

# Information Systems and Technology Management

Marcos William Kaspchak Machado  
(Organizador)



Marcos William Kaspchak Machado

(Organizador)

# Information Systems and Technology Management

Atena Editora  
2019

2019 by Atena Editora

Copyright © da Atena Editora

Editora Chefe: Profª Drª Antonella Carvalho de Oliveira

Diagramação e Edição de Arte: Lorena Prestes e Karine de Lima

Revisão: Os autores

### Conselho Editorial

- Prof. Dr. Alan Mario Zuffo – Universidade Federal de Mato Grosso do Sul  
Prof. Dr. Álvaro Augusto de Borba Barreto – Universidade Federal de Pelotas  
Prof. Dr. Antonio Carlos Frasson – Universidade Tecnológica Federal do Paraná  
Prof. Dr. Antonio Isidro-Filho – Universidade de Brasília  
Profª Drª Cristina Gaio – Universidade de Lisboa  
Prof. Dr. Constantino Ribeiro de Oliveira Junior – Universidade Estadual de Ponta Grossa  
Profª Drª Daiane Garabeli Trojan – Universidade Norte do Paraná  
Prof. Dr. Darllan Collins da Cunha e Silva – Universidade Estadual Paulista  
Profª Drª Deusilene Souza Vieira Dall’Acqua – Universidade Federal de Rondônia  
Prof. Dr. Eloi Rufato Junior – Universidade Tecnológica Federal do Paraná  
Prof. Dr. Fábio Steiner – Universidade Estadual de Mato Grosso do Sul  
Prof. Dr. Gianfábio Pimentel Franco – Universidade Federal de Santa Maria  
Prof. Dr. Gilmei Fleck – Universidade Estadual do Oeste do Paraná  
Profª Drª Girlene Santos de Souza – Universidade Federal do Recôncavo da Bahia  
Profª Drª Ivone Goulart Lopes – Istituto Internazionele delle Figlie de Maria Ausiliatrice  
Profª Drª Juliane Sant’Ana Bento – Universidade Federal do Rio Grande do Sul  
Prof. Dr. Julio Candido de Meirelles Junior – Universidade Federal Fluminense  
Prof. Dr. Jorge González Aguilera – Universidade Federal de Mato Grosso do Sul  
Profª Drª Lina Maria Gonçalves – Universidade Federal do Tocantins  
Profª Drª Natiéli Piovesan – Instituto Federal do Rio Grande do Norte  
Profª Drª Paola Andressa Scortegagna – Universidade Estadual de Ponta Grossa  
Profª Drª Raissa Rachel Salustriano da Silva Matos – Universidade Federal do Maranhão  
Prof. Dr. Ronilson Freitas de Souza – Universidade do Estado do Pará  
Prof. Dr. Takeshy Tachizawa – Faculdade de Campo Limpo Paulista  
Prof. Dr. Urandi João Rodrigues Junior – Universidade Federal do Oeste do Pará  
Prof. Dr. Valdemar Antonio Paffaro Junior – Universidade Federal de Alfenas  
Profª Drª Vanessa Bordin Viera – Universidade Federal de Campina Grande  
Profª Drª Vanessa Lima Gonçalves – Universidade Estadual de Ponta Grossa  
Prof. Dr. Willian Douglas Guilherme – Universidade Federal do Tocantins

#### Dados Internacionais de Catalogação na Publicação (CIP) (eDOC BRASIL, Belo Horizonte/MG)

143 Information systems and technology management [recurso eletrônico] / Organizador Marcos William Kaspchak Machado. – Ponta Grossa (PR): Atena Editora, 2019. – (Information Systems and Technology Management; v. 1)

Formato: PDF

Requisitos do sistema: Adobe Acrobat Reader

Modo de acesso: World Wide Web

ISBN 978-85-7247-201-2

DOI 10.22533/at.ed.012191903

1. Gerenciamento de recursos de informação. 2. Sistemas de informação gerencial. 3. Tecnologia da informação. I. Machado, William Kaspchak. II. Série.

CDD 658.4

**Elaborado por Maurício Amormino Júnior – CRB6/2422**

O conteúdo dos artigos e seus dados em sua forma, correção e confiabilidade são de responsabilidade exclusiva dos autores.

2019

Permitido o download da obra e o compartilhamento desde que sejam atribuídos créditos aos autores, mas sem a possibilidade de alterá-la de nenhuma forma ou utilizá-la para fins comerciais.

[www.atenaeditora.com.br](http://www.atenaeditora.com.br)

## APRESENTAÇÃO

A obra denominada “*Information Systems and Technology Management*” contempla dois volumes de publicação da Atena Editora. O volume I apresenta, em seus 25 capítulos, um conjunto de estudos direcionados para a gestão da inovação e informações aplicadas no gerenciamento de processos e operações.

As áreas temáticas de gestão da informação e do conhecimento mostram a mais recentes aplicações científicas de ferramentas tecnológicas nas etapas de coleta, processamento e avaliação de dados nos diversos ambientes gerenciais. A crescente aplicação tecnológica e inovação nos sistemas produtivos evidenciam a necessidade de processos de gestão integrada de informações que agilizem, tanto o fluxo, como a aplicação estratégica das informações. A diversidade de aplicações apresentada nos capítulos, desde aplicações militares à gestão agropecuária, ressalta a interdisciplinaridade da gestão do conhecimento e informação.

Este volume dedicado à gestão da inovação, gestão de informação e suas aplicações em processos e operações tratam de temas emergentes sobre ferramentas interativas de gestão de dados, aplicações da informação em ambientes virtuais, educacionais e industriais.

Aos autores dos capítulos, ficam registrados os agradecimentos do Organizador e da Atena Editora, pela dedicação e empenho sem limites que tornaram realidade esta obra que retrata os recentes avanços científicos do tema.

Por fim, espero que esta obra venha a corroborar no desenvolvimento de novos, e valiosos conhecimentos, e que auxilie os estudantes e pesquisadores na imersão em novas reflexões acerca dos tópicos relevantes na área de gestão estratégica da informação e conhecimento.

Boa leitura!

Marcos William Kaspchak Machado

## SUMÁRIO

<b>CAPÍTULO 1</b> .....	<b>1</b>
GESTÃO DA INFORMAÇÃO E CONHECIMENTO NA ERA DIGITALCOMPETÊNCIA INFORMACIONAL E MAPAS CONCEITUAIS	
Francisco Carlos Paletta	
<b>DOI DOI 10.22533/at.ed.0121919031</b>	
<b>CAPÍTULO 2</b> .....	<b>17</b>
THE CONVERGENCE OF INTERNET OF THINGS AND BLOCKCHAIN TECHNOLOGIES AND BUSINESSES	
Anna Beatriz de Sena de Arruda José Carlos Cavalcanti	
<b>DOI DOI 10.22533/at.ed.0121919032</b>	
<b>CAPÍTULO 3</b> .....	<b>33</b>
THE CREATIVE USE OF SEARCH ENGINES WEB 2.0 TO RESEARCH INVENTIONS AND CREATE FRUGAL INNOVATIONS	
Carlos Mamori Kono Leonel Cezar Rodrigues Luc Quoniam	
<b>DOI DOI 10.22533/at.ed.0121919033</b>	
<b>CAPÍTULO 4</b> .....	<b>49</b>
QUALIDADE, AGILIDADE E INOVAÇÃO DE SOFTWARE, UM TRIPÉ PARA APOIAR PEQUENAS EMPRESAS A ALCANÇAR SEU TOTAL POTENCIAL	
Edcley José da Silva Suzana Cândido de Barros Sampaio	
<b>DOI DOI 10.22533/at.ed.0121919034</b>	
<b>CAPÍTULO 5</b> .....	<b>65</b>
THE EVALUATION OF EXPOSURE RISKS TO NON-IONIZING ELECTROMAGNETIC RADIATIONS: PREDICTION, MEASUREMENT AND MAPPING MODELING FOR THE CITY OF NATAL	
Fred Sizenando Rossiter Pinheiro Silva Gutembergue Soares da Silva André Pedro Fernandes Neto	
<b>DOI DOI 10.22533/at.ed.0121919035</b>	
<b>CAPÍTULO 6</b> .....	<b>85</b>
LABORATÓRIO DE QUÍMICA: EXPERIÊNCIAS SIMPLES E DE BAIXO CUSTO NAS ESCOLAS E NOS PARQUES	
Ana Beatriz de Souza Prado Andressa de Cássia Faria Alvarenga Anna Beatriz Martins Batista Esther Teodoro da Silva Juliana Soares Mariane Borim Lima Nathalie Paixão de Oliveira Veronica Alves Costa Victória Maria Xavier de Lima	
<b>DOI DOI 10.22533/at.ed.0121919036</b>	

<b>CAPÍTULO 7</b> .....	<b>91</b>
ANÁLISE DAS TAXONOMIAS DE TELESSAÚDE E TELEMEDICINA: UMA REVISÃO SISTEMÁTICA DA LITERATURA	
Diego Armando de Oliveira Meneses Adicinéia Aparecida de Oliveira	
<b>DOI DOI 10.22533/at.ed.0121919037</b>	
<b>CAPÍTULO 8</b> .....	<b>108</b>
VALOR FINANCEIRO COMO INDICADOR DA ACURACIDADE DA BASE DE DADOS - SIA/SUS	
Denise Mathias Chennifer Dobbins Abi Rached	
<b>DOI DOI 10.22533/at.ed.0121919038</b>	
<b>CAPÍTULO 9</b> .....	<b>117</b>
A GESTÃO DO CONHECIMENTO E OS SISTEMAS DE INFORMAÇÃO EM UM AMBULATÓRIO DE SAÚDE DE UMA INSTITUIÇÃO JUDICIÁRIA FEDERAL	
Elisabete Felix Farias Antônio Pires Barbosa	
<b>DOI DOI 10.22533/at.ed.0121919039</b>	
<b>CAPÍTULO 10</b> .....	<b>134</b>
AVALIAÇÃO DA QUALIDADE DOS SERVIÇOS DE MERCADO DE CAPITAIS DE UMA INSTITUIÇÃO FINANCEIRA BRASILEIRA	
Eric David Cohen	
<b>DOI DOI 10.22533/at.ed.01219190310</b>	
<b>CAPÍTULO 11</b> .....	<b>149</b>
A MARKET PREDICTION MODEL STOCK BASED ON FUZZY LOGIC	
Sofiane Labidi Allisson Jorge Silva Almeida	
<b>DOI DOI 10.22533/at.ed.01219190311</b>	
<b>CAPÍTULO 12</b> .....	<b>171</b>
JUROS SOBRE CAPITAL PRÓPRIO: UM ESTUDO DA CONTRIBUIÇÃO NO RESULTADO TRIBUTÁRIO NAS EMPRESAS GOL E LATAM	
Caio Bonacina Nedel Fagundes Sérgio Murilo Petri	
<b>DOI DOI 10.22533/at.ed.01219190312</b>	
<b>CAPÍTULO 13</b> .....	<b>200</b>
INVESTMENTS IN INFORMATION TECHNOLOGY AND THE ACCESS OF BRAZILIAN POPULATION TO BANKING SERVICES AND FACILITIES	
Oscar Bombonatti Filho Marcos Antonio Gaspar Ivanir Costa Marcos Vinicius Cardoso	
<b>DOI DOI 10.22533/at.ed.01219190313</b>	
<b>CAPÍTULO 14</b> .....	<b>216</b>
DIMENSÕES INTERVENIENTES NO ATO DO COMPARTILHAMENTO DA INFORMAÇÃO A PARTIR DO MODELO DE GESTÃO EM UMA INSTITUIÇÃO FINANCEIRA	
Rita de Cássia Martins de Oliveira Ventura Mônica Erichsen Nassif	

**CAPÍTULO 15 ..... 244**

COMPARAÇÃO DE TÉCNICAS DE APRENDIZADO DE MÁQUINA NA PREDIÇÃO DA TENDÊNCIA DE VALORIZAÇÃO DA BITCOIN

Antonio Ricardo Alexandre Brasil

Luiz Alberto Pinto

Karin Satie Komati

**DOI DOI 10.22533/at.ed.01219190315**

**CAPÍTULO 16 ..... 255**

IMPLANTAÇÃO DO XBRL NO BRASIL: TERRA À VISTA?

Vladimir Pereira Lemes

Carlos Elder Maciel de Aquino

Napoleão Verardi Galegale

**DOI DOI 10.22533/at.ed.01219190316**

**CAPÍTULO 17 ..... 274**

MODELAGEM DO SISTEMA DE GERENCIAMENTO AGROPECUÁRIO DO MARANHÃO (SGAMA) UTILIZANDO A UML

Lucélia Lima Souza

Yonara Costa Magalhães

Will Ribamar Mendes Almeida

Glynara Kylma Carvalhede Feitosa Almeida

**DOI DOI 10.22533/at.ed.01219190317**

**CAPÍTULO 18 ..... 291**

FATORES DE SUCESSO NA TERCEIRIZAÇÃO DA TECNOLOGIA DA INFORMAÇÃO: UMA REVISÃO SISTEMÁTICA DA LITERATURA

Fernando Ayabe

Edmir Parada Vasques Prado

**DOI DOI 10.22533/at.ed.01219190318**

**CAPÍTULO 19 ..... 309**

A UTILIZAÇÃO DA FERRAMENTA DE ANÁLISE DE MODO E EFEITO DE FALHA (FMEA) NA PREVENÇÃO DE RISCOS AMBIENTAIS EM UMA ORGANIZAÇÃO MILITAR

Brunna Guedes da Silva

Juliano Machado Zoch

Victor Paulo Kloeckner Pires

Andressa Rocha Lhamby

**DOI DOI 10.22533/at.ed.01219190319**

**CAPÍTULO 20 ..... 325**

GESTÃO DA INFORMAÇÃO VIA SISTEMA DIGITAL PARA A EDUCAÇÃO ESPECIAL DO CENTRO DE REFERÊNCIA E APOIO A EDUCAÇÃO INCLUSIVA – CRAEI -

Paulo Sérgio Araújo

Luis Borges Gouveia

**DOI DOI 10.22533/at.ed.01219190320**

**CAPÍTULO 21 ..... 345**

LITERACIAS DE MÍDIA E INFORMAÇÃO: DAS ARESTAS DA COMPLEXIDADE, DA INFORMAÇÃO E DO HIBRIDISMO AO VÉRTICE DA EDUCAÇÃO

Beatrice Bonami

DOI DOI 10.22533/at.ed.01219190321

**CAPÍTULO 22 ..... 369**

SISTEMA PARA GESTÃO DE EGRESSOS DE UMA INSTITUIÇÃO DE ENSINO SUPERIOR

Ana Flávia de Carlos Teodoro

Leandro Duarte Pereira

André Luis Duarte

DOI DOI 10.22533/at.ed.01219190322

**CAPÍTULO 23 ..... 376**

THE LISBON MUNICIPAL ARCHIVES: CONTRIBUTION FOR THE STUDY OF ITS INFORMATION SERVICE

Paulo Jorge dos Mártires Batista

DOI DOI 10.22533/at.ed.01219190323

**CAPÍTULO 24 ..... 391**

DO ESTUDO DE USUÁRIOS À ARQUITETURA DE INFORMAÇÃO DE UM PORTAL ESPECIALIZADO EM TEATRO

Adriane Maria Arantes de Carvalho

Luciene Borges Ramos

Evanicleide Rodrigues de Souza

Juliana Cristina Leal Fernandes

DOI DOI 10.22533/at.ed.01219190324

**CAPÍTULO 25 ..... 410**

COGNITIVE COMPUTING IN THE ANALYSIS OF COMPLEX SYSTEMS

Carlos de Amorim Levita

João Mattar

DOI DOI 10.22533/at.ed.01219190325

**CAPÍTULO 26 ..... 414**

PROCESSO PARA DESCRIÇÃO DE UMA ARQUITETURA DE REFERÊNCIA APLICADA NUMA LINHA DE PRODUTO CRM

Luana Peres Silva

DOI DOI 10.22533/at.ed.01219190326

**SOBRE O ORGANIZADOR..... 431**



## THE LISBON MUNICIPAL ARCHIVES: CONTRIBUTION FOR THE STUDY OF ITS INFORMATION SERVICE

**Paulo Jorge dos Mártires Batista**

CIDEHUS.UÉ - Centro Interdisciplinar de História,  
Culturas e Sociedades da Universidade de Évora  
Évora

**RESUMO:** Este artigo tem como objetivo apresentar e interpretar o Arquivo Municipal de Lisboa, no que respeita aos seus equipamentos, acervo e enquadramento orgânico, destacando os serviços e projetos em que se encontra envolvido, e os seus colaboradores e clientes. Não englobando a totalidade da realidade do Arquivo Municipal de Lisboa, os elementos apresentados permitem compreender, por um lado, a dinâmica e importância deste serviço de informação no contexto arquivístico, não só em termos autárquicos, mas a nível nacional, e por outro, alguns aspetos que importa melhorar, no âmbito da gestão da informação do município de Lisboa.

**PALAVRAS-CHAVE:** Município de Lisboa, Arquivo Municipal de Lisboa, serviço de informação, gestão da informação, difusão da informação

**ABSTRACT:** This article characterizes and interprets the Lisbon Municipal Archives, its facilities, collection and organizational structure. Special emphasis is given to the services it

provides as well as its staff and clients. Although not an exhaustive description, this work highlights the function and importance of the Lisbon Municipal Archives and will describe the functioning and importance of these information services in the archivist field, not only for local issues but on the national scale as well. On the other hand, some targets for improvement will be highlighted regarding information management in the city of Lisbon.

**KEYWORDS:** City of Lisbon, the Lisbon Municipal Archives, information service, information management, information dissemination

### 1 | INTRODUCTION

All told, the Lisbon Municipal Archives (AML) are responsible for approximately 36,000 linear meters of information spread over a wide range of types, formats and sizes. It is the largest municipal archives and the third largest in Portugal in terms of the volume of information, coming in second only to the *Torre do Tombo* National Archives and the General Army Archives.

This paper characterizes and interprets this information archival service and highlights its importance by discussing three main topics: facilities, collection and organizational structure;

services and initiatives; and, finally, the archive's staff and users.

## 2 | FACILITIES

Figure 1 illustrates that the Lisbon Municipal Archives comprises five facilities, which, despite being spread across Lisbon, make up a single organization, called the Municipal Archives Division (DAM):

- AML is located on Rua B, in the Bairro da Liberdade, lots 3-6;
- The Arco do Cego Archives, on Rua Nunes Claro Rua, nº 8 A;
- The Photographic Archives, on Rua da Palma, nº 246;
- The Video Library, at Largo do Calvário, nº 2 R/C;
- Alto da Eira, on Rua Frei Manuel do Cenáculo at the corner of Avenida General Roçadas, Torre 2, in Graça, which by 2017 was functioning merely as a repository.

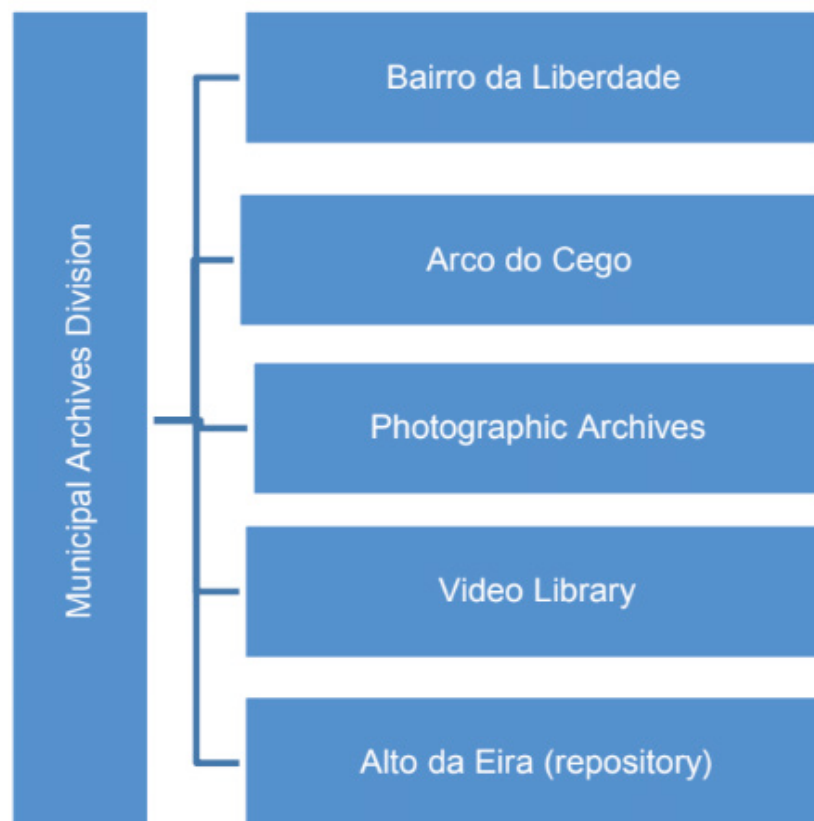


Fig. 1 – Organizational structure of the Municipal Archives Division

## 3 | COLLECTION

The AML is responsible for the preservation and diffusion of a significant collection of information ranging from the twelfth century to our days and which is indispensable for understanding the memory of the city of Lisbon and for studies of local and regional

history. The vast informational legacy under its jurisdiction includes:

- The Local Governmental Archives (1179 – 2018);
- The Ecclesiastical Archives (1351 – 1496);
- The Photographic Archives (1850 – 2018);
- Personal Archives (1859 – 2018).

The Lisbon Historical Archives in the Bairro da Liberdade contains essential information for understanding the city's evolution. Noteworthy documents include the confirmation by D. Afonso II of the Lisbon City Charter granted by the first Portuguese King D. Afonso Henriques in 1179, the *Manueline Charter*, the *Councilmen's Book of Rules* known as the *Crimson Book*, *o Livro dos Pregos*, a collection of royal decrees, grants and charters, books of queries, decrees and announcements, the *Livro de Posturas*, the *Livros de Cordeamentos* and the *Cartulário Pombalino* which documents the reconstruction of the city following the 1755 Earthquake.

The information recorded in the Historical Archives is organized into fonds and collections, obtained by donation, purchase, and other means. Others are held in deposits. Significant collections include the Chancellery of the City, *Casa dos Vinte e Quatro*, *Casa de Santo António*, *Casa de Ver o Peso*, *Águas Livres*, *Provimento do Pão*, *Provimento da Saúde*, Taxes, the extinct Belém City Hall, the Parish Council of Santa Maria de Belém, the Municipal Instruction Service, the Charity Service, the Parish Boards and the Local Parish Administration.

The Historical Archives also has a collection of posters from political parties and labour unions, such as those by José Neves Águas, which are fundamental to understanding the period immediately following the Revolution of 25 of April 1974 until 1989. There are also posters by important 19<sup>th</sup> (final) and 20<sup>th</sup> centuries architects such as José Luís Monteiro, Cassiano Branco, Francisco Keil do Amaral and Ruy Jervis d'Atouguia who left indelible marks on the architecture of Lisbon and Portugal. The Historical Archives has recently received the collection of the architect Alberto de Souza Oliveira as well as information recorded as part of the *Plano de Pormenor da Recuperação da Zona Sinistrada do Chiado* which was drawn up by Álvaro Siza Vieira following the fire that destroyed this part of the city in 1988.

In the same location, the semi-active records hold general office procedures, expenditure paperwork, payment authorizations, and deposit processes. Private building processes are the most numerous in the Lisbon Municipal Archives and they take up roughly 7,600 linear meters. One highlight in the collection are the records regarding the Lisbon's most prestigious architectural prize, the *Prémio Valmor* which has been awarded since 1902 to recognize excellence in new architectural works, including landscape architecture projects.

The Arco do Cego Archives encompasses administrative records produced by a range of municipal services starting in 1820. It holds important documents, especially

those related to the planning of the urban and green spaces in Lisbon, building of social facilities and social housing, the requalification of public spaces and urban property. The urban planning surveys of Felipe Folque (1856-1858) and Silva Pinto (1904-1911) are there as well. Other important records include: administrative records, fees and licenses, and the information recorded by Lisbon city services responsible for sport, finance and urbanism. There are records from the administrative services of the city of Lisbon, as well as the Press Library, and documentation arising from culture, elections, military functions and private notary services.

The Photographic Archives, on the other hand, holds a matchless collection about the history of the capital that records its day-to-day, urban characteristics. It is a priceless witness to the evolution of Portuguese photography, not only regarding the photographers themselves, but also the photographic processes used throughout the period from the 1850s to the present and it comprises a total of around 610,000 images.

The collection includes contract sheets and negatives of photographers such as Alfredo Cunha, António Júlio Duarte, Artur Bárcia, Artur Pastor, Daniel Blaufuks, Eduardo Portugal, José Luís Neto, Joshua Benoliel, Luís Pavão, Paulo Catrica, Paulo Guedes, and the collections of António Novais, Ferrari, Francisco Rochini, Marques da Costa, Pardal Monteiro, Peixoto, Seixas and Soares Mendonça. It also houses the *Fundo Antigo*, or Ancient Collection, by José Candido d'Assumpção e Souza and Arthur Júlio Machado (CORDA and SILVA, 2016, p. 276), Lisbon City Council draftsmen, which contains the first urbanistic photographic study of the City of Lisbon carried out by José Candido d'Assumpção e Souza and Arthur Júlio Machado between 1898 and 1912 of the buildings in the neighborhoods of Alfama, Anjos, Bairro Alto, Bica, Campolide, Estrela, Graça, Lapa, Madragoa, Mouraria and Penha de França.

The Lisbon Video Library has a collection of approximately 5,000 films and nearly 20,000 hours of images about the city taken from national videos in addition to films that have marked the history of world cinema. There is also a remarkable a collection of documentaries about cinema, history, art and literature in addition to other videos produced by the library itself.

Finally, the Alto da Eira repository safeguards records about the city's governmental agencies and its financial, urban, social and administrative services, as well as those dealing with tourism, culture, justice, elections, military functions and economic regulation.

Throughout its history the AML has faced tremendous challenges, due, on the one hand to natural disasters, such as fires and the 1755 Earthquake and, on the other, the lack of space in the City Hall even as the volume of records has grown significantly. These factors have led to the division of the AML into different facilities throughout the city and the resulting dispersion of the city's information, due to the absence of a dedicated space that might be custom built for this purpose. There have been numerous proposals. Plans have been drawn up, the latest of which in 2000 for a location at the Bela Vista farm in Chelas, which would bring together in one building not

only the data of the AML (with the exception of the Photographic Archives which would stay at Rua da Palma) together with the Central Library of the Lisbon Library System, which is currently located in the Bairro da Liberdade. This space, however, has several shortcomings regarding its capacity to receive information, users and staff.

#### 4 | ORGANIZATIONAL STRUCTURE

The latest organizational structure issued by the Lisbon City Council in 2015 placed DAM under the tutelage of the Cultural Patrimony Department which, in turn, makes up part of the Municipal Direction of Culture in the Culture Department, as Figure 2 illustrates:

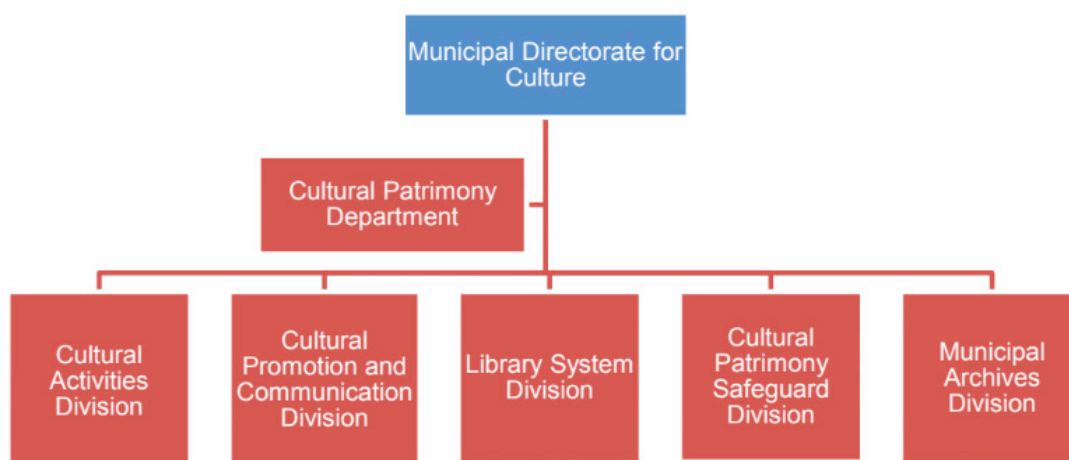


Fig. 2 – Organizational structure of the Lisbon Municipal Directorate for Culture

Article 96 of Despacho nº 5.347 (2015, p 13.007) sets out that the DAM has the following functions relative to the nuclear structure of the municipal organizational structure in its efforts to carry out the archivist policies of the City:

- a) *To boost the ability to carry out the City's archivist policy;*
- b) *To safeguard and promote the city's archivist patrimony which serves as a cornerstone of the individual and collective memory, supporting not only the city's identity but also serving as a source for scientific research while making information accessibly efficiently accessible.*
- c) *To manage the infrastructure and procedures that enable the safeguarding, depositing, preservation and management of records that make up the record collection of the Lisbon Municipal Archives in accordance with national and international the rules, guidelines and norms, in order to add value to said information;*
- d) *To draw up and propose plans for the preservation and conservation of the municipal archivist patrimony;*

- e) *To conceive of, develop, maintain and innovate in accordance with standard procedures the technical tools that support the city's archivist policies;*
- f) *To promote the publicity and dissemination of information by way of educational and investigative initiatives, resulting in the use/treatment of the collection of the Lisbon Municipal Archives;*
- g) *To draw up the Regulations of the Municipal Archives while addressing any omissions;*
- h) *To guarantee that only those records of the different municipal services which require permanent conservation over periods greater than ten years are consigned to the Municipal Archives;*
- i) *To support all efforts in conjunction with the municipal services so that they might follow the standardized rules in organizing their own archives so that those records might be appropriately preserved and treated and to provide any technical support to ensure this;*
- j) *To promote the acquisition of documents and collections of documents of documentary interest for the Municipal Archives;*
- k) *To collect documents produced by extinct institutions whose functions have been taken over by the Lisbon City Council or which have been placed with the Council for safekeeping;*
- l) *To promote partnerships with internal and external entities in the field of information management;*
- m) *To promote good practices of integrated document management.*

The mission of DAM established in 2011 and published on the AML website is inseparable from its responsibilities which consist of

*gathering, safeguarding, processing and preserving records regarding the memory of the city; promoting integrated management of the records produced by the Lisbon City Hall, while developing products and information services with the goal of meeting the needs of the interested parties (ARQUIVO MUNICIPAL DE LISBOA, 2018).*

It is our view that the mission of the AML remains unfulfilled regarding its stakeholders (users, tax payers, investors, suppliers, private organization, partners, workers, opinion leaders and the surrounding community).

The goal of the AML is to be *an institution of quality devoted to the promotion and implementation of integrated documental management that intends to serve as a reference for similar organizations (ARQUIVO MUNICIPAL DE LISBOA, 2018).*

It is our contention that this goal has been partially met, as we will discuss throughout this work.

Therefore, it is up to the DAM, in the service of its responsibilities and mission, to

ensure that the AML facilities are managed in an integrated and systemic fashion. It must further establish and develop an effective archival policy for the city of Lisbon. To this end, it must ensure the collection, processing, safeguarding, preservation, conservation, dissemination and availability of the archival information under its purview. It must, further, enhance the quality of these services in their support of administrative activity and according to its role to provide access to information to its users, in accordance with the Portuguese Constitution and the guidelines of the International Council on Archives.

As we have pointed out, one of the roles of DAM is to *draw up the Municipal Archives Regulations and to rectify any omissions*. In fact, the current *Regulation of the Municipal Archives* (Edital nº 103, 1989, p. 1106-1108) is officially still in effect and it dates from April 21, 1985 and was amended on May 22, 1989.

This document is profoundly outdated and in serious need of revision so as to reflect the organizational situation and the goals of the City of Lisbon, DAM and its users, in addition to the need to update the nomenclature used.

The DAM organizational structure is also in urgent need of updating, a fact which led to the submission of a proposal for the amendments to the Lisbon City Councilor for Culture in, but which has yet to be submitted to the Municipal Assembly for approval. Indeed, Batista (2011, p. 18) pointed out the structure as outlined in 1989

*no corresponde a la evolución de las prácticas archivísticas de la gestión integrada de documentos, ni a su misión y competencias, no reflejando, igualmente, el desarrollo de la DGA [until the 2015, known as the Division for Archives Management, now entitled DAM] en términos de funciones, aptitudes y colaboradores.*

The proposal includes the elevation of the DAM to a department that would be made up of Technical Support, Document Management and Definitive Archives Management divisions. The municipal archives would thus be better able to respond effectively and efficiently to the challenges of integrated information management and to institute a systemic and transversal configuration upon the institution, while bringing it into closer proximity with the leadership.

On the other hand, following on from Figure 2, we cannot fail to express our contention with the organic framework of the DAM, namely, as mentioned, its incorporation within the Department of Cultural Heritage, which, in turn, belongs to the Municipal Directorate of Culture. This undermines the systemic approach of the municipal archives, which we endorse, and we recommend that this information service should be allocated to the department of Administrative Modernization (reporting directly, ideally, to the Lisbon Mayor) so that, on the one hand, it might contribute directly at this level, while, on the other, because the Mayor's office is the most active area of the City Council and that which produces the greatest quantity of records.

## 5 | SERVICES AND INITIATIVES

AML facilities provide a broad spectrum of services and initiatives for their users which are not merely limited to: reading rooms for users to consult documents; facilities for reading and reproducing microfilm, graphic information and a wide range of photographic processes, using both traditional and electronic media; the free transcription of amateur films or videos so as to enable their digitalization so that they be made available on DVD or MP4 format.

- Specialized Lisbon history research libraries are made up of monographs, periodicals, non-book material that includes posters, flyers, invitation, etc., and a reserved fond specially dedicated to the history and governing of Lisbon, its art, architecture, place names, and photography among others. This information can be accessed without any restrictions, a fact which allows for onsite reading and the ability to reserve information when it cannot be made available for photocopies. It is also worth pointing out the existence of a specialized photo library in the Lisbon Photographic Archives. This institution facilitates online researcher access to material that makes up part of the archive's definitive collection as well as its catalogues;

- Shops sell periodicals, exhibition catalogues, IDD in paper support, CD and DVD and advertising articles. Apart from the numerous catalogues of photo exhibitions, we must not fail to mention the *Cadernos do Arquivo Municipal*, which aims to share the information under AML control. Published since 1997, the first series included 10 issues. The second, digital series is published twice yearly and is currently running issue number eight. Finally, we would like to highlight the Photography Book Fair of Lisbon, an annual event started in 2010 which serves as a meeting point for authors, publishers and booksellers in this field. The last edition took place November 24-26, 2017, as part of the programming of the Lisbon as the Ibero-American Capital of Culture events;

- Educational Services carry out entertainment sessions and other initiatives. These events are designed to raise awareness about the importance of archival information and they include pedagogical programs intended primarily for school aged audiences, but also for adults and groups with special educational needs. They inform the public about the informational heritage of the AML. Thus, the AML Educational Service has developed a close relationship with the Lisbon City Schools, providing its teachers and students with access to information, and raising their awareness about its importance to their civic education so as to promote and share information about the history of the capital. One of the key projects is the newspaper *Arkivo*, launched in 2006 by the Educational Service of the AML. Four issues have already been published to publicize the information contained in the archives and the efforts carried out by this service;

- Guided tours are conducted for primary and secondary schools and institutes of higher education and the general public. They publicize the information managed by the AML. This enables people to learn about the spaces and work areas that the



public does not usually have access to. We are speaking of the repositories where the information and offices of preservation, conservation and restoration of graphic documents and the conservation and restoration of photographs are located. Guided visits are also programmed to the public exhibitions, especially those of the Lisbon Photographic Archives;

– Exhibitions are designed to publicize not only the AML centers and collections, but also to spread the word about the work of Portuguese and foreign artists, both the consecrated and the unknown. Most of these exhibitions take place at the Lisbon Photographic Archives, and the calendar is fully booked with monthly events until the end of 2019. Some of these events only take place virtually while others are physical exhibitions whose run is extended online on the AML website.

*These are an effective means of publicity, as they become easily and globally accessible. They establish a different relationship between the public and the content, allowing it to reach far beyond the web page. They allow for a greater return on the investment of resources, namely that of physical space (PICA, 2009, p. 259).*

– *Workshops* and training events publicize the work done in the AML. Since 2013, workshops have been opened to the staff of this information service and to the general public, namely *Japanese Bookbinding*, *Systems for Document Handling*, and, in the photography field, courses such as *Cyanotype Workshop*;

– Conferences, colloquia and symposia have been organized to reflect, recognize and publicize the importance of the information safeguarded by the AML. These initiatives are aimed at its users within the academic world. *Collection for History Colloquia* were held March 23-24, 2012 and March 18-20, 2015. Moreover, the *Iberian Days of Municipal Archives* were held June 4-5, 2013 and the *Ibero-American Days of Municipal Archives* took place from 1-3 June, 2016. These events enabled archivists and other professionals to share their experience with those of other countries. Additionally, research partnerships have been set up with the Faculty of Social and Human Sciences of the New University of Lisbon and the Faculty of Letters of the University of Lisbon. On a different plane, and in conjunction with exhibitions at the Photographic Archives, since 2014 the AML has been organizing a series called *Talks with* which brings archivists together with artists, researchers, etc. We should finally mention, *Traça*, a film exhibition from private family archives which has been organized by the Video Library to show amateur, home-made films, either filmed in Lisbon or produced by its residents. The first edition, 10-11 October was shown at different points of the Bairro do Castelo and it was followed by a second October 13-15 in Madragoa.

– Internships regularly send students either from the Master's program in Information Sciences and Documentation, or that of Conservation and Restoration. The Institute of Employment and Vocational Training, as well as other public and private institutions, also carry out volunteer programs;

– Film transcription services are totally free for amateur films, ideally related to

Lisbon. This initiative is called the *Memories Gathering* and it is organized by the Video Library, under the auspices of the AML. Movies and films are scanned and converted to DVD or MP4 files, avoiding technological obsolescence and ensuring the preservation and ongoing accessibility of these contents;

– Another important contribution the publicizing of AML information takes place in the Information and Communication Technologies field and it makes an invaluable contribution to bringing the public ever closer to the AML. We would like to highlight, especially, the AML website (ARQUIVO MUNICIPAL DE LISBOA, 2018), which, in addition to promoting the activities described above, has other projects such as the Document of the Month, and the Lisbon Municipal Archives Facebook page (ARQUIVO MUNICIPAL DE LISBOA, 2018) is also worth calling attention to. In addition, a new AML promotional video launched on 1 June, 2016, at the *Ibero-American Days of Municipal Archives*, calls attention to the capacity of users to consult AML information remotely. This 78 second video details the site's date *50,000 users, 35,000 clicks, and 137,000 site visits* (ARQUIVO MUNICIPAL DE LISBOA, 2016). In addition to these Web 2.0 platforms, we believe that AML can and should further publicize its information and activities by way of Twitter, YouTube, ISSUU, LinkedIn, Slideshare, Flickr and blogs. In this field, almost everything is yet to be accomplished on the part of Portuguese municipal archives. Few initiatives have been implemented to date.

In addition to the activities described above that aim to publicize the Archives, other more technical initiatives dealing with ongoing AML process management are noteworthy, including:

– The AML Office for the Preservation, Conservation and Restoration of Graphic Documents, in the Bairro da Liberdade, revolves around three axes: the diagnosis, treatment and packaging of AML collection items on more traditional supports such as parchment, canvas, marion, paper, tracing paper, etc. This office plays an important role in preserving architectural works in private building processes, which, until the early years of this century, were moved around between urban management services, with the negative consequences for conservation;

– The Office of Conservation and Restoration of Photographic Documents at the Lisbon Photographic Archives carries out work similar to that in the previous point, but aimed at photographic processes, namely negatives, contact sheets and slides;

– Document Evaluation Working Group: As is the case in the rest of the country, the city of Lisbon is suffering from the accumulation of information. Contributing to this problem has been the large size and complexity of the AML organizational structure which has been successively reorganized. Another concern is the lack of information management procedures in most services. Compounding the problem is the historicist and custodial view of information that prioritizes these preoccupations in the processing and sharing of information. Making matters worse is a passive approach of the current archives which is underpinned by outdated archival policy (ANTÓNIA and GAGO, 2006: 1-2). On the other hand, according to Batista (2011, p.10), *convergiendo en la misma*

*dirección, los servicios de este Municipio se caracterizan por la enorme producción documental y ausencia de procedimientos adecuados y sistemáticos de gestión de documentos.*

Despite the complex and difficult scenario described above, as ANTÓNIA et al. highlights (2005, p.182), it was only in June 2004 that the AML created the Documentary Evaluation Working Group with the following objective:

Evaluate, select and eliminate the accumulated records in the Municipal Archives repositories, while guiding and intervening at the moment of document production in the services so as to reduce to an adequate size the volume of documentation to be preserved.

This group, therefore, deals with information accumulated in the AML repositories, which has been send to them by producer services due to a lack of space. The group then communicates with producers, often acting on its own accord, to try to raise awareness amongst the departments so that they might autonomously guarantee, at a second phase, the periods of conservation of the primary value of the information. Portaria nº 412/2001, of April 17, whose selection table was later amended by Portaria nº 1.253/2000, was fundamental in this regard, in that it approved archival policy for the cities regarding the evaluation, selection, elimination, medium transfer, accessibility and sharing of documents.

This working group has as its overall goals to

*contribute to the integrated management of documents; to value and guarantee the preservation of documentary heritage; to promote the rationalization of resources; to contribute to increased effectiveness and efficiency in the institution; to promote the right of access to information; and to encourage the principle of open administration. The specific objectives are to: contribute to the decongestion of the accumulated mass of documentation; reduce to an adequate size the volume of documentation to be kept; systematize and organize documents so as to gain greater control; retrieve information more effectively; and provide better service to internal and external users (ANTÓNIA and GAGO, 2006, p. 3-4).*

It is important to point out that

*estos propósitos son concretizados a través de la promoción de acciones de evaluación de documentación acumulada y documentación incorporada, de la gestión de las transferencias en archivo, de la identificación y descripción de las series documentales a través del relleno de las Hojas de Recogida de Datos de unidad de instalación y de serie, de la gestión de las Cartas de Porte, de la supervisión de la eliminación de documentos, de la producción de Autos de Eliminación en la secuencia de la evaluación, de la elaboración de informes finales y del establecimiento de contactos con los servicios productores en vista a implantar programas de gestión documental (BATISTA, 2011, p. 11).*

– The Digitization Project Working Group began as a pilot project in Portugal in January 2005 and was initially directed at private building processes since, as has been pointed out above, they represent the Lisbon City services whose information is

most frequently consulted, and which receives the most requests for reproduction.

– The Classification Plan for Local Administration (PCIAL) is an initiative resulting from the cooperation between a total of 45 municipalities and other local governmental entities whose objective is to achieve transversality and semantic interoperability in the classification and evaluation of the information at the very moment it is created or received, a concern which should apply to both analogue and digital media. The classification plan has a hierarchical structure, with three levels (the possibility of a subsequent four levels has not been discarded), the first and second corresponding to the functions and subfunctions (imported from Functional Macrostructure - MEF) and the third to business processes for local governments, which are equivalent to the traditional documentary series. Therefore, PCIAL necessarily requires the adoption of a business process-based approach, *a structured set of activities that produces a product or service, in the exercise of a function, upon agents, relative to objects and in a given context* (DIREÇÃO-GERAL DO LIVRO DOS ARQUIVOS E DAS BIBLIOTECAS, 2013, p. 9)

This is a very useful and current example of how this concept is used within the project of the modernization of the Public Administration, which is traditionally aligned for the organization of documentary processes by entity or object. Considering its importance, since September 2011, when the extension of the MEF to local administration began, the AML immediately adopted the goal of developing a national classification plan with a concomitant selection chart and three technicians were selected to represent the city of Lisbon in this initiative.

In summary, the technical areas of the AML are the following: record processing; indexation; preservation, conservation and restoration; integrated information management; evaluation, selection and elimination; deposit management (of five archives); scanning; information access (reading rooms, consultations, reproductions, certificates and information); and cultural and pedagogical areas.

## 6 | STAFF AND USERS

In order to carry out its mission, vision, responsibilities and plan of activities, the AML has set up a methodology based on the functional areas and responsibilities attributed to it. These have been organized into interdependent working groups that, for their part, participate in a range of processes that are transversal across the AML facilities. The staff involved in each process share tasks continually and sequentially throughout the entire informational circuit, from the moment they receive it until it is made available to users, with the goal of managing the information, space and resources in an effective manner.

The AML has a staff of 153, plus interns and volunteers who regularly work in conjunction with the AML but who cannot, unfortunately, be hired. It is an extraordinary

number both in national and international terms. On the domestic scale, it is only surpassed by the General Directorate of Books and that of the Libraries, especially in respect to the to the *Torre do Tombo* National Archives and the district archives they are responsible for.

As pointed out above, one of the noteworthy services provided by the AML in pursuit of its goals includes the dissemination of information to users by way of AML reading rooms, or attending to their requests for copies, certificates or information. These users may be either internal or external. The former are the Lisbon city staff, while the latter refers to the general public who can consult information in person (unless there are restrictions arising from the state of conservation of the items) or request copies of the same, certifications, or information.

On the other hand, there is the case of private building processes which have a remarkable importance in AML, as they do in all municipal archives. They attend to two types of users. Firstly, there are the Lisbon city staff who are carrying out their urban planning responsibilities.

*They are the only ones who can “borrow” information, i.e. who can request and consult it outside the AML, in the Bairro da Liberdade. Then, there are the external clients, such as architects and engineers, lawyers, students and teachers of secondary and higher education, historians and researchers, archivists, librarians and documentalists, real estate agencies and architectural offices, engineers, urban planners, designers, audiovisual producers, editorial technicians, museologists, sociologists, photographers, journalists, bankers, lawyers, etc., who can consult documents in-person in the AML reading room in the the Bairro da Liberdade neighbourhood or request certificates or information or reproductions of documents (BATISTA and VIEGAS, 2015, p. 341).*

## 7 | CONCLUSION

This brief description is important to explain the importance of the AML in the Portuguese archivist context, an importance that far surpasses the merely municipal sphere that it inhabits. The scope of the archives is constantly growing in regard to the sheer volume of information that its facilities are responsible for. This growth is not limited to the sphere of the management of the information of the city of Lisbon, but also to the extent that the archives is responsible for putting into place a policy about the acquisition of information, especially photographic and architectural collections. These factors come together to explain the explosion in the demand for information, both in person and at a distance, by the residents of Lisbon and users in general. It can also be understood in light of the highly dynamic context that currently obtains, and which is of measurable importance to its services and activities.

However, in so far as the issues brought up in this work are concerned, it is urgent that the organizational structure be updated, and the archival policy be approved so that the city of Lisbon might carry out its mission and express its values more effectively.

## BIBLIOGRAPHY

ANTÓNIA, N. et al. A avaliação documental na Câmara Municipal de Lisboa: uma missão arquivística. **Cadernos do Arquivo Municipal**. 1. sr. Lisboa, n. 8, p. 172-195, 2005. Disponível em: <<http://arquivomunicipal.cm-lisboa.pt/fotos/editor2/810.pdf>>. Acesso em: 5 mar. 2018.

ANTÓNIA, N.; GAGO, R. A gestão integrada de documentos na Câmara Municipal de Lisboa como factor de modernização administrativa: projecto de avaliação, selecção e eliminação e o projecto dos Arquivos Correntes. In: ENCONTRO NACIONAL DE ARQUIVOS MUNICIPAIS, VII, 2006, Torres Vedras. **Actas...** Torres Vedras: Associação Portuguesa de Bibliotecários Arquivistas e Documentalistas, 2006. Disponível em: <<https://www.bad.pt/publicacoes/index.php/arquivosmunicipais/article/view/84>>. Acesso em: 5 mar. 2018.

ARQUIVO MUNICIPAL DE LISBOA. 2018. Disponível em: <<http://arquivomunicipal.cm-lisboa.pt>>. Acesso em: 5 mar. 2018.

ARQUIVO MUNICIPAL DE LISBOA. **Facebook**. 2018. Disponível em: <<https://www.facebook.com/arquivo.mun.lisboa/?fref=ts>>. Acesso em: 5 mar. 2018.

ARQUIVO MUNICIPAL DE LISBOA. **Missão e competências**. 2018. Disponível em: <<http://arquivomunicipal.cm-lisboa.pt/pt/arquivo/missao-e-competencias/>>. Acesso em: 5 mar. 2018.

ARQUIVO MUNICIPAL DE LISBOA. **Vídeo promocional do AML**. 2016. Filme. Disponível em: <<https://www.youtube.com/watch?v=Yc3IYiQpTno>>. Acesso em: 5 mar. 2018.

BATISTA, P. La serie documental “Expedientes de obras particulares” en el Municipio de Lisboa: Análisis de su sistema de gestión. **Anales de Documentación**, Murcia, n. 14, nov. 2011. Disponível em: <<http://revistas.um.es/analesdoc/article/view/115101>>. Acesso em: 12 mar. 2018.

BATISTA, P.; VIEGAS, I. A digitalização dos processos de obras particulares no Arquivo Municipal de Lisboa. **Cadernos do Arquivo Municipal**. 2. sr. Lisboa, n. 3, p. 265-285, jan. - jun. 2015. Disponível em: <[http://arquivomunicipal.cm-lisboa.pt/fotos/editor2/Cadernos/2serie/3/015\\_varia.pdf](http://arquivomunicipal.cm-lisboa.pt/fotos/editor2/Cadernos/2serie/3/015_varia.pdf)>. Acesso em: 12 mar. 2018.

CORDA, I.; SILVA, M. J. José Candido d’Assumpção e Souza e Arthur Júlio Machado, os autores. In: **Lisboa, uma grande surpresa**. Lisboa: Câmara Municipal de Lisboa/Divisão de Arquivo Municipal, 2016, p. 270-277.

DIREÇÃO-GERAL DO LIVRO DOS ARQUIVOS E DAS BIBLIOTECAS. **Plano de Classificação da Informação Arquivística para a Administração Local**. Lisboa, 2013.

PICA, L. Comunicar o Arquivo Municipal de Lisboa. **Cadernos do Arquivo Municipal**. 1. sr. Lisboa, n. 9, p. 253-262, 2005. Disponível em: <<http://arquivomunicipal.cm-lisboa.pt/fotos/editor2/912.pdf>>. Acesso em: 12 mar. 2018.

PORTUGAL. Deliberação nº 876/2015, de 1 de abril de 2015. Estrutura Flexível dos Serviços do Município de Lisboa. **Diário da República Eletrónico**, 2. Sr, 98, p. 12.986-13.008, 21 maio 2015. Disponível em: <<https://dre.pt/web/guest/pesquisa-avancada/-/asearch/67271328/details/maximized?advanced.search=Pesquisa+Avan%C3%A7ada&types=SERIEII&dataPublicacaoInicio=2015-05-21&sortOrder=ASC>>. Acesso em: 12 mar. 2018.

PORTUGAL. Despacho nº 5.347/2015, de 28 de abril de 2015. Estrutura Nuclear dos Serviços do Município de Lisboa. **Diário da República Eletrónico**, 2. Sr, 98, p. 13.009-13.028, 21 maio 2015. Disponível em: <<https://dre.pt/web/guest/pesquisa-avancada/-/asearch/67271327/details/maximized?advanced.search=Pesquisa+Avan%C3%A7ada&types=SERIEII&dataPublicacaoInicio=2015-05-21&sortOrder=ASC>>. Acesso em: 12 mar. 2018.

PORTUGAL. Edital nº 103/89, de 19 de Janeiro 1989. Regulamento do Arquivo Municipal. **Boletim municipal**, 15.678, p. 1106-1108.

PORTUGAL. Portaria nº 412/2001, de 17 de abril de 2001. Regulamento Arquivístico para as Autarquias Locais. *Diário da República Eletrónico*, 1. Sr-B, 90, p. 2243-2260, 17 abr. 2001. Disponível em: <<https://dre.pt/web/guest/pesquisa-avancada/-/asearch/164198/details/maximized?advanced.search=Pesquisa+Avan%C3%A7ada&sortOrder=ASC&numeroDR=90&types=SERIEI&dataPublicacaoInicio=2001-04-17>>. Acesso em: 12 mar. 2018.

PORTUGAL. Portaria nº 1.253/2009, de 14 de setembro de 2009. Regulamento Arquivístico para as Autarquias Locais. **Diário da República Eletrónico**, 1. Sr, 199, p. 7635-7649, 14 set. 2009. Disponível em: <<https://dre.pt/web/guest/pesquisa/-/search/491441/details/normal?q=portaria+1253%2F2009>>. Acesso em: 12 mar. 2018.

Paulo Batista (CIDEHUS.UÉ – Interdisciplinary Center for History, Culture and Societies. University of Évora, Portugal). This work is funded by national funds through the Foundation for Science and Technology and the European Regional Development Fund (FEDER) through the Competitiveness and Internationalization Operational Program (POCI) and PT2020, under the UID / HIS project / 00057 - POCI-01-0145-FEDER-00770.

## **SOBRE O ORGANIZADOR**

**Marcos William Kaspchak Machado** - Professor na Unopar de Ponta Grossa (Paraná). Graduado em Administração- Habilitação Comércio Exterior pela Universidade Estadual de Ponta Grossa. Especializado em Gestão industrial na linha de pesquisa em Produção e Manutenção. Doutorando e Mestre em Engenharia de Produção pela Universidade Tecnológica Federal do Paraná, com linha de pesquisa em Redes de Empresas e Engenharia Organizacional. Possui experiência na área de Administração de Projetos e análise de custos em empresas da região de Ponta Grossa (Paraná). Fundador e consultor da MWM Soluções 3D, especializado na elaboração de estudos de viabilidade de projetos e inovação.



Agência Brasileira do ISBN  
ISBN 978-85-7247-201-2

