charge	8	19.04	38.09		1
No response	8	19.04	38.09		1
Highest choice of access					(1)
Highest choice of charge of service					(6)
Total	42	100			

A Person-time/ (21 × 2 = 42) 21 are total respondents, 2 are items that should be responded.

B: Person-time (21), 21 are total respondents

4. Table 4- The coverage of service in the life cycle of records

Types of records	Total (service)	Percentage (%)	Order
------------------	-----------------	----------------	-------

(1)Current records			
(2)Semi-current records			
(3)Non-current records	3	14.28	2
(4)Semi-current records and non-current records	3	14.28	2
(5)all of the above	15	71.43	1
Highest choice			(5)
Total	21	100	

5.Table5 -1Role of records management service for organisation and public

Types of roles	Total (service)	Percentage A (%)	Percentage B(%)	Order
(1)archival administration, supervision and auditing	13	7.73	61.90	1
(2)records management consulting	11	6.55	52.38	2
(3)documentation management	11	6.55	52.38	2
(4)recordkeeping management	9	5.36	42.86	3
(5)information resources management	9	5.36	42.86	3
(6)knowledgement management	6	3.57	28.57	5
(7)cultural heritage management	8	4.76	38.10	4
(8)others	0			
No response	101	60.1		
Highest choice				(1)
Total	67	100%		

A: person-time/(21 × 8), 21 are total respondents, 8 are items should be selected.

6.Table 6-1 Sectors of services

Types of sectors	Total (service)	Percentage (%)	Order
(1)government	15	71.43	1
(2)business	3	14.29	2
(3)institution	3	14.29	2
(4)others	0	0	
Highest choice			(1)
Total	21	100	

Table 6-2 Sectors types in records management service

Sector types	Total (service)	Percentage	Order
(1)government	12	57.14	1
(2)business	2	9.52	3
(3)institution	3	14.29	2
(4)government and business	1	4.76	4
(5)government, business and institution	3	14.29	2
Highest choice			(1)
Total	21	100	

7.Table 7-1 Range of services

Scope of Service	Total (service)	Percentage (%)	Order
(1)local	9	42.85	2
(2)regional	6	28.57	3
(3)national	10	47.62	1
(4)international	5	23.81	4
Highest choice			(3)
Total	30		

Person-time (21), 21 are total respondents

Table7-2 Types of ranges of service

Types of scopes of services	Total (service)	Percentage (%)	Order
(1)local	5	23.81	2

(2)regional	2	9.52	3
(3)national	7	33.33	1
(4)international	2	9.52	3
(5)local and regional	2	9.52	3
(6)national and international	1	4.76	4
(7)local, regional, national and international	2	9.52	3
Highest choice			(1)
Total		100	

Section 2: Issues of Urban Development Archives Management

8.Types of urban development documents in holdings

Table 8- Types of UDA in holdings

Types of records	Total (service)	Percentage (%)	Order
(1)planning and the development control documents	17	80.95	2
(2)architectural design documents	20	95.23	1
(3)construction project and civil engineering documents	15	71.42	3
(4)property and estate documents	20	95.23	1
Highest choice			(2) (4)
Total	72	85.71	

9.Table 9-1 Provenance of UDA in general

Originating of records	Total (service)	Percentage (%)	Order
(1)government	17	80.95	1
(2)business activities	13	61.90	2
(3)institution	9	42.85	3
(4)others			
Highest choice			(1)
Total	39		

Table 9-2 Provenance of UDA in detail

Provenance from sectors	Total (service)	Percentage (%)	Order
(1)government	7	33.33	1
(2)business	3	14.29	2
(3)institution	1	4.76	3
(4)government and business	3	14.29	2
(5)government, business and institution	7	33.33	1
Highest choice			(1) (5)
Total	21	100	

10.Table 10- Ways of getting the UDA documents

Ways of getting records	Total (service)	Percentage (%)	Order
(1)collecting and transferring	14	66.66	1
(2)acquisition and buying	6	28.57	4
(3)donation	8	38.09	3
(4)communication and exchange	4	19.05	5
(5)selling records and archives service	2	9.52	6
(6)borrow	1	4.76	7
(7)deposit	12	57.1	2
(8)creation	6	28.57	4
(9)recreation	0	0	
(10)bequest	1	4.76	7
(11)inheriting	1	4.76	7
(12)contract	1	4.76	7
Highest Choice			(1)

11.Table 11- Purposes of UDA recordkeeping and custody

Why keep	Total (service)	Percentage (%)	Order
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(1)facilitate communication	6	28.57	8
(2)administrative reference	17	80.95	3
(3)evidential reference	19	90.47	2
(4)information reference	20	95.24	1
(5)historical reference	17	39.09	7
(6)legal reference	16	76.19	4
(7)cultural reference	8	39.09	7
(8)commercial reference	9	42.86	6
(9)technical reference	14	66.7	5
(10)knowledge storage	9	42.86	6
(11)Others	1	4.76	9
Highest choice			(4)

12. Table 12- Client-orientation of UDA custody

To whom	Total (service)	Percentage (%)	order
(1)corporate creating agencies' needs	18	85.71	1
(2)professional functional bodies and professional activities needs	7	33.33	4
(3)individual creators needs	9	42.86	3
(4)public needs	11	52.38	2
(5)others			
Highest choice			(1)

13. Table 13- UDA Management Difficulties

Agreement of UDA difficulties	Total (service)	Percentage (%)	Order
(1)yes	14	66.67	1
(2)no	4	19.05	2
(3)no response	3	14.29	3
Highest choice			(1)

14. Table 14- Factors that influence UDA appraisal decision hard to make

Difficulty elements in UDA appraisal	Total (service)	Percentage (%)	Order
(1)practical value and research value	10	47.62	4
(2)current value and historical value	14	66.67	1
(3)first value and secondary value	2	9.52	8
(4)evidential value and information value	5	23.81	7
(5)current , semi-current and non-current records	3	14.29	8
(6)frequent use and seldom use	9	42.57	5
(7)authenticity, reliability and accy	5	23.81	7
(8)completeness and integrity	12	57.14	2
(9)purpose of keeping as corporate memory or social memory or both	5	23.81	7
(10)difficulties in identifying the documents , records and archives in digitised world	8	38.10	6
(11)difficulties in identifying the originality and uniqueness in formats and mediums e.g. drawings, maps, plans ; photos, tapes, disks duplications	11	52.38	3
(12)others	1	4.76	9
(13)no response	2	9.52	8
Highest choice			(2)

15. Table 15- With strategies or policies for UDA appraisal

With particular UDA strategies	Total (service)	Percentage (%)	Order
(1)yes	6	33.33	2
(2)no	7	39.10	1
(3)no responding	8	28.57	3
Highest choice			(3)

16. Table 16-Major problems in the physical control and intellectual control of UDA

UDA Problems in archival management	Total (service)	Percentage (%)	Order
(1)physical size	14	66.67	1
(2)various mediums	10	46.62	2
(3)bottom-up approach for construction project records	6	28.57	4
(4)duplications and overlap	10	46.62	2
(5)lack of UD professional knowledge	8	38.09	3
(6)varied UDA values and the centralised custody	2	9.52	6
(7)complete memory of built environment	3	14.29	5
(8)others	0		
(9)no response	2	9.52	6
Highest choice			(1)

17. Table 17 – UDA as a particular category of archives

Agreement of UDA as a category of archives	Total (service)	Percentage (%)	Order
(1)yes	5	23.81	2
(2)no	13	61.90	1
(3)no response	3	14.29	3
Highest choice			(2)

18. Table 18-UDA functions recognised in documentation strategy

Types of UDA functionality recognised	Total (service)	Percentage (%)	Order
(1)UDA are means of technology storehouse and knowledge reservoir for urban development practice	5	23.57	5
(2)UDA are foundations for urban planning and the planning control	6	23.81	4
(3)UDA are evidential basis for urban construction, development control, the use and maintenance of built environment	11	52.38	2
(4)UDA are important aids for reconstruction, redevelopment, conservation of built environment , for disaster , calamity, catastrophe prevention, defence and disaster plans , as well as reconstruction and rebuilding of a city	9	42.29	3
(5)UDA are legal evidence for ownership and citizen's rights and interest	11	52.38	2
(6)UDA are important information source for academic research	11	52.38	2
(7)UDA are important culture heritage of a city, a nation and the memory of the world	12	57.14	1
(8)no response	3	14.29	6
Highest choice			(7)

19. Table 19- UDA Characteristics

Characteristics of UDA recognised	Total (service)	Percentage (%)	Order
(1)speciality	6	28.57	5
(2)comprehensive	7	33.33	4
(3)dynamic	10	47.62	2
(4)current	8	38.09	3
(5)locality	8	38.09	3
(6)authenticity and accuracy	12	57.14%	1
(7)no response	7	33.33	4
Highest choice			(6)

20. Table 20- Users and users group of UDA

UDA interested groups	Total (service)	Percentage (%)	Order
(1)academic researcher and professional student	13	61.90	3

(2)administrator and decision maker	15	71.43	1
(3)designer	8	38.10	
(4)property owner	14	66.67	2
(5)developer	14	66.67	2
(6)technician and engineer	15	71.43	1
(7)media	7	33.33	4
(8)public	4	19.05	5
(9)others	4	19.05	5
Highest choice			(2)(6)

21. Table 21- The storage of electronic images in holdings

Keeping electronic images	Total (service)	Percentage (%)	Order
(1)yes	6	28.57	2
(2)no	15	71.43	1
Highest choice			(2)

22. Table 22- Orientation of archival policies for electronic records

With archival policies for electronic records	Total (service)	Percentage (%)	Order
(1)yes	13	61.90	1
(2)no	8	38.10	1
Highest choice			(1)

23. Table 23-System of electronic recordkeeping

Methods of long-term preservation	Total (service)	Percentage (%)	Order
(1)hybrid system	16	76.19	1
(2)electronic system	2	9.52	3
(3)others	0	0	
(4)no response	3	14.29	2
Highest choice			(1)

24. Table 24-Strategies for the long term preservation and access of digitalized records

Strategies for long-term electronic preservation	Total (service)	Percentage (%)	Order
(1)migration	8	38.10	1
(2)conversation	8	38.10	1
(3)emulation	2	9.52	2
(4)others	2	9.52	2
(5)no response	1	4.76	3
Highest choice			(1)

25. Agreement of integrated archival policies for UDA from the creation of the records along the records continuum cross-institution, cross-discipline and cross-sectors

Agreement of integration archival policy	Total (service)	Percentage (%)	Order
(1)yes	15	71.43	1
(2)no	1	4.76	3
(3)no response	5	23.81	2
Highest choice			(1)

26. Table 26-Criteria in making collecting policy for UDA holdings

Elements of collecting policy	Total (service)	Percentage (%)	Order
(1)integrity , completeness and comprehensives	13	61.90	2
(2)authenticity, accuracy and reliability	15	71.43	1
(3)originality and uniqueness	12	57.14	3
(4)evidentiality	10	47.62	4
(5)transtractionality	8	38.10	6
(6)functionality of primary sources	6	28.57	7
(7)discipline or speciality scope of primary sources	5	23.81	8
(8)accessibility of primary sources	9	42.86	5
(9)availability of primary sources	8	38.10	6

(10)copyright and ownership	9	42.86	5
(11)legislation related to records	13	61.90	2
(12)representatives , importance and significance	9	42.86	5
(13)higher age	3	14.29	
(14)corporate memory of creators and creating agencies	13	61.90	2
(15)social memory (local/regional/ national/world)	9	42.86	5
(16)others	0		
(17)no response	1	4.76	9
Highest choice			(2)

27. Table 27- Elements in UDA intellectual control

Elements of intellectual control	Total (service)	Percentage (%)	Order
(1)content	19	90.48	1
(2)subject	16	76.19	3
(3)context	9	42.86	6
(4)activities and transactions	10	47.62	5
(5)functionality	9	42.86	6
(6)creators and creating agency	17	80.95	2
(7)date and address	14	66.66	4
(8)others	0		
Highest choice			(1)

28. Table 28- Types of UDA findings aids

Types of finding aids	Total (service)	Percentage (%)	Order
(1)organisation and creators-oriented finding aids	16	76.19	2
(2)function and activities classified finding aids	10	47.62	5
(3)locality-address-linked finding aids	11	52.38	4
(4)specialisation and discipline classified finding aids	2	9.52	8
(5)subject-oriented finding aids	13	61.90	3
(6)medium and format of recorded information classified finding aids	7	33.33	6
(7)paper form finding aids	16	76.19	2
(8)computerised finding aids	18	85.71	1
(9)website finding aids	6	28.57	7
(10)others	0	0	
Highest choice			(8)

29. Table 29- Indicators of best quality of UDA information service

Indicators of best archival service	Total (service)	Percentage (%)	Order
(1)integrity and completeness of archival documents	12	57.14	4
(2)authenticity and reliability of archival documents	14	66.67	2
(3)originality of archival documents	6	28.57	5
(4)accessibility of archival documents	13	61.90	3
(5)availability of archival documents	11	52.38	5
(6)timely access	15	71.42	1
(7)client-satisfactory	13	61.90	3
(8)sustainability of the service	11	61.90	4
(9)cost-effectiveness and best value	13	61.90	3
(10)others	1	4.76	7
(11)no response	4	33.33	6
Highest choice			(6)

Section 3: Issues of an Integrated model

30. Table 30- Orientation of selecting integrated +DM+RM+AM model

With agreement of +DM+RM+AM	Total (service)	Percentage (%)	Order

(1)yes	17	80.95	1
(2)no	4	19.05	2
Highest choice			(1)

31. Table 31 Types of collaborative programs for +DM+RM+AM implementation

Applicability of integration approaches	Total (service)	Percentage (%)	Order
(1)united filing system	6	28.57	4
(2)united classification scheme	6	28.57	4
(3)united appraisal policy , retention scheduling and disposal plan	12	57.14	1
(4)united documentation strategy and collecting policy	7	33.33	3
(5)united description standards and cataloguing network	6	28.57	4
(6)united IT software and hardware standards and functional requirements	9	42.86	2
(7)united archival documents registry system	6	28.57	4
(8)united archival administration and custody system	5	23.81	5
(9)partnerships of creators , users and custodians in archival policies and information policies as well as their accountabilities for public	4	19.05	6
(10)others	1	4.76	7
(11)no response	4	19.05	6
Highest choice			(3)

32. Table 32- Agreement of collaborative approaches to integrated frameworks for documenting documentation, recordkeeping and archival information service is cost-effectiveness and client-satisfactory

Agreement of collaborative approaches to Integration framework for best practice	Total (service)	Percentage (%)	Order
(1)yes	16	76.19	1
(2)no	3	14.29	2
(3)no response	2	9.52	3
Highest choice			(1)

33. Table 33- Agreement of integrated framework as functional requirement for best value records management

Agreement of Integration framework as best value records management requirement	Total (service)	Percentage (%)	Order
(1)yes	19	90.48	1
(2)no	1	4.76	2
(3)no response	1	4.76	2
Highest choice			(1)

34. Table 34- Variables in implementing integrated +DM+RM+AM model

Problems in integration	Total (service)	Percentage (%)	Order
(1)ownership of UDA	12	57.14	1
(2)economic value of UDA	7	33.33	4
(3)copyright of UDA	8	38.09	3
(4) power of UDA information control in custody	4	19.05	5
(5)administrative authority for integrated programs	9	42.86	2
(6)accountabilities and liabilities of partners	8	38.09	3
(7)strategies and methodologies for strategic archiving management	8	38.09	3
(8)others	1	4.76	6
(9)no response	4	19.05	5
Highest choice			(1)

35. Table 35- Reasons for the necessity of developing integration framework for UDA

Reasons for the necessity of integration framework	Total (service)	Percentage (%)	Order
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(1)best value and good quality of service	15	71.43	1
(2)client-satisfactory business enterprise	9	42.86	3
(3)Freedom of Information Act and Data Protection Act	10	47.62	2
(4)risk management	10	47.62	2
(5)sustainability and consistency of service	15	71.43	1
(6)image of service	9	42.86	3
(7)survival of fitness	4	19.05	4
(8)others	3	14.29	5
(9)no response	1	4.76	6
Highest choice			(1)(5)

36.Strategies for the feasibility of implementing the UDA integrated framework

Strategies for the feasibility of integrated framework	Total (service)	Percentage (%)	Order
(1)legislation, regulations and rules	13	61.90	2
(2)best records and archives management practice	18	85.71	1
(3)client-led marketing	5	23.80	4
(4)standardisation	13	61.90	2
(5)digitalisation	5	23.80	4
(6)modernisation	5	23.80	4
(7)total quality management	5	23.80	4
(8)multidisciplinary approach	5	23.80	4
(9)partnerships	4	19.04	5
(10)post-custodian archival mind	3	14.29	6
(11)integration among records management business processes	8	38.10	3
(12)others	0	0	
(13)no response	2	9.52	5
Highest choice			(2)

37.Indicators of levels of integration among archiving records management processes

Indicators of levels of integration agreed	Total (service)	Percentage (%)	Order
(1)common understandings and expectations	16	76.19	1
(2)common and consisted standards	16	76.19	1
(3)information sharing	12	57.15	2
(4)co-ordination	12	57.15	2
(5)partnerships	9	42.86	3
(6)no response	2	9.52	4
Highest choice			(1)(2)

38. Table 38-Indicators of services using integrated framework

Indicators of Integrated service agreed	Total (service)	Percentage (%)	Order
(1)integrity	7	33.33	5
(2)authenticity	9	42.86	4
(3)systematic	6	28.57	6
(4)comprehensive	7	33.33	5
(5)accuracy and completeness	13	61.90	1
(6)timely access	12	57.14	2
(7)rational resources allocation and rational holdings structure	6	28.57	6
(8)reduce duplication, overlap and cost	12	57.14	2
(9)information sharing among creators, users and custodians	10	47.62	3
(10)others	0		
(11)no response	2	9.52	7
Highest choice			(5)

39. Table 39-Roles of creators, users, custodians, IT people in the integrated framework.

Role of creators, users, custodians and IT people in the integrated framework	Total (service)	Percentage (%)
Response	7	33.33
No response	14	66.67

Answers of 7 respondents:

- a. " Do not understand this question."
- b. " Responsibilities and accountabilities are needed to know who is lead so that work can be effectively co-ordinated"
- c. " IT people deliver a system kept it efficient. Custodian is responsible for the deliverability of that system in terms of information content. Creator is responsible for ensuring for answering those records is integrated. User determine the delivered system how it works what it needs..."
- d. "design a system accountable"
- e. "responsible partnership"
- f. "Creators are responsible and accountable to the regulatory framework, custodians are responsible to the same creators, users will have defined or no role, IT personnel will act as enables for access".
- g. " This has been define out not be universally acknowledged by all involved."

40. Table 40-Recommendations and comments on model of integrated framework for +DM+RM+AM

Comments on integrated frameworks for +DM+RM+AM	Total (service)	Percentage (%)
Response	7	33.33
No response	14	66.67

Answers of 7 respondents:

- a. " The RIBA drawings collection is integrated to the RIBA libraries system, I do not know if the RIBA library plans to become integrated/combined with another system.
- b. " Work such as that of ISAD (g) etc.
- c. " I would like to see a closer working relationship among these groups."
- d. " The entire process should be audible and should have along existing pattern of the life cycle of a document-begin with creators end in Archive or in Destruction."
- e. " I hope one day it will come true. We need political will and generous resources which we in the profession are striving for."
- f. "Greater liaison and understanding between records management and users"
- G. " The continuing development of electronic records will lead a convergence of library and archives practices into a unitary practice of information management."

Appendix C

Copy of Questionnaire Survey of China Case Study

Notes: This survey is designed for the objectives of investigation and research on best models and approaches for managing urban development archives (UDA).The contents cover three aspects: 1. Features of urban development archives services; (2) Difficulties and strategies in the management of UDA; (3) Best models for managing UDA and the approaches. Questionnaires would be sent to urban development archival information services and the repositories rather than urban development archival administrations.

Please tick the proper answers with ☐. The answers could have single choice or multiple choices.

Section One: Features of Your Service

1. Could you describe the types of your institution-----?
 - (1) information centre
 - (2) municipal archival repository
 - (3) urban development archival repository
 - (4) organisational archives
 - (5) others
2. Could you describe the funds for your service-----?
 - (1) public funds
 - (2) private funds
 - (3) public and private partnerships
 - (4) others
3. Could you describe the open access of your service-----?
 - (1) open to the public and creators
 - (2) only to creating agency
 - (3) with limited access for public, open to creators
 - (4) with some charge for using facility and service
 - (5) with charge for using the information
 - (6) free of charge
4. Could you describe the coverage of your service in the life cycle of records including archival administration, supervision, auditing, and custody , information access and use-----?
 - (1) current records
 - (2) semi-current records
 - (3) non-current records
 - (4) semi-current records and non-current records
 - (5) all of the above
5. Could you describe the role of your records management service for your organisation and public ?
 - (1) archival administration, supervision and auditing
 - (2) records management consulting
 - (3) documentation management
 - (4) recordkeeping management
 - (5) information resources management
 - (6) knowledgement management
 - (7) cultural heritage management
 - (8) others
6. Could you define the sectors of your service belongs to -----?
 - (1) government
 - (2) business
 - (3) institution
 - (4) others
7. Could you define the range of your service focus -----?
 - (1) organizational
 - (2) district
 - (3) city
 - (4) regional
 - (5) national
 - (6) international

Section Two: Issues of Urban Development Archives Management

8. Which types of the following urban development documents do you have in your holdings, -----?
- (1) planning and the development control documents
 - (2) architectural design documents
 - (3) construction project and civil engineering documents
 - (4) property and estate documents
9. Where do the urban development documents come from?
- (1) government activities
 - (2) business activities
 - (3) institutional activities
 - (4) others-----
10. In which way you have got these types of documents-----?
- (1) collecting and transferring
 - (2) acquisition and buying
 - (3) donation
 - (4) communication and exchange
 - (5) selling records and archives service
 - (6) borrow
 - (7) deposit
 - (8) creation
 - (9) recreation
 - (10) others-----
11. For what purposes you preserve and make the urban development documents available for access-----?
- (1) facilitate communication
 - (2) administrative reference
 - (3) evidential reference
 - (4) information reference
 - (5) historical reference
 - (6) legal reference
 - (7) cultural reference
 - (8) commercial reference
 - (9) technical reference
 - (10) knowledge storage
 - (11) others
12. For whom you are in the custody of urban development documents -----?
- (1) corporate creating agencies' needs
 - (2) professional functional bodies and professional activities needs
 - (3) individual creators needs
 - (4) public needs
 - (5) others
13. Do you agree that the accessibility and availability of modern urban development archival documents always have difficulties and problems----?
- (1) yes
 - (2) no
14. What types of following factors you may agree with as difficulty elements in appraisal of urban development documents and records ?
- (1) practical value and research value
 - (2) current value and historical value
 - (3) first value and secondary value
 - (4) evidential value and information value
 - (5) current, semi-current and non-current records
 - (6) frequent use and seldom use
 - (7) authenticity, reliability and accuracy
 - (8) completeness and integrity
 - (9) purpose of keeping as corporate memory or social memory or both
 - (10) difficulties in identifying the documents , records and archives in digitised world
 - (11) difficulties in identifying the originality and uniqueness in formats and mediums e.g. drawings, maps, plans ; photos, tapes, disks, duplications

- (12) others
15. Do you have particular strategies or policies for the problems mentioned above-----?
If yes, please list them out-----.
- (1) yes
 - (2) no
16. What are the major problems in the physical control and intellectual control of urban development archival documents at your service -----?
- (1) physical size of the maps and plans demanding special handling and finding aids
 - (2) different mediums and formats of a series demanding different preservation methods for decentralised storage , but users needs integrated finding aids for access of complete archival information
 - (3) modern construction project records having huge volumes, bottom-up traditional archival methods are not effective and not efficient
 - (4) without co-ordination in archiving polices and consistent standards for documenting documentation, recordkeeping and archival information service, there are many duplications and overlaps in records and archives management
 - (5) for integrated UDA documentation, recordkeeping and the archival information service, archival knowledge and archival administration are not enough, urban development professional knowledge and the professional archival administration are needed for collaboration as well
 - (6) because of practical value, current value and economic value of UDA the centralised control and the custody of UDA always have problems
 - (7) because of different purposes of documenting documentation and different aims of recordkeeping, and different objectives of archival information service, the complete memory of the development of built environment is very difficult to get
 - (8) others
17. Do you agree that archives from urban development practices could be looked as a whole as a particular category of archives differ from other types of archives for searching particular strategies for documenting the complete memory of the making of built environment as well as for developing particular research methodologies to its management issues -----?
- (1) yes
 - (2) no
18. Which of the following UDA functions your institution has already been aware of and has aimed to guarantee in your documentation strategy -----?
- (1) UDA are means of technology storehouse and knowledge reservoir for urban development practices;
 - (2) UDA are foundations for urban planning, and the planning control;
 - (3) UDA are evidential basis for urban construction, development control, the use and maintenance of built environment;
 - (4) UDA are important aids for reconstruction, redevelopment, and conservation of built environment; for disaster, calamity, catastrophe(e.g. war, fire, earthquake, flood, etc.) prevention, defence, and disaster plan, as well as reconstruction and rebuilding of a city;
 - (5) UDA are legal evidence for ownership of built environment, which is concerned with rights of creators, creating agencies, as well as public interest of citizen's legal right;
 - (6) UDA are important information source for academic research on movement patterns of urban development, the economic development of a city, environment study and urban study as well as development patterns of urban development archival work;
 - (7) UDA are important culture heritage of a city, a nation and the memory of the world.
 - (8) UDA are the guarantee of transparency of government administration, and the guarantee of information right of citizen
 - (9) others
19. What are the characteristics of this category of records you may agree with -----?
- (1) Speciality: By speciality, it means that as primary recordings of urban development (UD) functions, the provenance of UDA is from UD activities, the contents of UDA have features of UD speciality. The arrangement of UDA has to respect provenance of the UD speciality in its special creation procedure, creation process and original order, which should be in the orders of its creation pattern. The description and cataloguing of the content and context of the records needs specialised knowledge. The implication of

the characteristics of speciality is that the management of UDA should have certain knowledge of UD background beside archives knowledge.

- (2) **Comprehensive:** By comprehensive, it means that the provenance of UDA are from multireactors, multicreating agencies, multi-sectors, and multidiscipline. As by-products of UD activities, UDA have mutlimediums and in multiformats. There are two implications of the comprehensive. First, UDA resources contain comprehensive information which are benefit for different users from different needs at different time. Second, because of cross-disciplines, cross creating agencies, cross-higher authorities, cross-periods, there is a need for unified UDA archival documentation strategy and integrated archiving recordkeeping programs along the records continuum.
- (3) **Dynamic:** By dynamic, it means that the development of built environment of the city is always dynamic with the changing of the needs of built environment, with the changing of the technologies, political and economical context. Therefore the accumulation of UDA should have dynamic features to capture reliable and authentic archival information in order to document complete and accurate memory of the making of the built environment.
- (4) **Current:** By current, it means that UDA always have both current value and practical value. The use of UDA is quite often to serve both present and future. The use of UDA always not only has social benefit but economic benefit as well. The use of historical UDA for current urban planning, development control, the use and maintenance and reconstruction of the built environment has significant features of current use. Therefore, the exploring of the archival information resources and the editing and publication of the UDA should be integrated into current urban development needs for client-satisfactory.
- (5) **Locality:** By locality, it means the context of urban development activities are always related to certain space or sites in a certain locality, the contents of information reflecting historical, cultural, political, economical, technical development factors always have symptoms of the region and locality. UDA is an important image of the development of the locality, the window and bridge to connect the past to present and present to future for the continuity and sustainability of the development of the built environment.
- (6) **Authenticity and Accuracy:** By authenticity and accuracy, it means that UDA are direct foundations for planning decision making and development control, the use and maintenance of built environment. The authenticity and accurateness of UDA means the quality of creating agencies' service and quality of their products. It means whether the legal rights of customers could be guaranteed or not. It means the legal accountabilities of creating agencies whether have been documented and could be audited or not. As far as underground utilities or completed construction project concerned, as-built drawings have direct impact on its future use and maintenance, on security of people's lives in living and working. The documenting documentation of such projects must be accurate.
- (7) **Multi-purposes:** By Multi-purposes, it means the provenance of UDA are complex, not just from one discipline or one field, one sector, or creating agency. The creation of UDA covers a wide range of specialities and always with the involvement of government, business and institution, the actors are not only administrators, designers, property developers, but citizen's as well. The pluralistic features of UDA has direct implications to the custody of UDA as well as the use and access of UDA. Different actors may have different purposes for the custody of the same records, the same records may have different functions for different users. Therefore, interdisciplinary documentation strategy is necessary for success of availability and accessibility of UDA.

(8) others

20. Could you inform who are the users or interest groups of UDA in access of your holdings-----?

- (1) academic researcher and professional student
- (2) administrator and decision maker
- (3) designer
- (4) property owner
- (5) developer
- (6) technician and engineer

- (7) media
 - (8) public
 - (9) others
21. Do you have electronic images in your holdings?
- (1) yes
 - (2) no
22. Do you have or intend to have archival policies for electronic records?
- (1) yes
 - (2) no
23. If yes, what kind of systems do you have or may you like to have -----?
- (1) hybrid system with both paper, electronic records and other mediums
 - (2) electronic system only with digitised records
 - (3) others
24. What are your strategies for the long term preservation and access of electronic and digitised records-----?
- (1) migration
 - (2) conversion
 - (3) emulation
 - (4) others
25. Do you agree the documentation of the making of the built environment should be in multi- mediums , muti-formats with integrated archival policies cross-institution, cross-discipline and cross-sectors from the creation of the records along the records continuum to protect the integrity and authenticity of the recorded information-----?
- (1) yes
 - (2) no
26. As custodians, which of the following factors of records you might like to select as important elements in making collecting policy for your holdings ----- ?
- (1) integrity, completeness and comprehensives
 - (2) authenticity, accuracy and reliability
 - (3) originality and uniqueness
 - (4) evidentiality
 - (5) transactionality
 - (6) functionality of primary sources
 - (7) discipline or speciality scope of primary sources
 - (8) accessibility of primary sources
 - (9) availability of primary sources
 - (10) copyright and ownership
 - (11) legislation related to records
 - (12) representatives , importance and significance
 - (13) higher age
 - (14) corporate memory of creators and creating agencies
 - (15) social memory (local/regional/ national/world)
 - (16) others
27. What elements of recorded information have you used in intellectual control -----?
- (1) content
 - (2) subject
 - (3) context
 - (4) activities and transactions
 - (5) functionality
 - (6) creators and creating agency
 - (7) date and address
 - (8) others
28. What types of finding aids does your institution have for archival information access-----?
- (1) organisation and creators-oriented finding aids
 - (2) function and activities classified finding aids
 - (3) locality-address-linked finding aids
 - (4) specialisation and discipline classified finding aids
 - (5) subject-oriented finding aids

- (6) medium and format of recorded information classified finding aids
 - (7) paper form finding aids
 - (8) computerised finding aids
 - (9) website or networking finding aids
 - (10) others
29. As custodians, what factors have you used as indicators of quality of archival information service-----?
- (1) integrity and completeness of archival documents
 - (2) authenticity and reliability of archival documents
 - (3) originality of archival documents
 - (4) accessibility of archival documents
 - (5) availability of archival documents
 - (6) timely access
 - (7) client-satisfactory
 - (8) sustainability of the service
 - (9) cost-effectiveness and best value
 - (10) others

Section Three: Issues of an Integrated model

30. Does your working institution have or intend to have any collaborative or integrated programs to develop common standards in documentation, recordkeeping and archival information services for mutual interest and benefit to creators, users and custodians-----?
- (1) yes
 - (2) no
31. If yes, could you name the types of collaborative programs you have had or intend to have for documents, records and archives along the records continuum -----?
- (1) united filing system
 - (2) united classification scheme
 - (3) united appraisal policy , retention scheduling and disposal plan
 - (4) united documentation strategy and collecting policy
 - (5) united description standards and cataloguing network
 - (6) united IT software and hardware standards and functional requirements
 - (7) united archival documents registry system
 - (8) united archival administration and custody system
 - (9) partnerships of creators, users and custodians in archival policies and information policies as well as their accountabilities for public
 - (10) others
32. Do you agree those collaborative approaches to integrated framework for documenting documentation, recordkeeping and archival information service is cost-effective and client-satisfactory for managing records and archives into future no matter what the formats and mediums are , no matter they are papers records, or electronic records -----?
- (1) yes
 - (2) no
33. Do you agree that integrated framework for documenting documentation, recordkeeping and archival information service should be a functional requirement for best value records management-----?
- (1) yes
 - (2) no
34. Could you tell your opinions on what problems and obstacles will be in the implementation of the integrated framework for documentation, recordkeeping and archival information service -----?
- (1) ownership of UDA
 - (2) economic value of UDA
 - (3) copyright of UDA
 - (4) power of UDA information control in custody
 - (5) administrative authority for integrated programs
 - (6) accountabilities and liabilities of partners
 - (7) strategies and methodologies for strategic archiving management

- (8) theories and principles for UDA management
 - (9) unified professional standards and codes
 - (10) others
35. What elements that you may select as reasons for the necessity of the integrated framework -----?
- (1) best value and good quality of service
 - (2) client-satisfactory business enterprise
 - (3) functional requirements of digitalisation and networking
 - (4) risk management
 - (5) sustainability and consistency of service
 - (6) image of service
 - (7) survival of fitness
 - (8) effectiveness of management
 - (9) reduce overlaps
 - (10) others
36. What elements that you may select as strategies for the feasibility of the integrated framework ---?
- (1) legislation, regulations and rules
 - (2) best records and archives management practice
 - (3) client-led marketing
 - (4) standardisation
 - (5) digitalisation
 - (6) modernisation
 - (7) total quality management
 - (8) multidisciplinary approach
 - (9) partnerships
 - (10) post-custodian archival mind
 - (11) integration among records management business processes
 - (12) unified UDA concepts, principles and methods
 - (13) others
37. How would you like to define the roles of creators, users, custodians in the integrated framework of documenting documentation, recordkeeping and information service, e.g. responsibilities, authorities, accountabilities, liabilities?
38. What recommendations or comments you would like to give for the models of integrated framework for UDA documentation, recordkeeping and archival information service?
39. What would be the best practice models and methods you prefer or recommend? What could be the criteria for the evaluation of the best practice?
40. What is your opinion on the above investigation and research?
- (1) with theoretical values
 - (2) with practical values
 - (3) with both theoretical and practical values
 - (4) no vales

Thank you for completing this questionnaire and return to me.

If you have any queries regarding any of the questions or anything else related to the subject matter of the questionnaires please feel free to contact me at the address given below.

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Appendix D

Answers to Questionnaire Survey of China Case Study

1.0 Features of UDA services

0. Table 0 – Methods of delivery survey

Survey methods	By distribution	By post	Total (survey)
Sending out	9	19	28
Responding	9	9	18
Percentage	100%	47.37%	64.29%
Order	1		

1. Table 1- Status of respondents

Types of custodians in investigation	Total (service)	Percentage (%)
(1) information centre		
(2) municipal archives		
(3) UDA specialist archival repository	18	100
(4) organisational archives		
(5) others		

2. Table 2- Funds of responding services

Types of funds	Total (service)	Percentage (%)	Order
(1) public funds	6	33.33	2
(2) private funds	2	11.11	3
(3) public funds and private funds	10	55.55	1
Highest choice			(3)
Total	18	100	

3. Table 3-1 Access of services

Types of open access	Total (service)	Percentage (%)	Order
(1) open to public and creators	5	27.78	2
(2) only to creating agency	5	27.78	2
(3) with limited access for public, open to creators	7	38.89	1
(4) no response	1	5.67	3
Highest choice			(3)
Total	18	100	

Table 3-2 Charges of services

Charges of services	Total (service)	Percentage (%)	Order
(1) with some charges for using facility	4	22.22	2
(2) with charge for using information	7	38.89	1
(3) free of charge			
(4) no response	7	38.89	1
Highest choice			
Total	18	100	(2)

4. Table 4 -Coverage of services in the life-cycle of records

Types of records	Total (Service)	Percentage (%)	Order
(1) current records	2	11.11	3
(2) semi-current records			
(3) non-current records	2	11.11	3
(4) semi-current and non-current records	4	22.22	2
(5) all of the above	8	44.44	1
(6) Current and non-current	1	5.67	4
(7) no response	1	5.67	4
Highest choice			(5)
Total	18	100	

5. Table 5- Role of records management services for organisation and public

Role of UDA services	Total (service)	Percentage (%)	order

(1)archival administration, supervision and auditing	17	94.44	1
(2)records management consulting	11	61.11	3
(3)documentation management	2	11.11	5
(4)recordkeeping management	12	66.67	2
(5)information resources management	8	44.44	4
(6)knowledge management	0	0	7
(7)cultural heritage management	1	5.56%	6
(8)others	0	0	
Highest choice			(1)

6.Table6- Sectors of UDA services

Types of sectors	Total (service)	Percentage (%)	order
(1)government	1	5.56	2
(2)business	0	0	
(3)institution	17	94.44	1
(4)others	0		
Highest choice			(3)
Total	18	100	

7.Table7-1 Range of UDA services

Scopes of service	Total (service)	Percentage (%)	order
(1) organisational	3	16.67	2
(2) district	2	11.11	3
(3) city	17	94.40	1
(4)regional	2	11.11	3
(5) national	0		
(6) international	0		
Highest choice			(3)

Table7-2 Types of ranges of services

Types of scopes of service	Total (service)	Percentage (%)	Order
(1)organisational and city	1	5.67	3
(2)organisational and regional and city	3	16.67	2
(3)regional	1	5.67	3
(4)city	13	72.22	1
Highest choice			(4)
Total	18	100	

2.0 Issues of Urban Development Archives Management

8.Table-8 Types of UDA in holdings

Types of records	Total (service)	Percentage (%)	order
(1)planning and the development control documents	16	88.89	1
(2)architectural design documents	12	66.67	3
(3)construction project and civil engineering documents	15	83.33	2
(4)property and estate documents	5	27.78	4
Highest choice		(1)	
Above half choices		(1)(2)(3)	

9.Table 9-1 Provenance of UDA in general

Originating of UDA	Total (service)	Percentage (%)	Order
(1) Government Activities	16	88.89	2

(2)business activities	16	88.89	2
(3)institutional activities	17	94.44	1
(4)others	2	11.11	3
(5)no response	1	5.56	
Highest choice			(3)

Table 9-2 Provenance of UDA in detail

Provenance of UDA	Total (service)	Percentage (%)	Order
(1)government activities and business activities and institutional activities and others	16	88.89	1
(2)institutional activities	1	5.56	3
(3)no response	1	5.56	
Highest choice			(1)
Total	18	100	

10. Table10- Ways of getting the UDA documents

Ways of getting records	Total (service)	Percentage (%)	Order
(1)transferring	18	100	1
(2)acquisition and buying	7	38.89	3
(3)donation	6	33.33	4
(4)communication and exchange	4	22.22	5
(5)selling records and archives services	3	16.67	6
(6)borrow	0	0	8
(7)deposit	1	5.56	7
(8)creation	8	44.44	2
(9)recreation	3	16.67	6
(10)others	1	5.56	7
Highest choice			(1)
The higher choice order in first, second and third			(1)(8)(2)

11. Table11- Purposes for UDA recordkeeping and custody

Why keep	Total (service)	Percentage (%)	order
(1)facilitate communication	4	22.22	5
(2)administrative reference	17	94.44	1
(3)evidential reference	12	66.67	3
(4)information reference	8	44.44	4
(5)historical reference	15	83.33	2
(6)legal reference	17	94.44	1
(7)cultural reference	4	22.22	5
(8)technical reference	8	44.44	4
(9)knowledge storage	1	5.56	6
(10)others	1	5.56	6

Highest choice			(2)(5)
Above half choices			(2)(5)(4)(3)

12. Table 12- Clients-orientation of UDA custody

To whom	Total (service)	Percentage (%)	Order
(1) corporate creating agency needs	5	27.78	3
(2) professional functional bodies and professional activities needs	15	83.33	2
(3) public needs	16	88.89	1
(4) others	2	11.11	4
Highest choice			(3)
Above half choice			(2)(3)

13. Table 13 –UDA management difficulties

Agreement of UDA difficulties	Total (service)	Percentage (%)	Order
(1) yes	13	72.22	1
(2) no	4	22.22	2
(3) no response	1	5.56	3
Highest choice			(1)
Total	18	100	

14. Table 14- Factors that influence UDA appraisal decision hard to make

Difficulty elements in UDA appraisal	Total (service)	Percentage (%)	Order
(1) practical value and research	7	38.895	1
(2) current value and research value	4	22.22	4
(3) first value and secondary value	5	27.78	3
(4) evidential value and information value	6	33.33	2
(5) current, semi-current and non-current records	2	11.11	6
(6) frequent use and seldom use	3	16.67	5
(7) authenticity, reliability and accurateness	6	33.33	2
(8) completeness and integrity	6	33.33	2
(9) purpose of keeping corporate memory or social memory or both	3	16.67	4
(10) difficulties in identifying the documents, records and archives in digitised world	4	22.22	4
(11) difficulties in identifying the originality and uniqueness in formats and mediums e.g. drawings, maps, plans, photos, tapes, disks, duplications.	7	38.89	1
(12) others	0	0	
(13) no response		5.6	
Highest choice			(1)(11)
The higher choice of first , second , third, fourth and fifth elements in order			(1)(11)(4)(7)(8)(3)

15. Table 15- With strategies or policies for UDA appraisal

With particular UDA strategies	Total (service)	Percentage (%)	Order
(1) with	3	16.67	3
(2) without	11	61.11	1

(3)no response	4	22.22	2
Highest choice			(2)
Total	18	100	

16. Table 16- Major problems in the physical control and intellectual control of UDA

UDA problems in archival management	Total (service)	Percentage (%)	Order
(1)physical size of maps and plans demanding special handling and finding aids	3	16.67	4
(2)different mediums and formats of a series demanding different preservation methods for decentralised storage, but users needs integrated finding aids for access of complete archival information	2	11.11	5
(3)modern construction project records having huge volumes, bottom-up traditional archival methods are not effective and not efficient	3	16.67	4
(4)without co-ordination in archiving policies and consistent standards for documenting documentation, recordkeeping and archival information service, there are many duplications and overlaps in records and archives management	1	5.6	6
(5)for integrated UDA documentation, recordkeeping and the archival information service, archival knowledge and archival administration are not enough, urban development professional knowledge and the professional partnerships are needed as well	4	22.22	3
(6)because of practical value, current value and economic value of UDA , the centralised control and the custody of UDA always have problems	12	66.67	1
(7)because of different purposes of documenting documentation and different aims of recordkeeping, and different objectives of archival information service, the complete memory of the development of built environment are very difficult to get	10	55.56	2
(8)others	0	0	
(9)no response	2	11.11	
Highest choice			(6)
Above half choice			(6)(7)

17. Table 17- UDA as a particular category of archives

Arguments	Total (service)	Percentage (%)	Order
(1)agree	17	94.47	1
(2)disagree	0		
(3)no response	1	5.56	2
Highest choice			(1)
Total	18	100	

18. Table 18- UDA functions recognised in documentation strategy

Types of UDA functionality recognised	Total (service)	Percentage (%)	Order
(1)UDA are means of technology storehouse and knowledge reservoir for urban development practices	3	16.67	7

(2)UDA are foundations for urban planning, and the planning control	12	66.67	3
(3)UDA are evidential basis for urban construction, development control, the use and maintenance of built environment	17	94.44	1
(4)UDA are important aids for reconstruction, redevelopment, conservation of built environment; for disaster, calamity, catastrophe prevention, defence, and disaster plans, as well as reconstruction and rebuilding of a city	14	77.78	2
(5)UDA are legal evidence for ownership of built environment and citizen's rights and interest	11	61.11	4
(6)UDA are important information sources for academic research	10	55.56	5
(7)UDA are important culture heritage of city, a nation and the memory of the world	6	33.33	6
(8)UDA the guarantee of government transparency and the citizen's information right	2	11.11	8
(9)others			
(10)no response	1	5.56	
Highest choice			(3)
Above half choice in order			(3)(4)(2) (5)(6)

19 Table19-UDA characteristics

Characteristics of UDA recognised	Total (service)	Percentage (%)	Order
(1)speciality	18	100	1
(2)comprehensive	9	50	3
(3)dynamic	13	72.22	2
(4)current	6	33.33	5
(5)locality	8	44.44	4
(6)accuracy and authenticity	18	100	1
(8)pluralistic	6	33.33	5
(9)others	0	0	
Highest choice			(1)(6)
Above half choice			(1)(6)(3) (2)

20. Table 20-Users and users groups of UDA

UDA interested groups	Total (service)	Percentage (%)	Order
(1)academic researcher and professional students	4	22.22	7
(2)administrator and decision maker	14	77.78	2
(3)designer	14	77.78	2
(4)property owner	9	50	3
(5)developer	8	44.44	4
(6)technician and engineer	15	83.33	1
(7)media	6	33.33	5
(8)public	5	27.78	6
(9)others	0	0	
Highest choice			(6)
Above half choice			(6)(2)(3) (4)

21. Table 21- The storage of electronic images in holdings

Keeping electronic images	Total (service)	Percentage (%)
(1)yes	9	50
(2)no	9	50
Total	18	100

22. Table 22- With archival policies for electronic records

Having electronic strategies	Total (service)	Percentage (%)	Order
(1)yes	5	27.78	2
(2)no	13	72.22	1
Highest choice			(2)
Total	18	100	

23. Table 23-System of electronic recordkeeping

Methods of long-term preservation	Total (service)	Percentage (%)	Order
(1)paper and electronic hybrid system	10	55.56	1
(2)electronic digitised systems	0		
(3)others	0		
(4)no response	8	44.44	2
Highest choice			(1)
Total	18	100	

24. Table 24- Strategies for long term preservation of electronic and digitised records

Strategies for long term electronic preservation	Total (service)	Percentage (%)	Order
(1)migration	1	5.56	4
(2)conversion	6	33.33	2
(3)emulation	0	0	5
(4)others	2	11.11	3
(5)no response	9	55.56	1
Highest choice			(5)
Total	18	100	

25. Table 25- Agreement of integrated archival policies for UDA from the creation of records to the disposal of records along the records continuum cross-institution, cross-discipline and cross-sector

Argument on integration archival policy	Total (service)	Percentage (%)	Order
(1)agree	17	94.44	1
(2)disagree	1	5.56	2
Highest choice			(1)
Total	18	100	

26. Table 26-Criteria in making collection policy for UDA holdings

Elements of collecting policy	Total (service)	Percentage (%)	Order
(1)integrity, completeness, and comprehensive	13	72.22	2
(2)authenticity, accurateness and reliability	18	100	1
(3)originality and uniqueness	11	61.11	3
(4)evidentiality	10	55.56	4
(5)transactionality	3	16.67	
(6)functionality of primary source	1	5.56	
(7)discipline or speciality scope of primary sources	8	44.44	5
(8)accessibility of primary source	3	16.67	8

(9)availability of primary source	5	27.78	6
(10)copyright and ownership	5	27.78	6
(11)legislation related to records	11	61.11	3
(12)representatives, importance and significance	4	22.22	7
(13)higher age	0	0	9
(14)corporate memory of creators and creating agencies	2	11.11	8
(15)social memory(local/regional/national /world)	4	22.22	7
(16) others	2	11.11	8
Highest choice			(2)
Above half choice			(2)(1)(3)(11)

27. Table 27-Elements in UDA intellectual control

Elements of intellectual control	Total (service)	Percentage (%)	Order
(1)content	5	27.78	3
(2)subject	8	44.44	1
(3)context	0	0	
(4)activities and transactions	0	0	
(5)functionality	1	5.56	
(6)creators and creating agency	8	44.44	1
(7)date and address	7	38.89	2
(8)others	6	33.33	4
Highest choice			(2)(6)

28. Table 28-Types of UDA finding aids

Types of finding aids	Total (service)	Percentage (%)	Order
(1)organisation and creators-oriented	5	27.78	4
(2)function and activities classified	4	22.22	5
(3)locality-address-linked	5	27.78	4
(4)specialisation and discipline classified	5	27.78	4
(5)subject-oriented	8	44.44	3
(6)medium and format classified	8	44.44	3
(7)paper form	9	50	2
(8)computerised	13	72.22	1
(9)networking catalogue	3	16.67	6
(10)others	2	11.11	7
(11)no response	1	5.56	8
Highest choice			(8)
Above half choice			(8)(9)

29. Table 29- Indicators of quality of UDA information service

Indicators of best UDA information service	Total (%)	Percentage (%)	Order
(1)integrity and completeness of archival documents	8	44.44	5
(2)authenticity and reliability of archival documents	13	72.22	1
(3)originality of archival documents	13	72.22	1
(4)accessibility of archival documents	7	38.89	6
(5)availability of archival documents	7	38.89	6
(6)timely access	8	44.44	5

(7)client-satisfactory	10	55.56	4
(8)sustainability of the service	12	66.67	2
(9)cost-effectiveness and best social and economical value	11	61.11	3
(10)others	0	0	
(11)no response	1	5.56	7
Highest choice			(2)(3)
Above half choice			(2)(3)(8)(9)(7)

3.0 Issues of an Integrated Model

30. Table 30- With policies for +DM+RM+AM programs

With policies for integrated +DM+RM+AM	Total (service)	Percentage (%)	order
(1)yes	6	33.33	2
(2)no	11	61.11	1
(3)no response	1	5.56	3
Highest choice			(6)
Total	18	100	

31. Table 31- Types of collaborative programs for +DM+RM+AM implementation

Applicability of integrated approaches	Total (service)	Percentage (%)	Order
(1)united filing system	13	72.22	3
(2)united classification scheme	16	88.89	1
(3)united appraisal policy and retention schedule	12	66.67	4
(4)united documentation strategy and collecting policy	14	77.78	2
(5)united description standards and cataloguing network	12	66.67	4
(6)united IT software and hardware standards and functional requirements	6	33.35	6
(7)united archival documents registry system	8	44.44	5
(8)united archival administration and custody system	3	16.67	7
(9)partnerships of creators, users and custodians in archival policies and information policies as well as their accountabilities for public	3	16.67	7
(10)no response	2	11.11	8
Highest choice			(2)
Above half choice			(2)(4)(1)(3)

32. Table 32- Agreement of collaborative approaches to integrated frameworks for documenting documentation, recordkeeping and archival information service is cost-effectiveness and client-satisfactory.

Agreement of collaborative approaches and integration frameworks for best practice	Total (service)	Percentage (%)	Order
(1)agree	11	61.11	1
(2)disagree	4	22.22	
(3)no response	3	16.67	
Highest choice			(1)
Total	18	100	

33. Table 33- Agreement of integration as the future direction and best practice model of UDA

Integration as best practice model	Total (service)	Percentage (%)	Order
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(1)agree	13	72.22	1
(2)disagree	2	11.11	3
(3)no response	3	16.67	2
Highest choice			(1)
Total	18	100	

34. Table 34- Variables in implementing integrated +DM+RM+AM model

Problems for integration	Total (service)	Percentage (%)	Order
(1)ownership of UDA	3	16.67	5
(2)economic value of UDA	3	16.67	5
(3)copyright of UDA	3	16.67	5
(4)power of UDA information control in custody	9	50	1
(5)administrative authority for integration programs	8	44.44	2
(6)accountabilities and liabilities of partners	5	27.78	3
(7)strategies and methodologies for strategic archiving management	5	27.78	3
(8)theories and principles for UDA management	2	11.11	6
(9)unified professional standards and codes	4	22.22	4
(10)others	0	0	
(11)no response	5	27.78%	
Highest choice			(4)

35. Table 35- Reasons for the necessity of developing integrated framework for UDA

Reasons for the necessity of integrated framework	Total (service)	Percentage (%)	Order
(1)best value and good quality of service	4	22.22	5
(2)client-satisfactory business enterprise	8	44.44	2
(3)functional requirements of digitalisation and networking	5	27.78	4
(4)risk management	5	27.78	4
(5)sustainability and consistency of service	7	38.89	3
(6)image of service	4	22.22	5
(7)survival of fitness	5	27.78	4
(8)effectiveness of management	9	50	1
(9)reduce overlaps	8	44.44	2
(10)others	0	0	
(11)no response	4	22.22	5
Highest choice			(8)

36. Table 36-Strategies for the feasibility of implementing the UDA integrated framework

Strategies for the feasibility of UDA integration model	Total (service)	Percentage (%)	Order
(1)legislation, regulation and rules	6	33.33	3
(2)best records and archives management practice	3	16.67	4
(2)client-led marketing	2	11.11	5
(3)standardisation	11	61.11	1
(4)digitalisation	2	11.11	5
(5)modernisation	7	38.89	2
(7)total quality management	0	0	
(8)multidisciplinary approach	1	5.56	6
(9)partnership	2	11.11	5

(10)post-custodian archival mind	0	0	7
(11)integration among records and archives management business process	0	0	7
(12)unified UDA concepts, principles and methods	3	16.67	4
(13)others	0	0	
(14)no response	5	27.78	
Highest choice			(4)

37. Table 37-Opinions on the role of creators, users and archival administrators in the UDA integrated framework.

Role or creators, users and archival administrators	Total (service)	Percentage (%)
(1)response	7	38.89
(2)no response	11	61.11
Highest choice		(2)
Total	18	100

This is an open question, only 38.89% of services gave responding 61.11% of services gave no answers. The answers show that there are different concerns in defining the role of creators, users, and custodians. It is suggested that creators should have consciousness of centralised custody of UDA and the input of UDA sources, they should be responsible for the accurateness, completeness and systematic of records and should be responsible for normalised arrangement and transferring of UDA to UDA specialist archives service. It is suggested that users should have consciousness of UDA retrieval, and provide feedback of information demands for UDA acquisition. In marketing economy, they can ask for timely access for various types of information with charged service. It is suggested that custodians and administrators should have consciousness of customers service, they should focus on a variety of ways of UDA use, social service and the scientific management, they should aware of conditions and security of use and preservation.

38. Table 38-Opinions and comments on the integrated +DM+RM+AM model.

Comments on integrated +DM+RM+AM model	Total (service)	Percentage (%)
(1)response	7	38.89
(2)no response	11	61.11
Highest choice		(2)
Total	18	100

This is an open question, the surveys found that the respondents think such a model is ideal for guarantee the completeness of records and sustainable UDA service, but the conditions for the implementation should be based on unified control and integration frameworks in legislation, regulation, standardisation, normalisation, modernisation of records management and archives administration in UD environment, there should be a clear designation of a single archival authority for UDA administration in avoiding overlaps and conflicts in administrative systems and administrative right.

39. Table 39-Recommendations on models and criteria of UDA best practice

Recommendations on models and criteria of UDA best practice	Total (service)	Percentage (%)
(1)response	7	38.89
(2)no response	11	61.11
Highest choice		(2)
Total	18	100

This is an open question, the surveys found following recommendations, they were (1) client-satisfactory and effectiveness of management; (2) appropriate holdings structure and the improvement of total use; (3) developing catalogue centre and multilevel of management in exploring the multiple values of records; (4) integrated +DM+RM+AM model under integration framework for effectiveness and efficiency as well as better service; (5) integrated framework in legalisation, normalisation, standardisation and regulation ; (6)maximum social and economic value; (7)computer management and dynamic database structure

40. Table 40- Opinions on the significance of the above survey and the research.

Opinions on the significance of the survey and the research	Total (service)	Percentage (%)	Order
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(1)theoretical value	2	11.11	
(2)practical value	2	11.11	
(3)both theoretical and practical value	10	55.56	1
(4) meaningless	0		
No response	4	22.22	
Highest choice			(3)
Total	18	100	

Appendix E

Survey of UDA Thinking of UK UD Researchers: Questions and Answers

Percentage has been rounded up and may not total 100% in all instances.

Q1. Could you describe your status?

	Total	Percentage(%)
Researcher	5/8	62.5
Administrator	2/8	25.0
Designer	3/8	37.5
Developer	0	
Property owner	0	
Others	0	
Total	8	

Q2. (1) Do you know who is responsible for keeping planning and developing control records? (2) Where is the place that these records are likely to be located after their transactions or activities?

	Total (1)	Total (2)	Percentage (1)(%)	Percentage (2)(%)
Creators	2/8	2/8	25.0	25.0
Records centre	4/8	3/8	50.0	37.5
Archival repository	1/8	2/8	12.5	25.0
Others	0	0		
No answer	1/8	1/8	12.5	12.5
Total	8	8		

Q3. (1) When you created, received records, do you have filing scheme, retention schedule and disposal plans? (2) Do you have guidelines for processing, organising and transferring your records? (3) Are you required to handling records in some standardised ways while you are creating your records?

	Total(1)	Total (2)	Total (3)	Percentage (1)(%)	Percentage (2)(%)	Percentage (3)(%)
Yes	7/8	5/8	6/8	87.5	62.5	75
No	1/8	3/8	2/8	12.5	37.5	25
Total	8	8	8			

Q4. What are the major reasons for your creation and capturing documents?

	Total	Percentage(%)
Legal requirements	3/8	37.5
Good quality of service delivery	3/8	37.5
By-products of transactions	1/8	12.5
Evidence	4/8	50
Historical reference	7/8	87.5
Others	0	0
Total	8	

Q5. (1) What are the reasons for your keeping of records or using of records? (2) What types of uses do you frequently need for your current work?

	Total (1)	Total (2)	Percentage (1)(%)	Percentage (2)(%)
Facilitate communication	2/8	2/8	25	25
Administrative reference	2/8	2/8	25	25
Evidential reference	3/8	3/8	37.5	37.5
Information reference	7/8	7/8	87.5	87.5
Historical reference	4/8	4/8	50	50
Legal reference	3/8	3/8	37.5	37.5
Cultural reference	0	0	0	0
Others	0	0	0	0
Total	8	8		

Q6. (1) As users what types of archival information sources do you most prefer or most frequently in use? (2) What types of information sources do you have the difficulties to collect?

	Total (1)	Total (2)	Percentage (1)(%)	Percentage (2) (%)
Administrative records	6/8	6/8	75	75
Financial records	1/8	1/8	12.5	12.5
Legal documents	3/8	1/8	37.5	12.5
Technical records	4/8	2/8	50	25
Research records	4/8	2/8	50	25
Others	0	0		
Total	8	8		

Q7. As users what do you expect from archival information sources?

	Total	Percentage (%)
Integrity of primary source	4/8	50
Authenticity and reliability of primary source	5/8	62.5
Originality of primary source	3/8	37.5
Evidential value of primary source	3/8	37.5
Over time access	1/8	12.5
Others	0	0
Total	8	

Q8. As users what elements do you more considered in the use of archival information sources?

	Total	Percentage(%)
Content of records	6/8	75
Subject of records	4/8	50
Context of records	3/8	37.5
Activities and transactions in records	1/8	12.5
Creators in records	2/8	25
Functions and purposes of activities in records	1/8	12.5
Others	0	
Total	8	

Q9. As users what do you most prefer to select in use as findings aids?

	Total	Percentage (%)
Subject-oriented finding aids	5/8	62.5
Locality-address-linked finding aids	2/8	25
Organisation-oriented finding aids	1/8	12.5
Function-classified finding aids	1/8	12.5
Specialisation-classified finding aids	2/8	25
Activity-classified finding aids	1/8	12.5
Others	0	0
Total	8	

Q10. As users what do you most prefer to select in use as an archival service?

	Total	Percentage (%)
Public archival repository keeping all types of public archival documents	0	0
Specialist archival repository keeping all sorts of urban development archival catalogues	3/8	37.5
Specialist archival repository keeping important UDA of the locality	2/8	25
Specialist archival information network with all sorts of professional and specialist information database	3/8	37.5
Others	0	
Total	8	100

Q11. As creators and users what is opinion on a united and integrated control plan for consistent standards in documentation, recordkeeping and archival information access for exchange data over time and long term preservation of authentic records?

	Total	Percentage(%)
Agree	8/8	100
Disagree	0	0

Total	8	100
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Q 12. What approaches do you like to be selected as solutions for the implementation of the integrated framework?

	Total	Percentage(%)
Legal requirements	2/8	25
Cost-effectiveness best practice	3/8	37.5
Client-satisfactory marketing strategy	4/8	50
Others	0	
Total	8	

Appendix F

Survey of UDA Thinking of Chinese UD Creators: Questions and Answers

Q1. (1) Where is the final destination of your records after your professional activities?

(2) Where would be the ideal place for the permanent custody of the records?

	Total(1)	Total (2)	Percentage (1)(%)	Percentage (2)(%)
Self keeping	0			
Creating unit keeping	2/10	1/10	20	10
Records management service of creating unit keeping	5/10		50	
Local specialist repository keeping	3/10	9/10	30	90
Others				
Total	10		100	100

Q2. (1) Does your working unit using office automation soft packages and have CAD, GIS, and other electronic records or digital data?

(2) Do you have unified standards for documentation, records keeping and archival use e.g. filing schemes, classification schemes, and retention schedules and transferring rules?

	Total (1)	Total (2)	Percentage (1)(%)	Percentage (2)(%)
Yes	9/10	8/10	90	80
No	1/10	2/10	10	20
Total	10	10		

Q3. (1) Does your working unit have any standards for the content, context and structure of UDA ?

(2) Does your working unit have any standards for security, exchange and long time access of digital records?

	Total (1)	Total (2)	Percentage (1)(%)	Percentage (2)(%)
Yes	10	8	100	80
No	0	2		20
Total	10	10		

Q4. (1) What are the purposes for the creation of records in your working unit?

(2) What is the use of the records for long term preservation?

	Total (1)	Total (2)	Percentage (1)(%)	Percentage (2)(%)
Legal evidence	4/10	5/10	10	50
Decision making administrative reference	5/10	4/10	50	40
Information exchange	5/10	5/10	50	50
Historical reference	5/10	6/10	50	60
Cultural promotion	0	0	0	0
By-products of activities	0	0	0	0
Others	0			
Total	10	10		

Q5. What is your opinion on integrated documentation management, records management and archives management model?

	Total	Percentage 9%)
Support	10	100
Against	0	
Total	10	

Q6. What is your opinion on the role of local specialised repository as archival authority for centralised administration of local UDA and as centralised place for the use of UDA?

	Total	Percentage (%)
Support	10	100
Against	0	
Total	10	

Q7. (1) What are the major difficulties in your information access and use?

(2) What types of archival information service you would like to expect?

	Total (1)	Total (2)	Percentage (1)(%)	Percentage (2)(%)

Reliability and authenticity	6/10	6/10	60	60
Long term preservation and access	0	1/10	0	10
Completeness	1/10	1/10	10	10
Accuracy	0		0	0
Timely service	5/10	3/10	50	30
Too much information	0	0	0	0
Too less information	1	0	10	0
Catalogue searching	1		10	0
Networking information service	1	2/10	10	20
Primary information	1	0	10	0
Secondary index information		1	0	10
Third abstract information	0	2	0	20
Total	10	10		