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Information Governance:

Nature and Implementation from the

European Public Administrations' perspective

InterPARES Trust

Master Thesis prepared with the view of obtaining the Master HES

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Declaration

This Master's Thesis has been prepared within the framework of the final exams at the Geneva School of Business Administration (HEG) with the view of obtaining the Master of Science Degree in the Information Sciences.

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Geneva, June 6, 2017

Arina Grazhenskaya

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Summary

The concept of Information Governance (IG) as a multidimensional approach to manage information with the aim of optimising the realisation of the strategic and operational corporate goals is increasingly implemented both in public and in private sector, but a common and scientific ground of this approach is yet to be defined.

This Master's Thesis has been prepared on the basis of a task commissioned in the frameworks of the research project implemented by InterPARES Trust (a multi-national, interdisciplinary research project exploring issues concerning digital records and data entrusted to the Internet). Briefly, they can be formulated as follows: understanding the key notions and components of IG and analysing the best practices of the IG in European public administrations based on the comparison of academic research and available specialist practices.

Given the exploratory nature of the study we used a qualitative approach to investigate the stated objectives. We started with document and content analysis to carry out the state of the art not only on IG' definition and dimensions but also on relevant IG maturity assessment models, methods and tools. Based on the developed Interview Guide the semi-structured interviews were carried out with European experts and practitioners in the field of information management who can be, without exaggeration, referred to as leaders and active participants of their professional community. The information received from the experts provided some sort of empirical validation, and at a subsequent stage allowed us to summarize and correlate the already available data we had developed from the literature and the data developed from the interviews.

We have succeeded in capturing and reviewing a number of important issues related to the situation of IG in the public sector, identify a range of main challenges during IG implementation and suggest a number of recommendations (related to development of IG Policies, IG services, business cases and improving of the professional skill of information management staff) that could facilitate the development of IG in public administrations.

Key words : information governance, public administrations, information management, information governance tools, information governance assessment, InterPARES Trust.

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1. Introduction

The last decades have seen the development and introduction of digital technologies take off and take hold at a blinding speed. And the world has been changing with equal precipitance under their influence: the changes have affected and have already significantly altered the modern society, the lives of people and their communities, policies, communications, models of business, production, and governance.

And although this technological revolution - no exaggeration there - is not the first one in the history of mankind, yet it is for the first time that this revolution is centred on and driven by digitalized information. And notions like « information-oriented society », « digital era », « data revolution » are gradually becoming commonplace, taking roots in our consciousness.

Information itself is being transformed and so are the ways of working with it: volumes of information are growing to colossal proportions, information flows are becoming more complex, and the content and format of information are constantly evolving. Now, the information agenda firmly includes electronic information and data management issues covering access to information and information storage and protection.

1.1 Context

Managing information with the view of ensuring its effective and efficient use for both personal and public purposes is hardly a new task in the list of information-related issues. Yet, today we speak of the changing context of information management determined by the opportunities, challenges and threats stemming from the digitization of information. And this context calls for diverse and multidisciplinary approaches.

1.1.1 Information Governance: growing popularity with lack of common understanding

Perhaps, it is this that holds the answer to the question why the concept of Information Governance (IG) as a multidimensional approach to manage information with the aim of optimizing the realization of the strategic and operational corporate goals (InterPARES) is rapidly gaining popularity.

Information Governance is increasingly implemented both in public and in private sector, but a common and scientific ground of this approach (Kooper 2011) is yet to be defined/formulated. Also, there is a lack of academic research in this area and insufficient effort to analyse the experience of professional IG practitioners that has

already been accumulated.

1.1.2 InterPARES Trust: interdisciplinary research approach to the interdisciplinary issues

Filling this research gap in the area of digital records management has been the objective of a multi-national, interdisciplinary research project exploring issues concerning digital records and data entrusted to the Internet - InterPARES Trust (ITrust 2013-2018).

The currently operative ITrust builds on the foundations of InterPARES (International Research into the Preservation of Authentic Records in Electronic Systems) carried out from 1998 through 2012. Its goal is:

> *« to generate theoretical and methodological frameworks to develop local, national and international policies, procedures, regulations, standards and legislation, in order to ensure public trust grounded on evidence of good governance, a strong digital economy, and a persistent digital memory »*
> *(InterPARES Trust)*

Today, ITrust is a research partnership bringing together over fifty universities and academic organizations, national and multinational, public and private, in North America, Latin America, Europe, Africa, Australasia, and Asia. The researchers are experts in archival science, records management, diplomacy, law, information technology, communication and media, journalism, e-commerce, health informatics, cyber security, information governance and assurance, digital forensics, computer engineering, and information policy (InterPARES Trust).

Thanks to the interdisciplinary composition and its geographical coverage InterPARES Trust offers an appropriate scientific context to develop a much-needed theoretical Information Governance framework with appropriate methods and related tools.

If we try to formulate the goal of the whole research partnership in a pithy manner, we need not look any further than its very name – the word is « trust »: it is all about finding ways to manage digital information and data in such a way as to build (and maintain) the trust of the whole society and its individual members in digital records online, their confidence in the Internet environment which is so vulnerable to bad faith competition, all sorts of unscrupulous manipulations and abuse in pursuit of often dubious goals?

Open democratic societies always aspire to broaden access to information while maintaining their tradition of protecting people's privacy. Achieving a balance between the

transparency of management and the protection of confidentiality has a great societal significance and public institutions play a crucial role in this area.

Several InterPARES Trust projects have been devoted to researching various aspects of Governmental e-Services and digital information management in Governmental agencies.

1.1.3 The InterPARES Research Project (EU29 – EU30)

In January 2016, the InterPARES Trust European Regional Team embarked upon the implementation of the project « Information Governance Maturity in European Public Administration » Phase 1 to tackle the research questions of theoretical and entirely practical nature (Project EU29), with Phase 2 (EU30) to follow.

The projects timeframe is 2016 - 2017. The principal researcher of the project is Dr. Basma Makhlouf Shabou, Professor in charge of archival studies at the Information Science Department of the Geneva School of Business Administration (HEG). His co-investigator is Dr. Elizabeth Lomas, Senior Lecturer in Information Governance, University College London.

This Master's Thesis (MT) has been prepared on the basis of a task commissioned by the InterPARES Trust European Regional Team within the framework of Phase 1 implementation.

1.1.3.1 The Problem and the Research Questions

Digital transformation has increased the need to reinforce the management of information resources, especially when these latter become a valuable corporate asset (Hagmann 2013, p.231). At the same time, one would notice that information and record management practices of the past were not always up to the task of dealing with legal (privacy, information accessibility, etc.), technical (archival functions and tools), and technological (long-term preservation, clouds, etc.) issues of information management. And if we are to consider IG as a potential solution to this kind of problem, we have to admit that, despite its rising popularity that we mentioned earlier, the introduction of IG still remains insufficiently consistent and effective.

Traditionally, the private sector possesses larger financial resources and greater flexibility of management for the introduction of new approaches. Thus, according to the SerdaLab research laboratory, private firms in France are way ahead of public and non-governmental organisations in terms of implementing digital information management projects (SerdaLab 2016).

However, it is in the public sector that IG could play an important role of a kind of ethical lens, which substantially enhances the societal significance of implementing IG in public administrations. For IG draws attention to the needs of a broad range of stakeholders who all have a vested interest in the efficient management of their records which would ensure their reliable and prolonged storage, given the competing considerations concerning access to and retention and destruction of information. Public administration entities dealing efficiently and effectively with this task as a matter of their routine activities would also contribute significantly to building and reinforcing public trust in the institutions of the State.

A key issue inextricably linked to the implementation of IG programs is the IG level assessment. Furthermore, the accuracy of assessment at various stages (starting with the initial IG assessment) could well determine the success or failure of the whole programme, the way it is tailored to tackle specific problems in the organisation, and the prospects for its future development.

So, what are the methods and tools available to the specialist community for carrying out assessment of the so varied IG domains? Currently, there is a number of policies and tools of information and records management available (e.g. those developed by ARMA International); there is also a range of IG frameworks related mainly to information security issues (while leaving information management concerns unaddressed) (ISACA 2012), yet none of these can be applied to all dimensions of IG and there is not a single one that would apply specifically to the public sector.

It is exactly because of the need for closer scrutiny of IG in the public sector in the context of the information-related sciences as a whole and the archiving sciences in particular that the InterPARES has selected the following questions as the objective of this investigation:

> a. What is the nature, the dimensions, main actors of the IG in European public administrations? (EU29)
>
> b. What is the maturity level of IG practices in European public administrations? (EU30)

1.1.3.2 Project Objectives and Main Research Stages

Jumping ahead a little, we would like to point out straight away that the objectives of the project's Phase 1 fully coincide with the objectives of our research activities and for this reason they will be described in detail later in the text.

Briefly, they can be formulated as follows: understanding the key notions and components of IG and analysing the best practices based on the comparison of academic research and available specialist practices. This will lay down the groundwork for Phase 2 (EU30) whose chief objective is the development and piloting of the IG maturity assessment model in European public administrations.

Speaking of the research methods, we shall only touch upon the first phase of the project (as it is implemented to date). This qualitative study provided for carrying out a small *sampling* exercise focused on IG experts and professionals in the European context with a specific interest in European public administration. These experts were identified on the basis of specific criteria (years of practical experience, valuable projects and realizations in the Information Management domain, etc.). ***Data collection*** envisaged the following types of data gathering and processing: document and content analysis; semi-structured interviews with experts to produce the basis for the development of a questionnaire, which enables a definition and framework to be tested; and development of user cases.

1.2 Research Objectives

The main objectives of this Master' Thesis (MT) are to:

1. Understand the main dimensions that compose and distinguish the IG as described in the academic studies and professional practices

2. Propose a definition for IG

3. Propose a framework of IG best practices, which can be applied across European public administrations

As it has been mentioned before, the declared objectives coincide with the aims of the EU29 phase of the project; which is explained by our direct involvement in the project activities at the following stages:

1. Document and content analysis

2. Semi-structured interviews with experts: conception, validation and realisation of data collection and analysis

Table 1 contains detailed objectives of the Project's two Phases and the MT.

Table 1: Research objectives: EU29, EU30, MT

Research Objectives	EU 29	EU30	MT
1. Understand the main dimensions that compose and distinguish the IG as described in the academic studies and professional practices	x		x
2. Propose a definition for IG	x		x
3. Propose a framework of IG best practices which can be applied across European public administrations	x		x
4. Recommend an IG maturity assessment model		x	
5. Analyse the existing IG in European public administrations context on the bases of proposed IG maturity assessment.		x	
6. Test and validate an IG maturity assessment model with operational guidelines		x	

1.3 Methodology of the research

Given the exploratory nature of the study we used a qualitative approach to investigate the stated objectives.

The chart below gives a graphical representation of the methodology used in our research (Figure 1, See also in Annex 1). The chart clearly shows the interconnection between the InterPARES research project and our Master's Thesis work shows the sequence of the research' major stages.

Figure 1: Methodology of the research
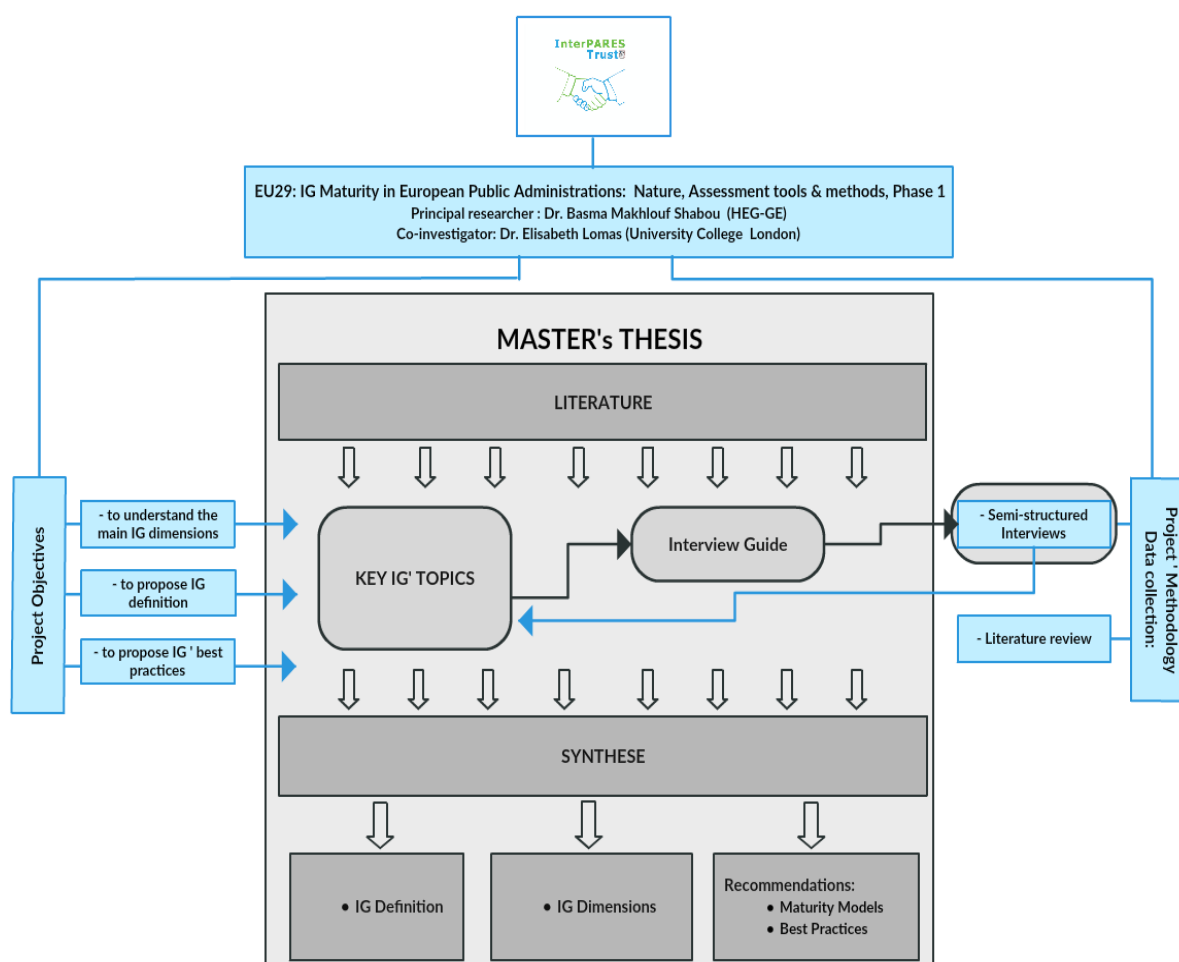
1.3.1 Document and content analysis

We started with *document and content analysis* to carry out the *state of the art*, not only on IG' definition and its principals, actors, processes but also on relevant IG maturity assessment models, methods and tools.

When selecting literature relevant to IG issues, we were pursuing the primary objective of identifying publications focusing on various aspects of IG in the Public Sector. However, due to the fact that this domain is still largely unexplored, we expanded the circle of reviewed publications to include general literature on IG. Also, we did not limit ourselves exclusively to academic work but rather turned to reports prepared by various research groups and organisations, Policy Papers, legal and norm-setting documents, etc.

In order to « stay focused » amidst this variety, we had determined a number of criteria

for the selection and subsequent analysis of the bibliography - a pair of spectacles of sorts affording us greater clarity when contemplating the topic. We tried to set time boundaries, considering materials published from 2010 on. We also attempted to identify publications that would give an idea of the status of IG in the Public Sector both in individual European countries and on the European and international levels (See Annex 2).

The analysis of the identified literature was carried out, following the InterPARES Trust project's objectives. Thus, we were able to outline the circle of issues discussed in the current publications within the IG context. We shall call them the *Key IG' Topics* that we defined for our subsequent interviews with experts.

1.3.2 Semi-structured interviews

Based on the Key IG' Topics we developed an *Interview Guide* for carrying out the semi-structured interviews within the InterPARES Trust project framework. The questions were divided into 8 main groups and an Introduction (allowing to build the experts' professional profile); each of the groups was devoted to one or several Key IG' Topics. Moreover, the questions were formulated in such a way as to identify the expert's opinion both on specific aspects of IG as a whole and in relation to the overall context of the European public administration. The complete list of questions can be found in the Annex 3. The Interview structure and internal logic included consecutive discussions of the following themes:

- General questions (IG definition, subject dimensions, goals, impacts)
- IG principals (IG Frameworks and Models)
- IG Standards (Standards, Norms, regulations, Internal policies)
- IG Implementation in Public Sector
- IG Assessment and Maturity models
- IG Risk Management
- Best practices and Recommendations
- Challenges

Semi-structured interview with each expert would take an hour, on average. The majority of the interviews, given the geographical spread, were conducted via Skype. Each interview was recorded and later on transcribed, with the final text being agreed with the interviewee.

1.3.3 Participants profile

We have interviewed eight experts from four European countries: Portugal, Spain,

Sweden, and Switzerland. The experts who have taken part in the interviews can be, without exaggeration, referred to as leaders and active participants of their professional community. Each one of them is a top-class specialist with impressive professional experience (20 to 30 years and more) in information management, archiving and records management, both in the private and the public sectors. A number of the experts have a record of working in international organisations and in the sphere of consulting and research. The majority of the interviewees is engaged in teaching, and participates in the activities of local, national and international professional associations (ICA, DLM Forum Foundation, ARMA, Francophone International Archival Portal, among others). Currently, five of them are the heads of archives (from a municipal archive of a small town to a national archive).

The information received from the experts provided some sort of empirical validation, and at a subsequent stage – the *synthesis* – allowed us to summarize and correlate the already available data we had developed from the literature and the data developed from the interviews. This made it possible for us to review each of the Key IG' Topics in a more comprehensive manner based on the professional feedback we had already received and sum up the accumulated information.

The value of the information related to practical experiences of IG Implementation, particularly in the area of Public Administration, that we received in the course of the interviews cannot be overestimated. It turned out that in relation to certain issues « the theory » and « the practice » were, so to say, walking hand in hand, while in other cases they would diverge completely. And then, this would give rise to a new question and offer a chance to look at the topic from a different angle. We would also like to point out that sometimes the vivid, colourful, metaphor-rich speech of the experts itself would make us look at an issue in a new way.

As a result of the work accomplished at this stage we were able to move on to the development of *recommendations* on the IG definition, expose our understanding and vision of what makes up the main dimensions of the IG, and, based on IG best practices, offer a number of recommendations that can be applied across European public administrations.

2. The Nature of Information Governance and the Public Sector Context

While gaining in popularity (for instance, according to a research performed by the SerdaLAB in France, IG has become reality for 66% of the surveyed organisations

(Serda LAB 2016, p.4), IG as a scientific discipline is still work in progress with its conceptual framework being elaborated and its dimensions defined. The IG Programmes currently under implementation need thorough assessment and the growing practical experiences require an analysis of lessons learned.

2.1 IG Definition

A part of the Information Governance Initiative Annual Report 2015 -2016 (IGI 2015, p. 15) was devoted to the issue of producing « a common language » for IG which indirectly points to the lack of consensus on the issue. Notably, one of the most debated issues is the IG definition itself.

The discussion is indeed a global one. Perhaps, this explains why we did not find any publications attempting to define IG in the European context or in the context of the public sector when we were identifying literature sources using the analysis literature grid we had developed.

In our opinion, the current polemic around the definition of IG follows two paths: one is an internal specialist discussion (whose objective is to find a generally accepted definition), and the other is a search for a definition that could be presented to the « greater world » - primarily, to the business community - to facilitate a more successful promotion of the IG concept.

In our view, an example of an IG definition intended rather for « internal » use is the one given in Gartner's IT Glossary:

> *« IG is the specification of decision rights and an accountability framework to ensure appropriate behaviour in the valuation, creation, storage, use, archiving and deletion of information. It includes the processes, roles and policies, standards and metrics that ensure the effective and efficient use of information in enabling an organization to achieve its goals »*   *(Gartner)*

This definition quite clearly shows the desire to give a rather detailed description of what IG « actually does ». The definition given by Hagmann is also addressed mostly to the professional community; it, too, contains the idea of outlining the IG perimeter, and the use of the word « art » - so rare in this context - seems to be a reference to the professional art:

> *« IG is a the art of trusted interaction between the major stakeholders of an IG programme (IT, Business, Legal and Compliance, RIM, Security and Privacy). They aspire to joining up in order to minimize information risks to the enterprise while maximizing the value of information assets through building desirable behaviours and enabling cross-functional decision making »*
>   *(Hagmann 2013, p. 231)*

In terms of the search for an IG definition suitable for promoting IG as a concept that may potentially be adopted as a central concept of information management in organisations we clearly discern a trend to produce a definition that is pithy and extremely brief (not to say primitive) worded in a language that is understandable for the business community. As an example we can quote the following definition of IG described as « crystal-clear » by the author himself: « IG is security, control, and organization of information » (Smallwood 2016, p. 13).

In his book addressed specifically to Executives, Smallwood stresses that the numerous IG definitions often confuse company executives, while the IG itself begins to « suffer » from their excess and diversity « causing IG to become a foggy and often misunderstood concept » (Smallwood 2016, p. 13).

Probably, this is an extreme point of view, yet it also points to the demand for a universal IG definition that would, on the one hand, correspond to the status of IG as a scientific discipline and satisfy the expectations of the professional community and, on the other, sustain the « marketing » qualities of IG.

Otherwise, there is a chance of having two conceptual frameworks running in parallel; one for internal and one for external use.

Virtually every academic paper offers, in this or that way, a certain designation of IG or its characteristic, regardless of whether the author aims to suggest his own definition or not. In this sense, one has an impression that the common understanding is there since the existing numerous and varied formulations are largely similar enough in their meaning. For this reason, Blair, one of the founders of the Information Governance Initiative, suggests that the discussion shall do better focusing rather on the existing similarities than differences (Blair 2012).

Thus, the following framework is suggested for the elaboration of a generally accepted IG definition: whatever the actual wording of the definition may be, it should cover the following four traits of IG:

- Encompassing all types of information,
- IG as an « umbrella » framework, i.e. including the whole range of information management activities,
- Aiming for enhanced information management in a situation of the constantly present dualism between legal risk and business value,
- Bringing together controls (policies and procedures), processes, and technology.

The definition proposed by Blaire himself includes all of the points above and is being actively promoted and popularised today by the Information Governance Initiative and its corporate partners:

> *« IG is a comprehensive program of controls, processes, and technologies designed to help organizations maximize the value of information assets while minimizing associated risks and costs »*
>
> *(Blair 2012)*

The definition proposed by Kooper et al. substantially differs from the approaches to be found in the existing literature on the subject:

> *« Information Governance is the set of activities aimed at establishing a normative foundation to facilitate and stimulate sense-making interactions »*
>
> *(Kooper et al. 2011, p. 197)*

Having analysed the essence of the interaction between the processes of governance and information exchange, Kooper et al. propose to look at the IG concept precisely as the governance of « sense making interactions » (and not of « assets ») among actors operating in the information transfer space (Kooper et al. 2011, p. 197).

The presence of diverse approaches to the definition of IG in contemporary literature shows that the search of a « single » IG definition remains a relevant task today.

2.2 IG Dimensions

Following the previously reviewed definitions and other references, IG is often seen as an « umbrella », multidisciplinary, or multidimensional approach, some kind of a comprehensive program – why is that, and what does IG actually include?

Analysing the existing literature, we cannot but notice that various authors use completely different terms to describe what IG is about; they talk of disciplines, interfaces, key fields, [etc.] (which again brings us back to the relevance of forming a common language for IG).

In our study we shall use the term « dimension » (as it is designated in the InterPARES Project EU29). We should point out straight away that there appears to be no open debate on this topic going on today. Authors just outline a certain list of main dimensions that compose and distinguish the IG without engaging in desk debate.

Wildhaber et al. distinguish two groups of IG dimensions where each dimension belongs to the two main interconnected spheres or contexts of IG, namely, Information Technologies and Business (Wildhaber et al 2015 p.177). The diagram below clearly shows the authors' vision of how IG emerges precisely at the junction of these two spheres.

Figure 2: Interfaces of IG
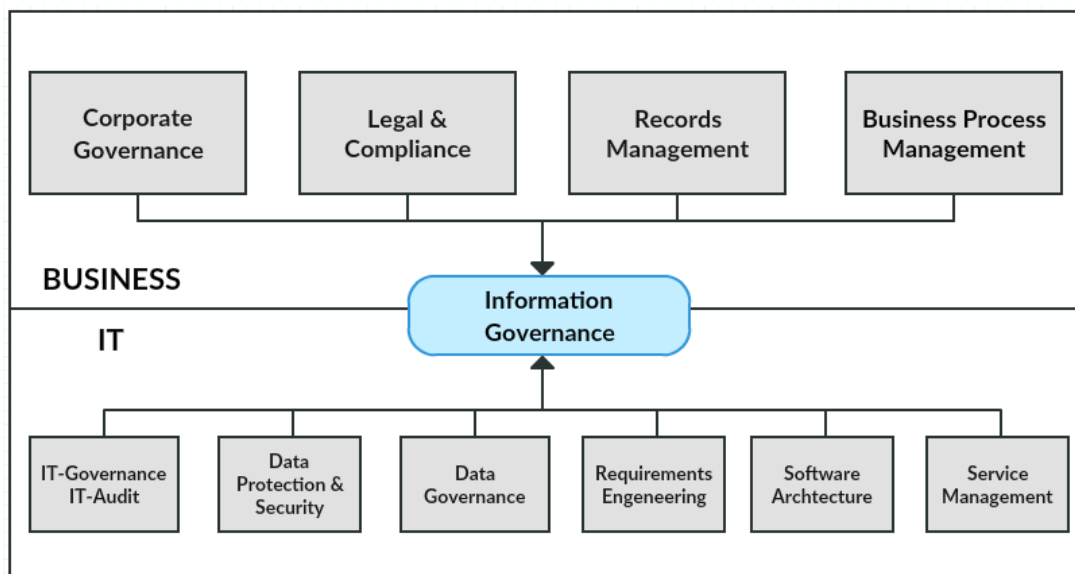
(Free adaptation from Wildhaber et al. 2015, p.177)

Looking at the work of other authors, we can see that the main IG dimensions they identify coincide with those suggested by Wildhaber *et al.* and, in our opinion, can be provisionally grouped according to their belonging to one of these two main spheres.

The same applies to the results of the survey conducted by the Information Governance Initiative within its community in 2014. The respondents were asked to specify which of the suggested 10 diverse activities (both risk-and-value-focused) were included in their concept of IG (Information Governance Initiative 2014, p.13). The results in the top part of the list (by their percentages) also generally correlate with the diagram of Wildhaber et al. The results also allowed the survey's authors to conclude that despite the importance of the « value » side of IG, « the risk side appears to be leading IG today » (Information Governance Initiative 2014 p.14). And although this study was a free survey of an audience (rather than specifically determined representative groups), it probably quite accurately reflected the trend in how the professional community determined the integral parts of IG.

Based on the top results of the survey and the lists we found in the publications of Smallwood, Blair, and IBM, we have built a comparative table which, without any claims to be exhaustive, helps identify the more frequently mentioned of the main IG dimensions. It also includes selected corresponding items from the diagram of Wildhaber et al.

Table 2: Main IG Dimensions

Smallwood 2014 «Key fields»	Blair 2011 «Disciplines»	Information Governance Initiative 2014 «Facets»	IBM 2014 «Core disciplines»	Wildhaber et al 2015 «Interfaces»
Records management	Record management and retention	Records and Information management (97%)	Information Lifecycle Management	Records Management
Privacy and security		Security and protection (93%); Privacy (81%)	Privacy and security	Security
Business operations	Business analytics	Business operations and management (70%)		Business Process Management
IT	IT-Governance	IT-Management (67%)		IT-Governance
Law		Compliance (92%)		Legal & Compliance
	Archiving	Archiving and data storage (81%)		
Risk Management		Risk Management (84%)		
		Data Governance (86%)	Data quality management	Data Governance

So, the list of the main IG Dimensions based on the quoted literature sources looks as follows:

1. Records management
2. Privacy and security
3. Business Process Management
4. IT-Management
5. Legal & Compliance
6. Data Governance
7. Risk management
8. Archiving

2.3 Records Management vs. Information Governance

The Table above points to a conclusion that as far as Records and Information Management (RIM) (which is ever more often being referred to by the term « Information Lifecycle Management (ILM) ») is concerned, as one of the IG dimensions, no diverging opinions appear and there is a full consensus.

Therefore, the title of this paragraph might be taken in quotes, since for the professional community, in fact, this «opposition » does not exist. While there is a clear understanding that the fundamental difference lies in the very notion of « governance » on the one hand, and the clearly defined boundaries of the scope of records management on the other.

Thus, Jules et al. state that the IG policy is not limited to "everything that governs the life cycle of information", but it "can go much further" and cover such areas as confidentiality, personal data protection, security, and etc. (Jules et al 2013, p.54).

However, from the moment the IG concept was created the professional literature regularly tackles the theme of the relationship between IG and RM with the question of the nature and "parameter" of IG in the background.

Thus, for instance, while arguing that many principles and the foundation on which the new IG concept is being built are not new, Juerg Hagmann puts forth the question to what extent this « new paradigm » is actually new and whether it may be just « old wine in new pipes »? At the same time, the author himself, in that very article, comes to the conclusion that RIM or ILM « is just one but important element in a larger IG program » (Hagmann 2013, p. 230). As a rule, the majority of authors who have written papers under a general tag of « Records Management vs. / or / and Information Governance » come to the same conclusion (Blair 2011 (d), Sherpa Software, Stukaloff 2015).

The discussion and understanding of the differences between IG and RIM transcends the boundaries of a intra-professional academic exercise. The important point is that the understanding of this difference helps organisations plan and implement IG in their actual operations (Blair 2011 (d)) because what we see in practice is not so much the comprehension of these notions as their confusion or substitution.

As Hammack observes, many companies striving to set up proper management of

documents and data turn to data governance (DG), information governance, and records management strategies. At the same time, « many pundits and providers conflate these terms into a single practice », while « each has a unique role to play ». Being himself a representative of the IT industry[1], Hammack provides an explanation of the difference among these concepts in a language that is readily understood by the business community, an explanation that can be summed up as follows: RM concerns with life-circle; DG « helps companies identify where their data is located, how it can be accessed, under what circumstances »; « IG addresses the management of all information in an organization no matter its type, location or function » (Hammack 2016).

Despite Parapadakis' call expressed in the title of his paper « Stop Comparing Information Governance to Records Management - Take2! » (Parapadakis 2014), we are of an opinion that comparing and correlating IG as a discipline to RIM, Data Governance, IT Governance, etc. is not unuseful for the understanding of its nature.

2.4 IG Assessment / IG Maturity Models

A key issue inextricably linked to the implementation of IG programs is the IG level assessment. Furthermore, the accuracy of assessment at various stages (starting with the initial IG assessment) could well determine the success or failure of the whole programme, the way it is tailored to tackle specific problems in the organisation, and the prospects for its future development.

So, what are the methods and tools available to the specialist community for carrying out assessment of the so varied IG domains? Currently, there is a number of policies and tools of information and records management available (e.g. those developed by ARMA International); there is also a range of IG frameworks related mainly to information security issues (while leaving information management concerns unaddressed) (ISACA 2012), yet none of these can be applied to all dimensions of IG and there is not a single one that would apply specifically to the public sector.

In the opinion of Proenca et al., despite the existing best practices, standards, and other references, organisations aspiring to embrace IG best practices, often are unable to determine in a « straightforward manner » neither the extent to which their current pro-

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[1] Denny Hammack is CEO of *FileSolve*, an industry-leading provider of electronic document management solutions.

cesses meet those standards, nor the specific objectives they need to set themselves to make sure that they do (Proenca et al. 2016, p. 15).

« An assessment is a systematic method for obtaining feedback on the performance for an organization and identify issues that affect performance » (Proenca et al. 2016, p.17). The creation and use of maturity models as an assessment tool is a very common practice. They make it possible to measure the maturity level, helping to identify the gap between the current and the desired levels. Their use is relevant for the identification of strengths and weaknesses of the organisational context under review and for the adjustment of aims and objectives.

The maturity levels are frequently distributed between a base reference level (meaning the lack of maturity) and the highest fifth level (a fully mature and self-optimizing process).

There is a multitude of maturity models; a number of maturity models have been developed to apply to many of the IG dimensions. At the same time, efforts are made to develop a comprehensive, « universal » model for the whole scope of IG.

Probably, the best-known and most actively promoted maturity model is the IG Maturity Model (IGMM) developed by ARMA International (ARMA IGMM 2013). The IGMM measures the maturity of organizational culture and processes as they relate to ARMA's Generally Accepted Recordkeeping Principles (GARP), distinguishing among five levels of maturity. The critics of this model, Smallwood, among others, claim that the model is focused solely on Records and Information Management (RIM) to the exclusion of all other IG dimensions and it will be more accurate to rename it the IGMM-RIM (Smallwood 2015).

Another Information Governance Maturity Model developed in the context of the E-ARK project[2], is based on ISO16363[3] and ISO20652[4] from the archival domain, and consists of three dimensions: Management, Process, and Infrastructure. For each dimension it has a set of five levels. (Proenca et al. 2016, p.20). This model was presented when the semi-structured interviews for the InterPARES Research Project had already been completed, so, unfortunately, we were unable to receive any feedback.

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[2] E-ARK Project (European Archival Record and Knowledge Preservation), http://www.eark-project.com/
[3] ISO 16363:2012 Space data and information transfer systems – Audit and certification of trustworthy digital repositories.
[4] ISO 20652:2006 Space data and information transfer systems – Producer-archive interface – Methodology abstract standard.

2.5 IG in the Public Sector

While the general context of management of the information is determined by digitalisation of information, the IG context in the public sector is shaped by the continuously growing trend of opening up government data (Janssen 2011, p. 446).

This trend has been significantly influenced by the EU Directive 2003/98/EC on the re-use of public sector information, otherwise known as the PSI Directive that encourages EU member states « to make as much public sector information available for re-use as possible » (Wikipedia).

The concept of Open Government Data is actively spreading around the world. Thus, according to the Open Government Partnership[5] that was launched to provide an international platform for domestic reformers « committed to making their governments more open, accountable, and responsive to citizens », in 2011, the year of its founding, the Partnership had 8 participating countries and by 2016 they already numbered 69 (Open Government Partnership).

In Europe, the Digital Agenda for Europe launched by the European Commission in 2010 became one of the catalysts for the broad Open Government movement. It is « aimed at boosting Europe's economy by delivering sustainable economic and social benefits from a digital single market » (European Commission 2014). For the Public Sector it was a signal to make public sector information available on « transparent, effective, non-discriminatory terms » (quoted from Janssen 2011, p. 446).

We can assume that the adoption of the Digital Agenda for Europe has also triggered a growing interest to E-Government in the academic community: the following couple of years have seen a significant amount of publications and research on this topic. In the opinion of Janssen and Zuiderwijk, all of them are generally focused on the benefits of open data, while quite often this remains unconfirmed by any concrete data. Conducting their own research on the basis of expanded interviews with top-level managers, Janssen and Zuiderwijk identified about sixteen possible negative consequences of opening data (the major ones are violation of privacy and potential « misuse and misinterpretation of data »); they suggest following a realistic approach and stop ignoring the « dark side » of open data (Janssen and Zuiderwijk 2104, p.147).

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[5] https://www.opengovpartnership.org

We assume that the development of E-Government and e-services incentivised the promotion of IG in the public sector as well, as the potential of IG with its multidimensional approach to the management of information may correspond to the growing need to deal with big volumes of digital information and metadata.

According to Grimstad and Myrseth, IG may be seen as a « key success factor » for effective and efficient E-Government and plays an important role in the « implementation of an open, transparent, accessible, accountable, user-friendly and service–oriented public sector » (Grimstad and Myrseth 2011).

The healthcare sector where the issues of medical data management and security has ever been one of its specific features has become one of the pioneers of IG implementation and IG policies development (Pagnamenta 2014, c.5).

Currently, IG policies [steadily] find their way into public administrations of all levels and in different sectors. Yet the most vivid example (and, partly, most popular) of IG implementation at the national level is where the transfer from records management to IG has become a political priority contributing to the improvement of public services and is built into the State Policy governing the organisation of public services (Republic of Estonia, Ministry of Economic Affairs and Communications).

3. Theory and Practice of Information Governance in the European Public Administrations : A Synthesis

In this Chapter we have analysed and summarised the information obtained in the course of the interviews, which allows us to go back to examining the topic of the IG definition and dimensions, outline the main IG principles and standards from the perspectives of leading European experts and information management professionals. This first-hand information gives an opportunity to understand the challenges and constraints that the promotion of IG in public administrations faces and what we can consider to be best practices.

We have actively used quotes from the interviews to convey, to the extent possible, the atmosphere of the lively dialogue and discussion.

3.1 Taking a second look at IG Nature

3.1.1 The Definition of IG

Despite the significant number of IG definitions to be found in the professional

literature, there was a single mention of only one definition offered by Barclay T. Blair[6] as being closest to expressing the essence and purpose of IG.

Otherwise, the general approach could be described using the words of an expert who pointed out that the professional community was still searching for such a definition, while, currently, « there is no unique definition, accepted internationally. We are still choosing the definition of IG and share common points » (Expert 5).

3.1.1.1 Perception of IG

It is evident that IG is perceived as a general or global concept of information or comprehensive and complex process with the wide scope of information concerns. It will be noted that, while talking of the scope of IG, the interviewees used expressions directly referring to its comprehensiveness:

«…it's a *general* concept taking care of information in *all* its aspects » (Expert 2),

«…it's a *bundle* of rules (ethical rules, legal rules)… *all* about defining objectives to achieve a framework for the handling of information » (Expert 7),

«…it's *everything* you do in order to manage your information according to your concerns » (Expert 3).

Probably, this can be attributed to the « broadness » of the subject dimensions of IG.

3.1.1.2 IG on the Institutional Level

We wanted to lint the theoretical issue of IG definition to practice and find out how IG could be defined from an institutional point of view.

Having synthesised the responses received, we can offer the following *definition of IG (at the organisational or enterprise level):*

IG is a « strategic plan » which covers organizational structures, business processes, and available technology in their entirety from the perspective of a producer, a consumer (or from the prosumer's perspectives).

For an organisation, the processes associated with the implementation of an IG program mean a transformation in a rather broad sense as IG can be seen as something more than a simple transformation of tools, structures, processes, or technologies. In words of one of the experts, «… it's more like information culture that we have to put together and to work with…it's more like a cultural way of thinking of

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[6] *« IG is a comprehensive program of controls, processes, and technologies designed to help organizations maximize the value of information assets while minimizing associated risks and costs » (Blair 2012)*

information » (Expert 1). It affects the culture of the organization.

3.1.2 Main IG Dimensions

During our first interview, while answering the question on subject dimensions, one of the experts gave us a piece of advice for subsequent interviews, pointing out that we should by all means specify the context in which IG was being considered as this would be the determining factor for the answer. We followed this recommendation and added this question to the Interview Guide.

Generally, taking into account the background and professional experience of the experts, we can say that the majority of the interviewees were closer to the public administration and record management context.

The Table below includes the main IG dimensions defined on the basis of the literature analysis and more frequently mentioned by the experts.

Table 3: Main IG Dimensions (from the literature and experts' perspectives)

№	IG DIMENSIONS	EXPERTS	LITERATURE
1	Records and Information management	✔	✔
2	Business Process Management	✔	✔
3	Risk Management	✔	✔
4	Privacy and security	✔	✔
5	IT-Governance	✔	✔
6	Data Governance	✔	✔
7	Legal & Compliance	−	✔
8	Archiving	−	✔
9	Enterprise architecture	✔	−

The Table shows that six out of nine identified dimensions are present both in practice

and in literature and appear to be good candidates for forming the main circle of IG dimensions.

Naturally, the stage-by-stage comparison of literature sources and the experts' opinions we have undertaken has no claims of scientific accuracy, yet it does reflect the trend in the perception of this issue.

3.1.3 Records Management vs. Information Governance

In order to be able to more clearly define the nature and the « borderlines » of IG, we have decided not to forgo its comparison, repeatedly undertaken in the literature with a rather well established notion of Records and Information Management (RIM), and included a question on differences (if any) between the two into the Interview Guide.

The table below contains the definitions given by the experts who see a clear distinction between IG and RIM and think that the concepts « are not identical and should not be used as synonyms » (Expert 6).

Comparison of the proposed definitions again shows that, in general terms, IG is perceived as a certain concept / strategy, which determines the main principles and policies, while IM is a tool for their implementation.

Table 4: Information Governance vs. Records and Information Management

IG	RIM
Strategic / political level based on the formal policy	One of the means to reach that political level, to make IG policy possible
IG defines the principles and the strategy	IM is applied to implement these decisions
General Policy / Decision making level	Operational Policy / Operational level
More abstract	Deals with the implementation of IG
« What to do and why? »	« How to do it? »

We should mention separately the opinion of the expert who pointed out that currently there was no clear explanation of the differences between IG and RIM and that « IG

(as a product) has almost the same content as RIM, but it's more attractive, has a « new face » (Expert 5)**.**

This opinion falls quite well within the boundaries of the discussion on the « novelty » of IG we have outlined in the literature. We see it, and a similar opinion expressed in Juerg Hagmann's « Information governance – beyond the buzz » (Hagmann 2013), rather more as an invitation for further discussion that a statement of a fact.

3.1.4 IG Principles

3.1.4.1 Identification

The theme of certain similarity between IG and RIM re-emerged during the discussion of the main/fundamental principles of IG, but this time not at our initiative. In the opinion of experts in general, the basic IG principles « are the same as the records management principles » (Expert 1). This is explained by the similarity of their organisational function (since both deal with documents (regardless of form: paper or digital) during their lifecycle and by the fact that both deal with management, access, traceability, and integrity of information. However, in addition to such « classic » principles like classification, preservation, access, and reuse, there is « a reasonable need for new principles » (Expert 3).

The interviews analysis allows us to outline a circle of essential principles that could be applicable to IG: transparency and efficiency that were both defined as major, fundamental considerations, and also accessibility, security, risk management, compliance, and accountability.

Yet, in the experts' opinion, all the above principles « are very theoretical » and do not quite mesh with practice as in actual day-to-day work it would be preferable just « to have a system which makes sure that all decisions taken are well based and understandable » (Expert 7).

3.1.4.2 European public administration context

Within the European public administration context where the main objective is to « manage information with increasing need for transparency and openness » (Expert 8), the fundamental IG principles remain the same due to their complementarity and the need to have a whole set of principles. « No single principle should be promoted pushing other principles to the margins » (Expert 4).

3.1.4.3 IG International context

Within the intentional context, individual approaches may be different, depending on national specificities/context, yet, in the course of time, these context differences can

well be overcome.

In order to achieve that, IG principles have to be internationally recognized and recommended. In the opinion of an expert having vast experience in international work, these principles play the role of an international umbrella and could be used in different countries and, if necessary, referred to, if one has to defend his/her work (in countries having totalitarian regimes or human rights issues). A special role could be reserved for international professional associations through which these principles could be promoted and advocated.

3.1.4.4 IG Principles and GARP

Taking into account the already available experience of actual application of the ARMA' Generally Accepted Recordkeeping Principles (GARP) in the development of IG policies, we included, when preparing the Interview Guide, a couple of questions answers to which should allow us to make conclusions concerning the expert community's perception of application of the ARMA' GARP, as well as the extent to which GARP are applicable to IG domains and whether they can be seen as as a universal approach.

3.1.4.4.1 Recognition and practical experience

Based on the interviews' results, we can state that the GARP are well-known in the professional milieu. All the experts are aware of them, yet, although the majority of the interviewees have no experience applying them in practice, they believe that « that is a kind of things, that was made not to be used, but to be aware of » (Expert 3).

Still, two experts do have practical experience, for instance, in developing a University's IG policy, when all GARP principles were used as the basis, and they follow these principles during the policy implementation as well.

3.1.4.4.2 Advantages and shortcomings

Speaking of the advantages of the GARP, the experts have pointed out that they are « a good and useful reference » (Expert 3) and « fine for information professionals » (Expert 7). These principles are also sufficiently understandable for management. However, information professionals have to make sure that these principles are implemented in the tools, which people in the administration are using. By way of shortcomings, the interviewees have mentioned that the principles are « too complex and theoretical for everyday work » (Expert 2) and « too wordy » (Expert 3).

3.1.4.4.3 Coverage

The main principles mentioned by the experts partially coincide with the GARP and, in the opinion of the majority of the experts, the main GARP are applicable in « our

domain » (Expert 5, 4). Here we should not forget, though, that the experts' background has primarily to do with RIM.

But the interviews analysis does show that the GARP are not applicable to all IG domains as it was repeatedly pointed out that certain important aspects of IG were missing from it.

First and foremost, this concerns Risk Management and Corporate Governance aspects. Also, in the experts' opinion, « Data Management as another discipline, Quality Management, or Enterprise architecture… could be better addressed in the GARP framework » (Expert 6).

Nevertheless, to sum it all up, the GARP can be recommended « as a kind of general starting point » and as a means « to operationalize your own processes in information » (Expert 7, 8).

In part, the GARP can be seen as « a basic and universal approach that can help to put the funding principles in every sector of an administration » (Expert 1).

3.2 IG in the European public administration context

3.2.1 IG goals

Before moving to a more detailed review of various aspects of IG we would like to discuss several issues that would help us get a better understanding of the European public administration context. Jumping ahead, we should point out that the goals identified by the interviewed experts as the ultimate goal of IG in this particular context reflect, in our opinion, what is commonly known as fundamental or European democratic values. So, we can register some commonality of stated goals and priorities for European public administrations of all levels from the European Commission to smaller municipalities.

The main tasks of IG in the public administration correlate with them and can be defined in the following manner:
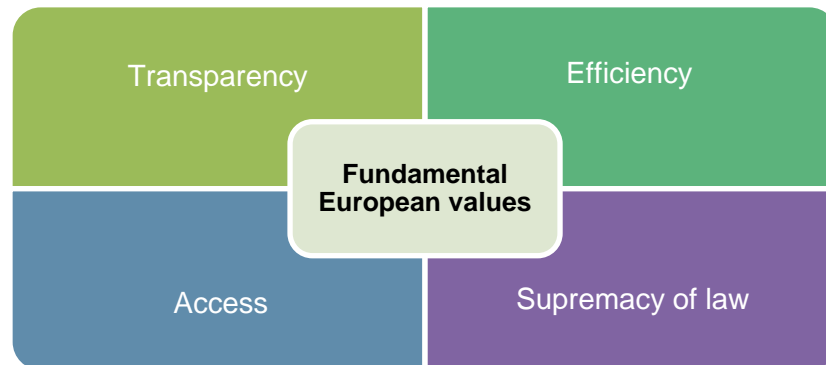
1. Provide a trusted basis of administration
2. Maintain a balance between protection of personal data and open access

3.2.1.1 Trusted basis of administration

Public confidence is built on a number of fundamental values, which, at the same time,

constitute the goals of IG in the public administration context.

Figure 3: Trusted basis of administration

Firstly, it is *transparency*, which is equally important and serves the interests of both European politicians and European citizens. That said, the experts repeatedly expressed concern when speaking of the extent to which the efforts of politicians and heads of administrations to be as transparent as possible were actually effective. Because there is every reason to believe that « it's fashionable to speak about governance transparency. So, everybody uses this key word now » (Expert 2) .

Transparency, in turn, is closely linked to other goals. A point was made that it was necessary « that transparency has to be linked to *efficiency* to manage citizens' affairs » (Expert 4). Another IG goal is « to give *access* to the citizen to as much information as possible » (Expert 2).

Another primary goal is to ensure *the supremacy of law* « to make public administration accountable to all stakeholders » (Expert 7).

3.2.1.2 Personal data and Open access

Throughout their daily activities public administrations store a great volume of information about citizens, some of it confidential and rather sensitive. Usually, citizens believe (or do not particularly concern themselves) that governmental institutions have all the necessary means to handle personal data. Yet, in today's reality this is far from being so at all times because of mistakes in the course of implementation or data management (Thompson et al. 2015, p. 316). And, as one of the experts has pointed out, public administrations are trusted with fulfilling a challenging task of high societal significance « to manage information in a better and more transparent way, respecting balance between personal data and open access » (Expert 5).

3.2.2 IG stakeholders

The experts were unanimous in that there are no entities with a greater interest in IG than public administrations themselves (from the national Government to municipal level), politicians   and executive/political persons sitting on the Boards of institutions.

It would seem rational to assume that the « next in line » in terms of vested interests should be citizens and general public or the society as a whole. And those were indeed mentioned, yet if we had had a chance to discuss the extent of citizens' interest in this, we should have had (which is a bit of a paradox) a rather lively and controversial discussion. Thus, some experts, notably, the ones whose daily work in archives involves servicing citizens, doubted the degree of citizens' interest and involvement, quoting their incessant complaints: « they always want something else! » (Expert 2).

It is a curious thing that the Toolbox for Practitioners in Public Administrations prepared by the European Commission describes such behaviour of citizens in the section titled « Growing demands on public services », and the proffered explanation is that the public sector experiences a growing pressure from the private sector where the client servicing standards are, as a rule, higher. Some pressure also comes from the side of the media which « encourage citizens to become more vocal and demanding » (European Commission 2015, p.221).

At the same time, regardless of whether the citizens themselves are aware of it or not, the general opinion is that they will be « the first to receive this positive fruit of dealing with information that provides more information, more transparency and also an administration, which will be more efficient » (Expert 1).

Figure 4: IG stakeholders in the European public administrations context
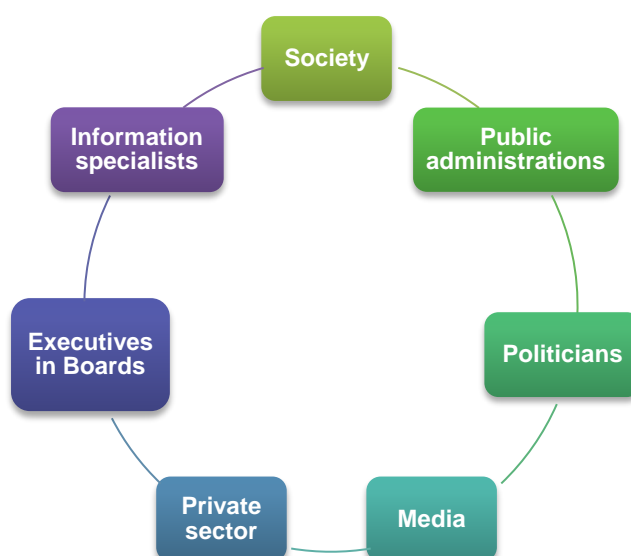
The circle of IG stakeholders in the European public administrations is not limited to the above: it also included information specialists, media, private sector, which makes it as wide as possible.

The presence of a wide circle of IG stakeholders shows that the IG concept is relevant to the tasks of public administrations in the area of organising the provision of public services. If by public services we mean all interactions between the government and citizens, businesses, and other categories of service users (Homburg and Dijkshoorn 2016, p.221), then IG Program implementation in public administrations could contribute to further development and higher quality of public (governmental) services.

3.2.3 IG Impacts

In the language of the Business Dictionary, Impact is « a measure of the tangible and intangible effects (consequences) of one thing's or entity's action or influence upon another » (Business Dictionary). What are the impacts of IG for public administration?

It would appear that the answer to this question should be directly linked with the IG goals. However, implementation of any strategic programme of policy - and this is what IG actually is - as a rule, is associated with internal organisational changes, which may not necessarily be directly linked to the declared goals. So we can reword the question in the following manner: how can the implementation process and outcomes affect public administrations and the public services they provide?

The idea that IG potentially can influence the quality of public services did not evoke any doubts even in the most sceptical of the experts (although, in his opinion, it is a matter of distant future). In general, we can state that IG could have a meaningful impact on the performance of public administrations and lead to improvement of public services.

We have identified a number of possible impacts of IG and potential improvements related to them.

3.2.3.1 Efficiency / Effectiveness

IG efficiency / effectiveness should be ensured by its proper alignment with practices, technologies, and processes. Another prerequisite is the public administration's earnest intention to use IG in order to actually make their handling of information more efficient/effective rather than use the concept exclusively « for marketing purposes ». Only then it can lead to change at the political level, i.e. at the level of an institution's management where information shall be seen as « a primary resource like financial or human resources » (Expert 1). It's equally important that public services and public administration can rely on the information:

«…that's an important condition, to say that it's a good decision made by the administration based on the right information » (Expert 7).

3.2.3.2 Transparency

We can say that « transparency » (as well as « efficiency ») are indeed key words that are at the same time both the main principles and the main goals. Figuratively speaking, they run as a « red thread » through everything that has to do with IG in the context of the European public sector. So, perhaps, this is that kind of case when impacts precisely coincide with the goals.

The majority of our interviewees spoke of transparency as the main IG impact on public administration and the society in general. Moreover, this had to do primarily with the ability to manage the opendata. According to one of the experts, « many stakeholders are highlighting the importance of opendata. With metagovernance we get more chances with opendata » (Expert 7). Also, transparency is closely linked to accountability of public administration. And, more indirectly, it may reinforce the access rights, which, in its turn, will bring the issue of data protection.

3.2.3.3 Formalization / Standardization

Another important contribution of IG to the improvement of public administration at the European level could be formalization or standardization of the practices, development

of uniformed guidelines for the different levels of administration.

3.2.3.4 Technological improvements / Digital transformation

The quite limited flexibility within the public sector to apply innovative solutions, especially technological solutions, constraints the effectiveness of the provided services. Technological improvements can boost cost-efficiency of public services and make it possible to accelerate provision of services. For instance, an organisation can provide services through the Web, which could partially resolve the issue of understaffing and save time both for civil servants and citizens.

Yet, on a broader scale, we could talk here of the whole process of digital transformation which could be advanced by IG. As an illustration, a well-know experience of Estonia has been quoted which, for the moment, has the reputation of « the most advanced national state in EU in terms of digitization » (Expert 6) due to well-developed public IT (this concerns digital agenda, digital services and identification, for instance), covering almost every business process.

3.2.3.5 Style of work

Also, IG can affect the style of work of the organisation itself: the use of new collaborative tools will lead to change both at the technological level and in the ways that employees interact among themselves, finding « new ways of working together, sharing things together » (Expert 1). Sharing information helps to make sure that the whole of the administration is using, for instance, the same statistics or the same geographical or other information, which enables employees to « really have less effort to make to day-to-data » (Expert 7). It significantly raises efficiency but also effectiveness because it permits « focusing more on what data you have to deal with or which you have to use » (Expert 7).

But, by way of generalisation, we shall quote one of the interviewed experts speaking of IG impacts: « I will say that the most important ones are correctness, transparency, efficiency, effectiveness, and the speed of service » (Expert 8).

3.2.4 IG Legal frameworks

The objectives of our study did not envisage a detailed identification of the whole mass of legislative and regulatory instruments recommended for use or already being used in actual implementation of IG programs. Yet, we would like to very broadly outline a certain perimeter of the main legal norms which determined the legal frameworks for the IG in the European public administration context and guided information management professionals in their work.

This approach has another and quite simple explanation: currently « there is no standard for the IG explicitly » (Expert 6). Thus, all standards and norms that were mentioned can only be referred to the area of IG, and they fall into several main groups:

3.2.4.1 International standards

International standards are well recognised by the expert community; they are actively referred to and widely used in practice. This is largely explained by the lack or total absence of specific national standards.

Most frequently mentioned as the main reference were ISO standards: ISO 15489 on record management, ISO/TC 46/ SC 11 on the domain of the archives and recordkeeping, ISO 28500.

The experts also made references to other standards: ISAD-G / General International Standard Archival Description; ISAAR / International Standard Archival Authority Record; ARMA; COBIT from ISACA).

3.2.4.2 European regulations

The information we have received from the experts allows us to conclude that European public administrations make practically no use of European regulations.

Swiss experts stressed the fact that their country was not an EU member and European regulations were not applicable to their work, but they would read them for comparison purposes and in order to « be aware of the European trends » (Expert 5). A number of experts from EU member states pointed out that the existing international and national standards already offer a broad range of regulations that needs no further expansion. At the same time, it will be noted that neither Swiss, nor EU interviewees mentioned a single concrete document.

3.2.4.3 National / local regulations

Given the experts' background, speaking of national regulations, they would mainly refer to laws on public archives, public information, and informational data protection, while pointing out that much depended on the national context. It was also noted that the contemporary national legislation in this area is sufficiently close to international standards as the latter are taken into consideration in any case, when national legislation is being developed.

3.2.4.4 Internal regulations

A large group of internal regulations reflects the diversity of numerous governmental bodies, their strategic vision of priorities, the ambitions of local politicians and heads of

local administrations, and the professionalism of employees …

They include Governmental directives, Administrative regulations, Internal policies and other documents determining the legal framework for public institutions.

Another point, and an important one too, was that legal frameworks to a very high degree depended on the governmental organization itself: the scope of its activities, its culture and principles, and, undoubtedly, on the country (this was also repeatedly underscored by the experts in the course of the interviews).

3.3 IG implementation (Public Sector)

Discussing IG implementation we were looking for an expert opinion based on which we could get information on IG practices in the European public administrations (implementation stages, roles and responsibilities, IT tools, etc.), as well as issue specific recommendations related to IG Strategies and Policies, managerial aspects, professional training.

3.3.1 IG requirements

We have repeatedly pointed out that the IG implementation process is coupled with major organisational changes. In part, we have covered this issue earlier, analysing various IG impacts. But embarking upon the discussion of the whole topic of IG programme implementation with requirements we pursued the aim of identifying those changes that an organisation should be ready for (or, at least, be aware of) even before the implementation is under way.

3.3.1.1 Cultural and organisational changes

IG implementation requires a lot of change in the field of culture and change management. And « a lot of people have completely underestimated the cultural factors in IG implementation » (Expert 6), while for some this can become a true « cultural shock » (Expert 2). In any case, it is a certain « challenge » for an institution.

Perhaps, the greatest challenge lies in the development of information culture, and here the main key words (just like in the case of IG principles and impacts) would again be « collaboration, sharing, transparency, protection, security, process, long-tem, reuse, heritage…» (Expert 1).

Probably, organisational processes will be affected to a greater degree, since it is in the work processes that greater transparency will be required, so, « that implies normalization of the processes » (Expert 4), and this will affect the information products that are made available to the citizens.

When applied to the public sector, these changes in the organisational culture and processes have to do with the political decision to start IG implementation and political vision of participation, transparency, administration design, which must be « made clear in order to establish a sound, robust IG organization…otherwise it wouldn't work » (Expert 6).

3.3.1.2 Employees' behaviour

Without a doubt, IG-associated changes will directly affect public institution employees. Although, this largely depends on the specific organisational context. It is the employees who will have to realise that a part of the « records » (or the information product) that they would be creating under conditions of greater process transparency and policies geared towards freedom of information were indeed becoming public records to be offered to citizens or published on the website. And they will need some time in order to, for instance, be more careful and attentive using some personal data. In an environment where many organisations still retain a « paper culture » (Expert 2), digital transformation will require time and effort to achieve not only in the area of technology, but also in the area of human skills and mind frame.

On the other hand, IG implementation can be seen not as « a huge challenge but as a kind of awareness raising » (Expert 7). However, all experts were unanimous in the opinion that IG « brings requirements ». This was shared even by expert who believes that IG implementation should not entail any serious changes in the life of an organisation, « if it properly done, it should be part of doing business as usual » (Expert 3). So what are the ingredients of the properly done IG implementation and where should one start?

3.3.2 Initial IG assessment

A crucial starting point for setting up an IG Program should be assessment of organizational needs, in other words, « first think and understand, and then govern! » (Expert 6). Many organisations make a grave mistake « trying to start an IG program without analyzing in details their own specific context and their own specific needs; they just take the requirements from outside and they don't scope them » (Expert 3). It is also erroneous and difficult to implement IG « by sticking to a theoretical strategy that flows from standard » (Expert 1, 6).

As a rule public sector organisations extremely rarely have some sort of a « review », while initial IG assessment might be « really useful in the municipal sector » (Expert 8). Perhaps this might be explained by the lack of flexibility or a higher level of

bureaucracy than in the Private Sector.

One of the ways to carry out such an assessment could be using the DACUM[7] chart (which is the curriculum of ARMA (ARMA International) to assess the current situation and to find out where the needs are located in relation to the major areas of activity. Another option could be to invite an external consultant (someone outside of the context) for such an assessment, since for an external observer « it's easier to see what works, what doesn't work, what doesn't move » (Expert 2).

3.3.3 IG Policy paper

We have tried to find out how important an element of IG implementation is the presence of an official document: IG Strategy, Policy Paper, Governance Plan or some other. Is there an actual need to elaborate such a document, how should it be structured and disseminated?

3.3.3.1 The Road Map

We can state that the development and availability of such a document (we shall provisionally refer to it as the Policy Paper) play an important role for an IG program implementation at all of its stages, serving as its road map. As an illustration, we can quote one of the experts: « We need an official document validated by authorities - to promote, to check, to make recommendations, and to start again » (Expert 5).

3.3.3.2 Political Support Tool

The leadership of an organisation plays a key role in approving and promoting this document. « It should be developed and formally agreed by the head of the institution with the general management » (Expert 1). Since in many organisations « it's a truly political instrument for the managerial level » (Expert 1). Top administrators should demonstrate their strong commitment and provide strong support to the IG implementation.

Some experts are of the opinion - in the context of IG implementation in public administrations - that the development of the Policy Paper could be undertaken « at the top level, and every single public agency does not need to elaborate one of its own » (Expert 7). But for the national level administration, having such a document is a must.

3.3.3.3 Format

As for the format of the document, there is no ideal or recommendable one that could

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[7] Available at: http://www.arma.org/docs/igp/dacumchart1012.pdf

be borrowed from the outside. The important thing is to make sure that it aligns with what is determined as the strategy and includes « some important content elements, which have to be addressed in such a strategy » (Expert 7). By way of a positive example, policies of the UK National Archives[8] were mentioned for their « simplicity of policies, their objectives, scope, and how to implement the policies » (Expert 4; these policies are not specifically IG Policies). Concise and clear text can make the document more usable in practical terms.

However, we can forecast that the active proliferation of the IG concept should entail a growing need for an appropriate IG Policy Papers, a document setting forth the principles and the main components of IG program implementation. This equally applies to the content, structure and form of this document. For this reason, the development of model documents or the presence of clear and coherent recommendations for their elaboration could have a practical sense, saving time, on the one hand, and providing a sort of methodological support for the development of IG programs, on the other.

3.3.3.4 Dissemination

One of the more common ways to disseminate the IG Policies is to post them on the organisation's Web-site, however, this does not guarantee that citizens will be actively familiarizing themselves with the document. Yet, in any case, the very fact of publication « is very important for participative processes » (Expert 1).

3.3.4 Main actors / Roles and responsibilities

But far from all IG policy documents, even the perfect ones, may work in reality, if the organisation does not have a person whose task will be to « communicate this policy throughout the organization » (Expert 6). We shall allow ourselves to quote an expert who described such person's role and responsibilities in a rather figurative and colourful manner: « you need a person who goes around and takes people by the throat and says, « we need to govern this information, otherwise, it's a risk! » (Expert 8).

3.3.4.1 Information and Communication Officer

The topic of appointing a person/persons responsible for IG implementation clearly revealed two approaches: this had to be either a collegiate body or some figure central

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[8] UK National Archives, Available at: http://www.nationalarchives.gov.uk/about/our-role/plans-policies-performance-and-projects/our-policies/

to the organisation, like the Chief Information Officer. Unlike the private sector where the role of the Chief Information Officer is already well established, in public administrations this practice is not a broadly spread one yet. For the implementation of IG it would be desirable to create a position of the Information and Communication Officer and on a sufficiently high level of management, too, or else this exercise would be quite ineffective.

3.3.4.2 Implementing Body

The task of IG implementation can also be given to a certain cross-functional managerial group - an « implementing body ». Given the multidimensional nature of IG, it should include a representative of the top-level management (ideally, the head of the public institution), IT officers, records managers, probably some people from the lower levels of management like communication department officers and risk managers. Such composition of the group members can ensure a comprehensive outlook on all IG issues.

However, in practice, archivists often have to fight for a seat on such a collegiate body which, as a rule, includes only representatives of the IT department and the General Secretariat who tend to see only their side of the whole issue. Such an Implementing Body can provide meaningful political support to the promotion of IG. The Implementing Body should be audited regularly: the results of audit should be presented as a written recommendation aimed to provide means and sustainability.

3.3.4.3 Society

That said, the main actors of IG implementation may include most diverse categories of participants from Administrations of all levels to citizens. Since in the context of European public administrations with their broad circle of IG stakeholders, in a sense, « everybody, in the end, is an actor in implementing IG…» (Expert 7).

A particular role in IG implementation in public institutions should be played by politicians. However, « the involvement of politicians which is so important in this area is often absent from the overall picture » despite the fact that in the Public Sector « politicians should be the main actors » (Expert 8), if only because they can influence distribution of resources. But since IG has never been a political priority, the question is how to ensure a more active involvement of politicians.

3.3.5 Information management staff

The level of employees' training, their professional skills and their readiness to accept new IG requirements and absorb new knowledge may have a significant effect on IG

implementation.

We asked the experts to assess the sufficiency of the professional level of information management staff for this purpose, identify the main deficiencies, and provide recommendations for training intended to enhance the employees' competence to match IG challenges.

3.3.5.1 Professional level

Speaking of the professional training, the experts noted that their skills level varied depending on the level of a Public Administration entity. Thus, at the level of national administrations or in public institutions of the larger cities the professional level of employees is sufficiently high. The difficulties are mainly observed at the municipal level, which often has to do with the issue of understaffing, and training often takes place in the style of « learning by doing ».

One of the ways to overcome this situation may be the use of external services and involvement of highly skilled trainers to carry out training sessions and deal with specific issues.

Upon the whole, in all European countries there are today multiple opportunities for skills improvement. But few of them are geared to meet the specific IG requirements, as « IG goes further than just dealing with archives or record management » (Expert 1).

3.3.5.2 Hybrid professionals

In a broad sense, bearing in mind that the IG concept is still rather young, the majority of specialists involved in its implementation can be seen as « beginners » and « the general level is rather weak at the moment » (Expert 5). And, ideally, the IG with its interdisciplinary nature, does require hybrid professionals, who are « flexible enough to come along to transfer certain knowledge into another discipline and to have a picture between these disciplines » (Expert 6). At the same time, some of the experts pointed out the risk of having overestimated expectations with regard to IG professionals, which, in its turn, can result in people experiencing demotivating pressure.

3.3.5.3 Trainings

Professional knowledge and skills required specifically for IG implementation require the development of educational programmes to enhance the level of knowledge in such areas as promotion, strategy, theory, instruments, and sharing experience, communication, conversation culture and change management. Equally important is to train students for the long term IG.

Currently, various countries show a growth in the number of Master's programs in the

field of IG and « specialists in documentary information coming out of the schools seem to have a broad vision of IG » (Expert 1).

One of the ways to improve skills of information management staff would be to augment the traditional training programmes implemented by national professional organisations or state archives with special IG modules to be developed at the university level. The ARMA International course may also be recommended out of the number of available training programmes.

3.3.5.4 IT tools

We had a special interest in the knowledge level of information management staff in the field of IT technologies. Even before this research was launched, we had a notion that employees, predictably, should experience difficulties with the IT side due to their predominantly humanitarian background. This assumption was confirmed in the course of the very first interview, however, a different explanation of this fact was offered: the public sector cannot compete with the private sector in terms of wages and highly skilled professionals have no difficulty finding employment there.

As for the use of diverse IT tools, we should point out straight away that currently there are no IG-specific tools. But there are certain tools, which can support the processes of IG implementation. Here, like in many other cases, everything depends on the specific organisational context. For this reason, some organisations do not need anything beyond a record management system, while others may require a system that manages the processes.

And it is not always that IT tools could meet the specific IG requirements. That said, at the municipal authorities level employees may be wary of using this kind of tools, which largely explains why it is still a rather rare occasion when municipalities use such systems. This situation at the municipal level can be overcome by giving people positive examples, showing them successfully implemented pilot projects: « Look, we've done this and that, it's drag and drop, it's easy! » (Expert 2).

3.3.6 IG Assessment tools

If we look at assessment as an opportunity to take a pause and ask ourselves, where we are (in the opinion of one of the experts, this applies to the management of an organisation, stakeholders, even politicians), then this is something that should be done at all stages of an IG program implementation, and regularly, too (we have looked into the significance of initial IG assessment earlier).

3.3.6.1 Maturity Models

The use of Maturity Models is acknowledged as an adequate means of measuring the relevance of IG practices and strategies. The Models also contribute to raising awareness of IG issues in an institution.

Among the better known Models, along with the frequently mentioned ARMA International' Information Governance Maturity Model (IGMM), there were also references to the IBM Data Governance Council Maturity Model (IBM 2007), the Catalan Maturity Model (mentioned by the expert from Spain), as well as the E-ARK Project Model that was under development at the time of the interviews.

3.3.6.2 ARMA' IGMM

As was the case with the ARMA GARP, we wanted to have the experts' opinions specifically on the IGMM. The experts rather highly appreciated the relevance of the IGMM as a tool for assessment and measurement. The general opinion was that it was applicable and useable, in any case, in the area of records management where it could help identify what needed to be done to attain a good maturity level.

As a significant disadvantage of this model, the experts pointed out the issue that was already debated in the academic literature, namely, the incomplete coverage of all IG dimensions, with Risk Management being the first in line. It was also stated that the Model was too generic and that it did not offer a detailed enough explanation of how the main principles were to be applied.

3.3.6.3 Recommendations for Maturity Models development

Based on the feedback we have received from the interviewed experts, we can make a number of recommendations to be taken into account when developing new Maturity Models or adapting the existing ones to the specific requirements of « internal » use in an organisation:

1. The aims, i.e. what you plan to achieve through the implementation of an IG programme, must be clearly defined before the development of a Model.

2. The principles you plan to build your Maturity Model upon must be clearly understood, identified and explained.

3. The Model should be user-friendly in order to facilitate its application to dealing with practical tasks (« it's better to ask 10 questions instead of 100 » (Expert 7).

4. Three levels of maturity should be sufficient: Perfect IG – Good IG – Insufficient IG.

5. It is necessary to prepare Guidelines for your Maturity Model application, providing clear, illustrative case studies for each assessed principle at each of the maturity levels.

By way of a small conclusion, we would like to quote one of the experts who noted that, in the end, it was not a matter of great principle which model should be used, the « IGMM or and « in-house » developed model » (Expert 3), the truly important thing was how much the organisation itself is interested in the continuous development of Information Governance.

3.3.7 IG Risks

Implementation of IG programmes is associated with the emergence of various risks, those risks being present at the different stages of the implementation process like planning, policy' development, and implementation proper. This makes Risk Management one of the main IG dimensions and « a natural part of any IG concerns » (Expert 7).

However, there is also a conceptual risk involved, namely, the risk of following the concept of transparency only. If it is exclusively transparency-oriented, IG could turn out to be only « a part-service » to citizens; this can also have serious implications for the records management systems, substantially undermining their capacity to support the implementation of IG policies. This makes the task of staying committed to the multidimensional approach a key objective.

3.3.7.1 IG Risks dimensions

The IG Risks can be said to be as multidimensional as IG itself.

Several groups of IG Risks can be identified as associated with different dimensions:

- Information
- Transparency
- Confidentiality
- Technology
- Human factor
- Culture
- Legality

3.3.7.2 Information risks

The Information Risks Group has the central place among all other identified risks, which is particularly relevant to the Public Sector, given that it is here that citizens' private and sensitive data are accumulated.

And it is here, in a certain sense, that the « natural risk » becomes the compromising privacy. In the opinion of one of the experts, Europe still fails to pay a proper attention to this issue. Perhaps, this has to do with a sort of « paradoxical contradiction » that exists between protection of personal data and transparency: when the focus is shifted towards privacy, this simultaneously leads to closing down the transparency.

Also, due to the immaturity of technologies, the e-context carries the risk of losing information or storing and distributing information in an improper manner.

Information risks also affect accessibility, validity, integrity and authenticity of information.

3.3.8 IG Success stories

Despite the significant practical experience that the experts possess, most of them found it somewhat of a challenge to share concrete IG success stories when we asked them to do so.

Still, a story shared by the Swedish expert gives, in our view, an example of a successful approach to promoting IG in public administrations.

3.3.8.1 « Sydarkivera » (Sweden)

The experiences of the Swedish electronic archiving service organisation « Sydarkivera » have already been reviewed as a case study within the framework of the research activities carried out under the aegis of the InterPARES Trust (Tutt-Wixner 2015, InterPARES Trust Project (EU14) 2015).

What is « Sydarkivera »? It is an inter-municipality cooperation organisation, which was created by 20 municipalities in Southern Sweden with the view of forming a joint electronic archiving expertise organisation. The organisation is open to new members and their number is steadily growing.

« Sydarkivera » offers its member organisations services like mapping municipal information types, analysing relevant legislation to be complied with, professional trainings and seminars, and consulting (Sydarkivera).

The idea of setting up an organisation of this kind can, on the one hand, assist the public sector in achieving the long-term objective of interoperability (as practices of

handling digital information may vary significantly in different organisations) and, on the other hand, save costs (as the establishment of an umbrella organization may facilitate the pooling of resources).

3.3.9 IG Challenges

At the end of the interview we would ask the experts a question about the main challenges, constraints and organisational barriers that are associated with IG programmes promotion and implementation both in general and in the public sector in particular. The analysis of the experts' responses enables us to distinguish three major groups of IG challenges. The first one could be titled « conceptual challenges » as it includes those that have to do with the legal framework and the IG principles, customary practices, policies, and technologies. The second group is composed of problems associated with the specificities of the public sector organisations; the third group includes challenges related to the human factor.

Many of the identified challenges, in this or that form, were touched upon in the course of the interviews and were raised in the preceding parts of Chapter 3 of this paper. Hence, in order to avoid repetitions, we decided to sum up the analysis outcomes as bullet points in Table 5.

Table 5: IG Challenges

Conceptual Challenges	•Lack of tradition to manage information •Absence of special laws (which means lack of obligations) •A certain contradiction emerging between protection of personal data and the concept of transparency • There is a need to develop policies on data-management and data preservation •The technological aspect of IG (for example, automatic extraction of information, the risk of loss of control over information)
Organizational Constraints (Public sector)	•IG is not seen as one of the main priorities •Lack of support from the top level of administration •The organizational structures are « slow and frozen », bureaucracy •Lack of resources, both financial and human •Poor communication of IG within organisations
Human Aspects	•Lack of informational culture •Lack of knowledge •Lack of trainings and trained stuff •IT experts rarely cooperate with other employees

4. Recommendations

We can state that IG impacts correspond to the main tasks faced by the European Public Sector and are in the interests of a wide circle of stakeholders. For public administration the process associated with the implementation of an IG program can be seen as something more than a simple transformation of tools, processes and etc. – it affects organisational culture. These changes also impact processes and policies inside organisations and influence employees behavior.

The success of IG programs implementation depends on many factors ranging from a clearly formulated political decision to start it and a political vision to the presence of required skills and competences possessed by specialists directly involved in the implementation process.

The experts we have interviewed were eager to share their vision of what may be described as best practices of IG implementation. Having analysed those and aligned them with the main challenges of the IG implementation exercise, we have developed a series of recommendations that, in our opinion, may facilitate IG programmes development and promotion in European public administrations.

4.1 Development of the IG Policies Papers

Having an Information Governance Policy plays an important role at all stages of an IG programme. This formal document pursues four major objectives (Makhlouf Shabou 2015, p.8):

- **Determine** a strategy and decisions taken
- **Communicate** this strategy and decisions taken within organisations
- **Involve** the leadership of organisations
- **Establish** uniform practices

The leadership of organisations has a key role of approving and promoting this document intended as a political support tool.

The core elements of the document's content should expose:

- The main objectives and benefits of the IG Policy
- The legal framework
- Roles and responsibilities
- Operational tools

There is no ideal model and format of this document. In our opinion, the development

of model documents or the presence of clear and coherent recommendations for their elaboration could have a practical sense, saving time, on the one hand, and providing a sort of methodological support for the development of IG programs, on the other.

4.2 Development of the IG services for Public Administrations

The successful experience and the operating principles of the Swedish joint electronic archiving expertise organisation « Sydarkivera », in our opinion, can be used to achieve both proliferation and higher efficiency of IG programs within public administrations.

Setting up and developing service organisations may enable the founders to:

- join forces and competence for development of IG practices

- encourage politicians to be focused on long-term IG programs

- develop real business cases and benefits realization plans

- model workflow processes and information processes

- spread good practices and models

Among public administrations, municipalities potentially stand to gain most from the development of such IG services, for it is they who routinely face the greatest challenges due to financial constraints and limited human resources. Development of inter-municipality IG cooperation will help save funds, improve the quality of IG practices through involvement of highly skilled experts, and ensure interoperability and uniformity of operations.

4.3 Development of the IG « business cases »

As we have already pointed out, it is extremely important to involve politician, particularly on the local level, to facilitate promotion of IG in the public sector. This work should start with the search for a proper communication language. And while in the context of the private sector the relevant task is to elaborate an IG language that managers can understand, the equally relevant task for the public sector would be to find a language suitable for communication with politicians. In fact, this task could be seen as a broader undertaking, for the changes in the conceptual construct envisage potential changes in the very culture if information management. What needs to be planted and nurtured in the minds of politicians and the heads of governmental organisations is a perception of information as a most important resource (on a par with financial and human resources) that requires careful and deliberate management.

Besides, it is important to be in a position to demonstrate the potential benefits and advantages of IG. Development of « business cases » could be one of the tools to promote successful operational experiences and secure support and investments.

Each such case should have as a key element demonstrable efficiency of IG implementation in decreasing costs and boosting effectiveness. Although IG benefits in the public sector, in contrast to the private sector, would not always be exclusively about economic gains. For this reason, when preparing business cases it is necessary to clearly show a relationship between IG implementation and enhanced quality of public services. The task of documenting and developing cases could be performed by either public institutions themselves or IG service organisations (See Item 4.2.2).

4.4 Development of the training modules on IG

Ideally, IG, with its interdisciplinary nature, requires hybrid professionals. However, one must be realistic and realise that at this stage the relevant task would be competence enhancement of those groups of specialists who are directly involved in IG implementation. This, primarily, concerns IT and Information management specialists whose professional level determines their ability to meet IG requirements.

As one of the possible ways of raising awareness of IG and improving the [existing] professional skills, we would recommend augmenting the traditional training programmes implemented by national professional organisations or state archives with special IG modules.

The development of such training modules could be a task for higher education institutions that run courses in the field of IG (e.g. the Geneva School of Business Administration (HEG), the University College London, etc.).

With distance learning rapidly gaining ground in all areas, we deem it expedient, both in practical and economic terms, to set up special Massive open online courses (MOOC) tailored to tackle the specific needs of public administrations of different levels (from national to municipal).

5. Conclusions

In this paper we have attempted to overview Information Governance, its nature and implementation from the European Public Administrations' perspective.

We are fully aware that the structure of this paper shows certain disproportion as the

bulk of it has been built of the analysis of the data collected during the interviews. It was a conscious decision, since the level of the experts' competence is so high that we wanted to provide the widest possible coverage of their vision and experiences of IG implementation in European public administrations.

We would point out that the experts' names were not disclosed and, unfortunately, the numerous quotes and references to their opinions look somewhat faceless, or even anonymous. We had to adopt the same approach that had been used in the main Interview Review prepared for the InterPARES Project EU29. Initially, the EU29 project framework envisaged working with two groups of interviewees: the experts who were there to discuss the theoretical aspects of IG, and the practitioners to provide insights into IG implementation in public administrations. And this alignment of academic dimensions with practical experiences was to be based on the analysis of the information gathered. However, the actual composition of the interviewed group did not allow for such clear delineation, and the Interview Guide we had prepared included both theoretical and practical questions.

The limited scope of this research did not allow us to fully build our work, using the "mirror" principle, that is comparing and aligning, in a precise and detailed manner, the information received from the document and content analysis with that of the interviews analysis. For this reason, our "second look" was focused entirely on theoretical issues and only those of immediate relevance for the declared aims of this research.

This paper draws but a general picture of IG in public administrations and, doing that, makes no claim of being definitive or exhaustive. It should be borne in mind that each country and each level of public administration has its own specificity. Thus, this paper only speaks of major trends.

In our opinion, we have succeeded in capturing and reviewing a number of important issues related to the situation of IG in the public sector, identify a range of main challenges during IG implementation and suggest a number of recommendations that could facilitate the development of IG in public administrations.

In conclusion, we would like to once again stress that the IG concept corresponds to the main priorities of the European Public Sector associated with the development of a trusted basis of administration, namely, offering citizens expanded access to information while protecting private and confidential data, increase transparency of administrative decisions taken, and greater accountability to civil society. And effective implementation of IG programmes does have the potential of contributing to higher

quality of public services and improved efficiency of public administrations.

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Annexe 1 : Methodology of the research
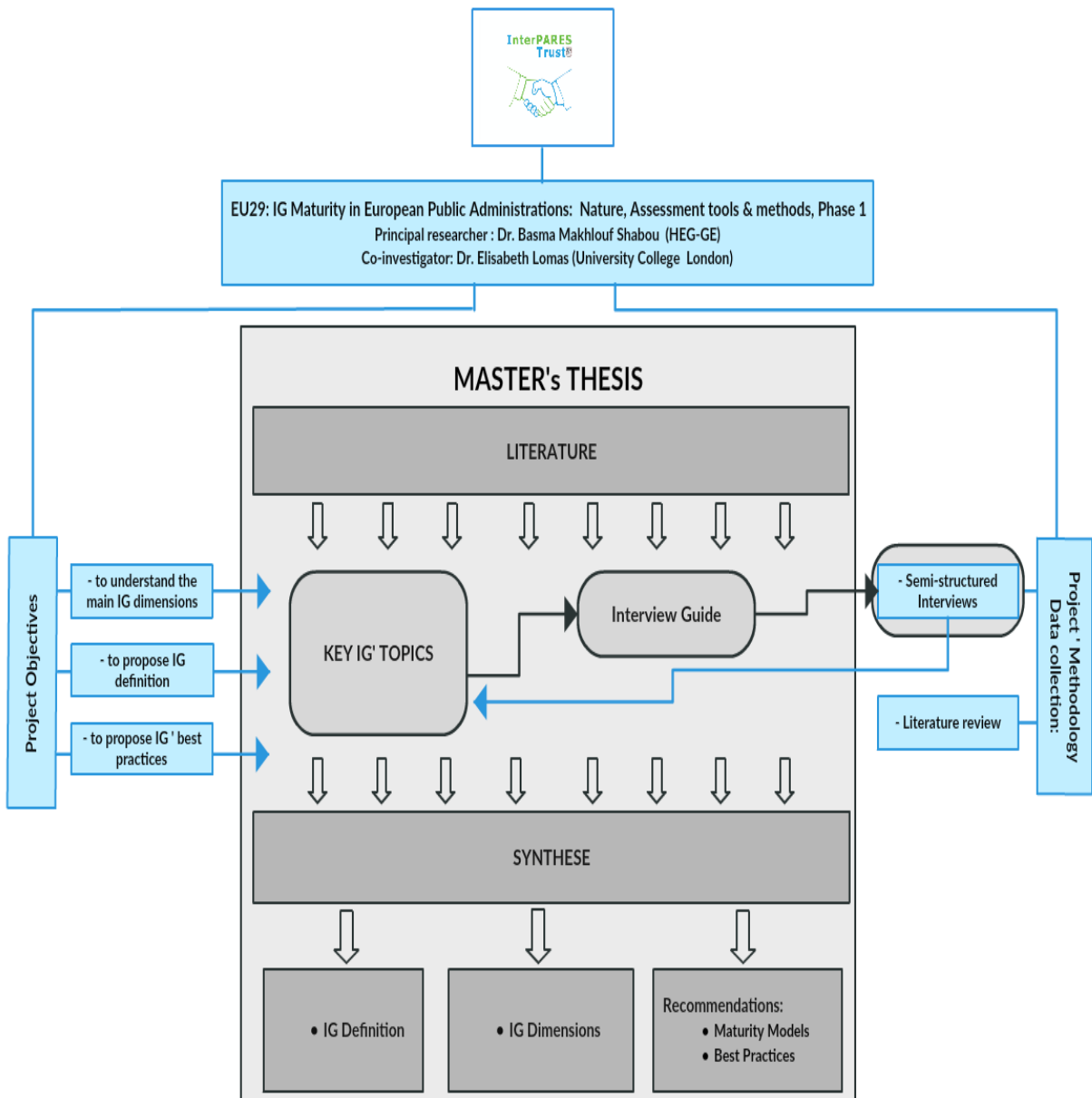
Annex 2 : « Pair of spectacles » : analysis literature grid
(years of publication 2010 - 2017)

Geographical perimeter	Resources types		IG Subjects (based on the Research' objectives)			
			Definition	Dimensions	Best Practices	Maturity Models
International	**Academics**	Monographs				
		Articles				
		Thesis				
	Reports					
	Policies					
	Other: *blogs, standards , institutional websites, low, regulations, directives , white papers, etc.*					
EU	**Academics**	Monographs				
		Articles				
		Thesis				
	Reports					
	Policies					
	Other: blogs, standards , institutional websites, low, regulations, directives , white papers, etc.					
National (by countries)	**Academics**	Monographs				
		Articles				
		Thesis				
	Reports					
	Policies					
	Other: blogs, standards , institutional websites, low, regulations, directives , white papers, etc.					

Annex 3: Interview Guide

QUESTIONS

1. Introduction
1.1. Could you tell me your name and your current position?
1.2. What is your professional experience in the Information Governance (IG) / Information Management (IM) sphere, for how many years?

2. General questions (definition, goals, impacts)
2.1. How do you define IG?
2.2. Would you like to propose your own definition?
2.3. What are the main subject dimensions of IG?
2.4. Can you explain the difference between IG and IM (if exists)?
2.5. What is the ultimate goal of IG in the European public administration' context from your point of view?
2.6. Who are the main stakeholders in European public administration' context?
2.7. What are the impacts of IG for the public administration?
2.8. How effective IG can improve public services?
2.9. How e-Government/ cyber-administration context could influence the development of IG in European public administrations?

3. IG Principals (IG Frameworks, Models)
3.1. What are the main IG principles/major fundamental considerations?
3.2. Do you have any experience with ARMA' Generally Accepted Recordkeeping Principals (GARP)?
3.3. Which IG principals are the most important for the European public administration' context?
3.4. Can you recommend any IG Model?

4. IG Standards (Standards, Norms, regulations, Internal policies)
4.1. What is a legal frameworks for the IG in the European public administration' context? (ISO, EU regulations, national and international standards?)

5. IG Implementation in Public Sector

General
5.1. Does the establishment of IG require any particular changes in an organization's culture or processes?

5.2. Is there the necessity to complete an organisational needs assessment as an important starting point for setting up an IG program?

IG Strategy
5.3. Is there the necessity to develop a formal IG Strategy/ Policy /governance plan or document?
5.4. (if «yes») How it should be structured, disseminated and implemented?

Roles and Responsibilities

5.5. Is there the lack of confidence and understanding surrounding the conception of IG in Public Sector?

5.6. Who is responsible for IG program/strategy/policy/project implementation?

5.7. Who are the main actors?

5.8. Is the professional level of information management staff is sufficient for the IG Implementation?

5.9. (if «not») What kind of training can you recommend?

IT Aspect

5.10. Do you know some IT tools of IG? Do you use them?

6. IG Assessment and Maturity models

6.1. How to measure the relevance of IG practices/strategies?

6.2. Do you think that development of the IG Maturity models is useful and why?

6.3. Can you recommend some?

6.4. Is GARP applicable to all IG domains? Could you characterize GARP as a universal approach?

7. IG Risks Management

7.1. Please, identify the major IG Risks.

7.2. Please Identify the major IG Risks in the context of European Public Sector?

7.3. Do you have any experience with identification and mitigation of the IG Risks.

8. Best practices and Recommendations

8.1. What is your favorite story about IG?

- General context, European context

9. Challenges

9.1. What are the main constraints and organisational barriers for IG?