

The theoretical framework of the 'Archive-as-Is'.

an organization oriented view on archives. Part I. Setting the Stage: enterprise information management and archival theories

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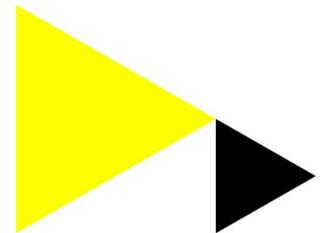
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Archives in Liquid Times

Jaarboek 17

edited by

Frans Smit, Arnoud Glaudemans, Rienk Jonker

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The Theoretical Framework for the 'Archive-As-Is'. An Organization Oriented View on Archives

Part I. Setting the Stage: Enterprise Information Management and Archival Theories

1. Introduction

1.1. *The problem: Information Chaos within organizations*

The definition of a business strategy is a common practice to capitalize on new market opportunities and to do better than direct competitors. Projected on the information management processes of an organization, a business strategy clarifies how information can be used for reaching business objectives (Baets, 1992; Peppard and Ward, 2016). It can be used for quick responses to needs of customers, adjustments to changes in the organizational environment, and improvements in competitiveness. Most of this information is recorded in different types of information objects that are embedded within organizational business processes and are, as such, important business assets.

Enterprise Information Management (EIM) tries to enable organizations to secure these business assets across the complex landscapes of organizational departments, legacy systems, corporate and regulatory policies, business content, and big data (Chaki, 2015). It organizes the information value chain in capturing, structuring, describing, preserving, and governing information objects across organizational, temporal, and technological boundaries to allow business strategies to reach their objectives (Van Bussel, 2012abc; Van de Pas and Van Bussel, 2015ab). It has not been overly successful, because it concentrates almost exclusively on structured information (objects), as the result of being influenced extensively by computer science. But more than 80 % of all information objects in organizations are unstructured and with big data on the rise, that amount is growing quickly (Van Bussel, 2012b).

More than forty years ago, Alvin Toffler (1970) coined the term 'information overload'. Today's world is characterized by an increasing information flood, completely fulfilling Toffler's forecasts. According to IDC, in 2020 the digital universe (the information objects created and copied annually) will reach 44 zettabytes (44 trillion gigabytes) (Turner et al, 2014). Because EIM has neglected the management of unstructured information objects, many of these objects

cannot be quickly found when needed. Knowledge workers spend up to 40% of their working day searching for information (objects) (Nel, 2015; Naidoo and Nsibirwa, 2015). They spend 15-25% of their time on information-related tasks (Brocke et al, 2011). An 'information chaos' caused by the inability of EIM to capture this large influx of unstructured information objects compromises the ability of organizations to reach business objectives. This chaos is the rule rather than the exception in contemporary organizations (Redman, 2004).

The abundance of (structured *and* unstructured) information objects leads to organizational challenges. To facilitate fail-proof information management guaranteeing accountability, compliance, and security is by no means new (Hausmann et al, 2014; Patnayakuni and Patnayakuni, 2014). Until a few years ago, organizations captured and controlled information objects in an infrastructure that did not cross the borders of the organizational structure. If accountability, compliance, security, or other business-related issues arose, there was a single 'point of control' defined (Davenport and Prusak, 1997). That 'point of control' became diffused with the ongoing integration of business processes between different organizations, stimulated by sharing information objects through (for instance) social media (McAfee, 2006) and the breakthrough of supply chain and ERP systems causing information integration (Srinivasan and Dey, 2014). As it became common practice to share information objects between different parties, it could become difficult to ascertain which of the integrated process owners was responsible for accountability, compliance, security, or information accessibility. It is proving challenging for traditional ways, methods and technologies to achieve the expected information quality, compliance and information governance (Van de Pas and Van Bussel, 2015ab). Guaranteeing an accountable, compliant, transparent, and effectively performing organization in a dynamically changing ICT environment, recognizing both structured and unstructured information objects, is problematic. EIM's focus is changing to incorporate unstructured information objects, but lacks the theoretical foundation to do so effectively.

1.2. The solution: the organizational archive and its records?

The key for such a theoretical foundation for EIM may be 'the archive' (Van de Pas et al, 2016). For defining business strategies, Smith and Steadman (1981) already acknowledged organizational archives as crucial resources. They are very important for organizational accountability, business process performance, and reaching business objectives. They have, unfortunately, not been recognized as such for many years and for that reason have been badly managed by organizations, do not meet quite common quality requirements, and are almost non-contextual (Redman, 2004; Groth, 2007). Without these characteristics, it is impossible to realize the primary goals of archives: a reliable reconstruction of past happenings, delivering evidence, and meaningful production (Van Bussel, 2012abc), extremely diminishing their organizational value.

Organization-wide management of archives has not been a common functionality for EIM (Serova, 2012). The neglect in the management of organizational archives has resulted in [1] fragmented storage of both structured and unstructured information objects in a variety of information systems, unconnected with their metadata and the organizational archive they belong to; [2] fragmented metadata,

separated from the information objects that caused their genesis and not embedded into the metadata layers of the organizational archive, leading to a loss of contextuality; and [3] a declining quality of information objects, because their provenance, integrity, and preservation are in peril (Van Bussel, 2016).

Two concepts are essential for integrating structured *and* unstructured information objects within EIM to exploit the value(s) of information in defining effective business strategies: records and archives. Records are combinations of information objects (structured and unstructured data, data sets, and data objects) and their metadata, generated and used in the course of (business) processes, actions, and transactions, stored in an organizational (or personal) archive, irrespective of format used, with a unique (fixed or reconstructable) content, context, and structure, and retained and preserved for whatever reason organizations (or individuals, groups, or families) want to set them aside (business use, compliance, accountability, evidence, future reference, curiosity, historical value, extension of human memory, etc.) or for whatever period of time they (or parts of them) are retained (Van Bussel, 2016; Yeo, 2007). Archives (or data stores) are organizational or personal constructs, embedded in and enriched by metadata about their creation, organizational environment, and management, in which records (from the moment of their creation) are persistently stored and managed with the objectives of reliably reconstructing the past, delivering evidence, and realizing meaningful production.¹ The term can be used for *any* construct of records that is meant to be retained, like YouTube, Twitter, Pinterest, etc., but also more traditional organizational or personal compositions of records (Van Bussel, 2012b). Both concepts do not differentiate between structured and unstructured information objects.

To allow for the integration of structured and unstructured information objects, EIM needs a theoretical foundation based on records and archives that is aimed at realizing organizational objectives.

1.3. The objective: a theoretical foundation

Both computer and Information science cannot be expected to define this theoretical foundation for EIM, although they have developed many useful concepts and theories.

As shown in Tables 1 and 2, an analysis of the contents and abstracts of five top journals each for computer and information science from 2010-2016 shows that both sciences do not really acknowledge the concepts records and archives. They are rarely used, even while there are many articles in these journals describing information objects within business processes used for organizational objectives that are traditionally known as records or archives. In these journals, they are called digital artefacts, documents, data objects, repositories, archival collections, archival documents, or storage platforms. These articles were *not* included in the analysis visualized in Table 1 and 2, just like the three articles using the terms 'archiving' and 'archivists'. In the end, only 25 articles (from the 5.319 articles reviewed) mention the concept records or archive(s) (or both) in its title or abstract.

¹ In this interpretation of the concept 'archive', I am following the Dutch archival tradition that uses the term 'archive' to designate an organizational (or personal) construct of [1] current (or active) records; [2] semi-active or semi-current records; [3] inactive or non-current records; and [4] permanent records, the whole body of records of continuing value of an organization or person.

Twelve articles use the concepts only to indicate specific information objects ('(personal) health records', 'medical records', 'patient records', 'personal records', 'archives'). Eleven articles use the concepts to indicate aspects of the management of records and archives: 'records management', 'records management systems', 'records management metadata', 'records laws', 'archival finding aids', 'records management strategies', 'record search', and '(functional) records classification'. One article explores the relationship between information culture and records management and offers an interesting theoretical discourse, but it is not meant to be a theoretical framework for records and archives (Sundqvist and Svärd, 2016). In the articles analysed, there is only one that offers a theoretical framework, a formal model for digital archives as cultural heritage (Ferro and Silvello, 2013). It is not a full-scale framework for records and archives, but a very useful application of digital library research to archives as cultural heritage. Ferro and Silvello propose a formal model, called NESTed SETs for Object hierarchies (NESTOR). The model is used to extend the 5S model, a unified formal theory for Digital Libraries. It allows for a definition of a digital archive as a specific digital library able to cope with the peculiar features of archives (as context and hierarchy) and provides archives with the full wealth of digital library technologies and methods.

Journal	Impact	Articles (Total)	Articles (Concepts mentioned)	Articles (frameworks defined)
<i>Computer Science</i>				
MIS Quarterly: Management Information Systems	6.984	358	1 (record)	0
Information Systems Research	4.397	408	3 (record)	0
ACM Computing Surveys	3.405	417	0	0
Journal of Management Information Systems	3.036	306	0	0
IEEE Transactions of Industrial Informatics	2.513	1.086	0	0
<i>Information Science</i>				
Library and Information Science Research	1.629	272	3 (record)	0
Journal of the Association for Information Science and Technology	1.601	1.340	5 (record, archival finding aid)	0
Information and Organization	1.306	90	1 (record)	0
International Journal of Information Management	1.173	541	9 (record, archives)	0
Information Processing and Management	0.897	501	3 (record, archives)	1
		5.319	25	1
		100%	0,47 %	0,0188 %

Table 1. Analysis of content of applicable top journals 2010-2016 (Scimago Journal and Country Rank (April 26, 2017))

Journal	Article
MIS Quarterly: Management Information Systems	1. Kohli, R., and S.S.L. Tan (2016). 'Electronic Health Records: How Can IS Researchers Contribute to Transforming Healthcare?', <i>Mis Quarterly</i> , Vol. 40, No. 3, pp. 553-573.
Information Systems Research	2. Ozdemir, Z., J. Barron, and S. Bandyopadhyay (2011). 'An analysis of the adoption of digital health records under switching costs', <i>Information Systems Research</i> , Vol. 22, No. 3, pp. 491-503. 3. Oborn, E., M. Barrett, M., and E. Davidson (2011). 'Unity in diversity: electronic patient record use in multidisciplinary practice', <i>Information Systems Research</i> , Vol. 22, No. 3, pp. 547-564. 4. Mishra, A.N., C. Anderson, C.M. Angst, and R. Agarwal (2012). 'Electronic health records assimilation and physician identity evolution: An identity theory perspective', <i>Information Systems Research</i> , No. 3 (part 1), pp. 738-760.
Library and Information Science Research	5. Kettunen, K., and P. Henttonen (2010). 'Missing in action? Content of records management metadata in real life', <i>Library & information science research</i> , Vol. 32, No. 1, pp. 43-52. 6. Sinn, D., S.Y. Syn, and S.M. Kim (2011). 'Personal records on the web: Who's in charge of archiving, Hotmail or archivists?', <i>Library & Information Science Research</i> , No. 4, pp. 320-330. 7. Oltmann, S.M., E.J. Knox, C. Peterson, and S. Musgrave (2015). 'Using open records laws for research purposes', <i>Library & Information Science Research</i> , Vol. 37, No. 4, pp. 323-328.
Journal of the Association for Information Science and Technology	8. Nov, O., and W. Schecter (2012). 'Dispositional resistance to change and hospital physicians' use of electronic medical records: A multidimensional perspective', <i>Journal of the Association for Information Science and Technology</i> , Vol. 63, No. 4, pp. 648-656. 9. Steele, R., K. Min, K., and A. Lo (2012). 'Personal health record architectures: technology infrastructure implications and dependencies', <i>Journal of the American Society for Information Science and Technology</i> , Vol. 63, No. 6, pp. 1079-1091. 10. Li, T., and T. Slee (2014). 'The effects of information privacy concerns on digitizing personal health records', <i>Journal of the Association for Information Science and Technology</i> , Vol. 65, No. 8, pp. 1541-1554. 11. Huvila, I., Å. Cajander, M. Daniels, and R.M. Åhlfeldt (2015). 'Patients' perceptions of their medical records from different subject positions', <i>Journal of the Association for Information Science and Technology</i> , Vol. 66, No. 12, pp. 2456-2470. 12. Freund, L., E.G. Toms (2015). 'Interacting with archival finding aids', <i>Journal of the Association for Information Science and Technology</i> , Vol. 67, No. 4, pp. 994-1008.
Information & Organization	13. Davidson, E. J., C.S. Østerlund, and M.G. Flaherty (2015). 'Drift and shift in the organizing vision career for personal health records: An investigation of innovation discourse dynamics', <i>Information and Organization</i> , Vol. 25, No. 4, pp. 191-221.
International Journal of Information management	14. Külcü, Ö., and T. Çakmak (2010). 'Evaluation of the ERM application in Turkey within the framework of InterPARES Project', <i>International Journal of Information Management</i> , Vol. 30, No. 3, pp. 199-211. 15. Xie, S.L. (2013). 'National strategy for digital records: Comparing the approaches of Canada and China', <i>International Journal of Information Management</i> , Vol. 33, No. 4, pp. 697-701. 16. Shaw, N. (2014). 'The role of the professional association: a grounded theory study of electronic medical records usage in Ontario, Canada', <i>International Journal of Information Management</i> , Vol. 34, No. 2, pp. 200-209. 17. Asma' Mokhtar, U., and Z.M. Yusof (2015). 'The requirement for developing functional records classification', <i>International Journal of Information Management</i> , Vol. 35, No. 4, pp. 403-407. 18. Vilar, P., and A. auperl (2015). 'Archives, quo vadis et cum quibus?: Archivists' self-perceptions and perceptions of users of contemporary archives', <i>International Journal of Information Management</i> , Vol. 35, No. 5, pp. 551-560.

International Journal of Information Management	<p>19. Sundqvist, A., and P. Svård (2016). 'Information culture and records management: a suitable match? Conceptualizations of information culture and their application on records management', <i>International Journal of Information Management</i>, Vol. 36, No. 1, pp. 9-15.</p> <p>20. Gagnon, M.P., D. Simonyan, E.K. Ghandour, G. Godin, M. Labrecque, M. Ouimet, and M. Rousseau (2016). 'Factors influencing electronic health record adoption by physicians: A multilevel analysis', <i>International Journal of Information Management</i>, Vol. 23, No. 3, pp. 258-270.</p> <p>21. Asma' Mokhtar, U., Z.M. Yusof, K. Ahmad, and D.I. Jambari (2016). 'Development of function-based classification model for electronic records', <i>International Journal of Information Management</i>, Vol. 36, No. 4, pp. 626-634.</p> <p>22. Mokhtar, U.A., and Z.M. Yusof (2016). 'Records management practice: The issues and models for classification', <i>International Journal of Information Management</i>, Vol. 36, No. 6, pp. 1265-1273.</p>
Information processing and Management	<p>23. Romero, F.P., I. Caballero, J. Serrano-Guerrero, and J.A. Olivares (2012). 'An approach to web-based personal health records filtering using fuzzy prototypes and data quality criteria', <i>Information Processing & Management</i>, Vol. 48, No. 3, pp. 451-466.</p> <p>24. Ferro, N., and G. Silvello (2013). 'NESTOR: A formal model for digital archives', <i>Information Processing & Management</i>, Vol. 49, No. 6, pp. 1206-1240.</p> <p>25. Amini, I., D. Martinez, X. Li, and M. Sanderson (2016). 'Improving patient record search: A meta-data based approach', <i>Information Processing & Management</i>, Vol. 52, No. 2, pp. 258-272.</p>

Table 2. Articles mentioning records and/or archives in applicable top journals 2010-2016

The professional practice of records management (or recordkeeping), recognizing both concepts, aims to support organizations in their business conduct and should be aligned with business and information systems, risk management, and information governance (McLeod and Lomas, 2015). Although it should have been aligned with EIM, in organizational reality it is not (Alalwan and Weistroffer, 2012). Most organizations do not align records management with business processes and strategies (Van Bussel, 2016). Records Management is based on best practices, pragmatic considerations and borrowed theories from other disciplines such as archival science, information science and management. It lacks its own theoretical basis, as an analysis of the contents and abstracts of the 392 primary articles of its only scholarly journal, *Records Management Journal* (Impactscore: 0.324) shows. The two articles defining encompassing frameworks for records management are based directly on theories from archival science (Yusof and Chell, 2002; Ismail and Jamaludin, 2009). Its reputation is that of 'the handmaiden of archives administration' (McLeod and Lomas, 2015, p. 349), a keeper of 'old documents', and an inconvenience or technicality. It is one of the main reasons for the organizational misunderstanding about the value of records management.

For EIM to find a theoretical foundation based on records and archives, only archival science seems to offer applicable, encompassing theoretical frameworks. There are two different views within archival science, the Records Continuum Theory and Digital Diplomacy. The theories focus on the cultural and evidential value of archives respectively. They do not pay much attention to the (organizational

or personal) construction of archives and their value for reaching organizational objectives and defining business strategies. It is remarkable, for instance, that in the more than 1.000 pages of *Research in the Archival Multiverse*, the most recent collection of essays on archival science research (Gilliland, McKemmish and Lau, 2016), the organizational (or personal) construction of archives receives no attention at all. The analysis of these two theoretical frameworks will be very important in defining a new one, more aimed at organizational value, reaching business objectives and defining business strategies. This new framework could be the theoretical foundation needed for EIM to use records and archives for reaching business objectives and in defining and realizing business strategies. Defining this new theoretical framework is the objective of the second part of this article.

1.4. Research methodology

This new theoretical framework is a result of my long-term research into the relationships between organizational accountability, digital archiving and EIM (2008-2016). During this research, an interpretive research approach was followed, primarily based on Orlikowski and Baroudi (1991). In this approach, in order to explore phenomena without imposing an *a priori* understanding, a non-deterministic perspective is necessary. The research for this article is based on:

1. An analysis of a corpus of scientific literature, based on the literature review methodology of Okoli and Shabram (2010). This corpus consisted of 1152 conference papers, journal articles, working papers and books. These items were collected using key word search in the Digital Library of the University of Amsterdam, IEEE Xplore Digital Library, ACM Digital Library, Google Scholar, Microsoft Academic Search, EBSCO, Emerald Insight, and Paperity.
2. An analysis of the application descriptions of 17 case studies, organized and analysed for the research reported in Van Bussel and Ector (2009) about digital archiving, organizational accountability and governance in public organizations. These case studies were organized according to the case study methodology, designed by Yin (2003), supplemented with Benbasat, Goldstein and Mead (1987) for their method of action research.
3. In-depth, semi-structured interviews with ten records management, EIM, and business specialists about the analysis of the corpus of literature, the case studies, and the new theoretical framework in its different stages of design.

1.5. Outline of this article

This article is published in two parts. This first part is setting the stage. In the introduction, EIM and its lack of a suitable theoretical foundation is introduced. This is followed with a delineation about the archival renaissance in the last decade of the twentieth century, when the 'archive' was 'reborn' as a 'theoretical archive', almost completely dissociated from organizational practice and characterized as a conceptual domain for many disciplines. After this, the leading archival theories in the first decades of the twenty-first century are discussed. The first part ends with a conclusion about the value of these archival theories for the theoretical framework that is discussed in the second part of the article. This second part will be an in-depth discussion of the new framework, developed as a way for EIM to use records and archives for reaching business objectives.

2. The Archival Renaissance

2.1. Foucault and Derrida

Since the early 1990s, in the wake of a new edition of Michel Foucault's (1992) *L'Archéologie du savoir*, archives have become the conceptual domain of a range of disciplines, most notably literary and cultural studies, philosophy, and anthropology. Foucault was, in essence, the pioneer of 'the theoretical archive' that is entirely dissociated from its conventional definition(s) and practices. The Foucauldian archive does not reproduce but produces meaning; it is not a monument for future memory, but a 'document' for possible use (Foucault, 1975, p. 193). Jacques Derrida, who reformulated the notion of an archive in terms of psychoanalysis, has pointed out in his highly complex 'Mal d'Archive' (1995a, p. 141) that 'rien n'est moins sûr, rien n'est moins clair aujourd'hui que le mot d'archive' ('nothing is less reliable, nothing is less clear today than the word 'archive': Derrida, 1995b, p. 57). For Derrida (1995a, p. 34) the process of archivization (a term which meaning is not always clear) 'produit autant qu'elle enregistre l'événement' ('produces as much as it records the event': Derrida 1995b, p. 17).²

We are confronted with what Marlene Manoff (2004, p. 14) has called 'the postmodern suspicion of the historical record'.³ For archives are not passive receptacles: they shape and control the way the past is read. As Derrida (1995a, p. 15-16 (note 1); 1995b, p. 10-11 (note 1)) says, there is no power without control of 'the archive'. But, at the same time, 'postmodernists' are ambivalent about archives. They doubt the dominance of historical narratives (and that is not without reason). They view archives as 'traces of missing or destroyed universes of records and activity' and as 'trick mirrors distorting facts and past realities in favour of the narrative purpose' of authors and audiences (Cook, 2001, p. 9). Nevertheless, they resort to history and historical analyses. Foucault's historical studies on criminology and sexuality are exemplary examples (Foucault, 1975, 1976, 1984).

2.2. An inflation of terms

Archives are 'loosening and exploding' (Manoff, 2004, p. 10). In the resulting inflation of the term, archives have become 'loose signifiers for a disparate set of concepts' (Manoff, 2004, p. 10), such as: the 'social archive' (Greetham, 1999), the 'raw archive' (Galín and Latchaw, 2001), the 'postcolonial archive' (Shetty and Bellamy, 2000), 'the popular archive' (Lynch, 1999), 'the ethnographic archive' (Marcus, 1998), 'the geographical archive' (Withers, 2002), and 'the liberal archive' (Joyce, 1999). It leads Marta Voss and Paul Werner (1999) to dwell on 'the poetics of the archive'. It has been suggested that the changes in information technology are responsible for this inflation. The technological revolution, after all, has altered 'our relationship to the archive' (Voss and Werner, 1999, p. ii), it

² I will not elaborate here on the poststructuralist view of the archive, as expressed by Foucault and Derrida. For introductory reading: G. Bennington, 'Derrida's Archive', *Theory, Culture & Society*, Vol. 3 (2014), No. 7/8, pp. 111-119; B. Brothman, 'Declining Derrida: integrity, tensegrity, and the preservation of archives from deconstruction', *Archivaria*, Vol. 48 (1999), Fall, pp. 64-89; K.O. Eliasson, 'The Archives of Michel Foucault', E. Røssaak (ed.), *The Archive in Motion: New Conceptions of the Archive in Contemporary Thought and New Media Practices*, Oslo, Novus Press, 2010, pp. 29-51; S. Lubar, 'Information culture and the archival record', *The American Archivist*, Vol. 62 (1999), Spring, pp. 10-22; M. Morris, 'Archiving Derrida', *Educational Philosophy and Theory*, Vol. 35 (2003), No. 3, pp. 297-312; and R. Vosloo, 'Archiving otherwise. Some remarks on memory and historical responsibility', *Studia Historiae Ecclesiasticae*, Vol. 31 (2005), No. 2, pp. 379-399.

changed 'the archive' into 'a metaphor for what we are not yet able to grasp about the nature of digital collections' (Manoff, 2004, p. 10), and it resulted in such an addiction to live connections to cyberspace that to lose them is 'to die', that is 'to be disconnected from access to the archives, not jacked-in or not in real time' (Mackenzie 1997, p. 66). Andreas Huyssen (2000, p. 33) and Marlene Manoff (2001, p. 371-372) argue that the development of information technology has led to anxiety about the preservation of cultural heritage, to fears about the loss of historical awareness resulting from a loss of roots in time and space, and to cultural and historical amnesia because of information technology defects. Both argue that technological changes have bolstered an obsession with historical information. That is possible, just as it is undeniable that information technology changes affect information growth and influence the way organizations create, use, and store information (Van Bussel, 2012a). But it is, in my opinion, doubtful if they caused the inflation of the term 'archive'. The continuous use of that term in multidisciplinary contexts for very different types and collections of information objects and records seems a more probable cause for that inflation.

2.3. The 'Archival Turn'

The terms 'archive' and 'archives' seem to be used as keywords for questions of, among others, memory, evidence, taxonomy, governance, and justice. This preoccupation with 'the archive' is characterized as the 'archival turn', which can be seen as a follow-up (or a part) of the 'historical turn' (McDonald, 1996). The term signifies the repositioning of 'the archive' as a subject of investigation, more than as a mere site for research or a collection of records for research use. As Ann Stoler (2002, p. 87) states, using poststructuralist arguments: the 'archival turn' means looking to archives more as epistemological experiments of the past than as historical sources, as cross-sections of contested knowledge, as transparencies inscribed with power relations, and technologies of rule. The 'archival turn' positions 'the archive' as, as Jacques Derrida (1995a, p. 60) states, 'n'est pas la question d'un concept dont nous disposerions ou ne disposerions pas déjà au sujet du passé, C'est une question d'avenir' ('[not] the question of a concept dealing with the past which already might be at our disposal or not at our disposal, ...[but rather] a question of the future': Derrida 1995a, p. 27). It is an intriguing concept that opened doors for exhilarating research. This 'turn' has stimulated scientists to research the role of 'the archive' in social conditions and in postcolonial, post-trauma, and post-conflict societies. Seen as 'the decolonisation of the archive', it is situated in discourses on postcolonialism and postcoloniality (Stoler, 2002). It is studied as a political space, as a societal concept for the promotion of power, nationalism, surveillance, and for the silencing of alternative narratives (Burton, 2005; Chakrabarty, 2000; Faulkhead, 2009; Ketelaar, 2002; Stoler, 2009; McKemmish et al, 2011). 'The archive' is used as a concept in themes as race and

³ Postmodernism is used as a rather loose label to identify a number of theoretical approaches developed since the 1960s. Poststructuralism, as a much more precise but less inclusive term, is used to refer to the French theorists Jacques Derrida, Michel Foucault, Jacques Lacan, Julia Kristeva, and Roland Barthes. They demonstrate the dependence of structures on what they try to eliminate from their systems. They diverge from one another in many ways, but they have in common the attempt to uncover the unquestioned dependencies and metaphors that uphold social and cultural norms. Postmodernism also includes theorists that are influenced by but are not within poststructuralism: Gilles Deleuze, Felix Guattari, Jean-Francois Lyotard, and Jean Baudrillard. Many theorists (like Gatyatri Spivak, Judith Butler, and Donna Haraway) are critical of postmodern theory but find elements of it very useful. Postmodernists and poststructuralists do not constitute a single school and there is as much disagreement among them as between them and other types of theory.

ethnicity, identity, gender, sexual orientation, and transnational approaches of migration (Kaplan, 2000; Cvetkovich, 2003; Wurl, 2005; Dunbar, 2006; Rawson, 2009; Campt, 2012; White, 2017). It is about the epistemological and symbolic role of 'the archive' in a trans-disciplinary, multicultural, pluralistic, and increasingly interconnected and globalised world (Dunbar, 2006; Kaplan, 2000; Wurl, 2005). The organizations that generated the archives disappeared from consideration.

2.4. Rethinking the archive

Archival scholars, as Upward (1996, 1997), Brothman (1999, 2001), Cook (1997, 2001), Ketelaar (1999, 2000a, 2017), Nesmith (1999, 2002), and, recently, Wood et al (2014) are engaged in re-thinking and debating archival theory in the wake of the 'archival turn', using postmodern (especially poststructuralist), structurationist, and postcustodial theories⁴ and the concept of (Derridean) archiviology, 'une science générale de l'archive, de tout ce qui peut arriver à l'économie de la mémoire et à ses supports, traces, documents ...' (Derrida, 1995a: 56; 'a general science of +the archive, of everything that can happen to the economy of memory and to its substrates, traces, documents ...': Derrida, 1995b, p. 34). These archival scholars, in their enthusiasm of this 'archival turn', are using the term 'archive' in poststructuralist sense, and are moving away from its traditional meaning(s), practices, and environments. They view 'the archive' as manifesting power, memory and evidence paradigms of past times and places (Stoler, 2002).

In the 1980s and 1990s, there was an intensive theoretical discourse about [1] the adoption of archival principles as 'respect des fonds' and 'provenance' (Bearman and Lytle, 1985; Carucci, 1992); and [2] the re-examinations of appraisal theory, instigated by Booms' (1987) evaluation of appraisal. The discourse revolved especially around how acquisition of archives by heritage institutions could represent society or social justice. Renewed attention to macro-appraisal theories (for the first time expressed by Hermann Meinert (1939)) and development of documentation strategies are expressions of that discourse. Acquisition was (and is) subject of theoretical (and practical!) scrutiny as it was challenged with rising amounts of information and a proliferation of information objects and records created by new technologies (Samuels, 1991, 1992; Duranti, 1994; Menne-Haritz, 1994; Brown, 1995; Cook, 2005). This discourse is still going strong: Shilton and Srinivasan (2007) and Huvila (2008), for instance, apply participatory design ideas to appraisal, and define the concept of participatory appraisal. Van Bussel (2012c) embedded appraisal within information relevancy theories that emphasize the change in information relevance over time.

3. The archival theoretical frameworks

3.1. The postmodern and structurationist meta-view of the Records Continuum

3.1.1. The Records Continuum theory and its long-term contribution

In the mid-1990s, Frank Upward (1996, 1997) defined his records continuum theory and model, with additional models following several years later (Upward, 2000). The continuum theory is influenced by Australian postcustodial practices, postmodernist thinking, and the social theory of structuration (McKemmish, 2001, p. 346-347; McKemmish, 2017, p. 137). Upward was especially triggered by Giddens'

view that societies are shaped by individuals and their structures (or traces of memory, as Giddens (1984, p. 378) calls them). Unlike the linear theory of information, thinking along the continuum emphasizes the continuous change in the context of information 'in spacetime' (Upward, 2000, p. 117-119). According to Xiaomi (2003), the theory is trying to integrate records and archives management, which is correct and its original intention as is clearly defined in Upward (1996). Upward (2000, p. 117) claims that his theory (and its postmodern and structurationist motivation) represents 'a fully-fledged paradigm shift in which a worldview is being replaced', for it ends the 'life cycle worldview' that is based on 'the separation of space and time'. This claim that the theory is a paradigm shift has been supported (Thomassen, 1999; Cook, 1997, 2000a, 2001; McKemmish, 2001), but it has been correctly put into perspective by Luciana Duranti (2001) and Charles Jeurgens (2014). It is, at least, an exaggeration, for thinking in a semiotic spacetime continuum was introduced by the pragmatic philosopher Charles Peirce in the late nineteenth century (Morrissey, 2002; see also Upward (2017), without recognizing the contradiction with his earlier statement).⁵

⁴ The *structuration theory* (or concept) of Anthony Giddens (especially in: *The constitution of society: Outline of the theory of structuration*, Cambridge, Polity Press, 1984) is developed as a social theory that tries to comprehend human social behaviour by studying the interfaces between actors (agencies) and structures. Giddens believes that actors operate within contexts of rules resulting from social structures. These structures do not have inherent stability outside the human action that constructed them. Agents modify social structures by acting outside their constraints. Giddens proposes three kinds of structure in a social system: [1] *signification*, a codification of meaning in language and discourse; [2] *legitimation*, normative perspectives implemented as societal norms and values; and [3] *domination*, the ways power is applied in the control of resources. Those structures are met by three kinds of interaction: [1] the communication of meaning; [2] morality or sanction; and [3] power relations. Structures and interactions 'communicate' with each other using a matching set of three modalities: [1] interpretive schemes; [2] norms; and [3] facilities. The object of the structuration theory are the conditions which govern the continuity and/or dissolution of structures and types of structures. In 1981 F. Gerald Ham ('Archival Strategies for the Postcustodial Era', *The American Archivist*, Vol. 44, No. 3, pp. 207-216) presented *postcustodialism*, a set of archival strategies that featured a decentralized computer environment that realized easy and centralized access to complex and decentralized archives. Ham did not argue that archivists should stop managing custodial holdings, but that they needed strategies to navigate the complex realities of the twentieth century. David Bearman ('An indefensible bastion: Archives as a repository in the electronic age', Technical report, *Archives and Museum Informatics*, Vol 13 (1991), pp. 14-24) went into extremes when arguing that archivists should avoid taking any custody at all of electronic records. In a networked world, 'it doesn't matter much where records or users are', as long as archivists have intellectual control. This provocative statement was endorsed in Australia (F. Upward and S. McKemmish, 'Somewhere Beyond Custody: literature review', *Archives and Manuscripts*, Vol. 22 (1994), No. 1, 136-149), but was abandoned several years later by the National Archives of Australia. In the establishment of a digital preservation project, it was argued that digital records ideally should be transferred to archival repositories for custody. In 2017, physical custody of archives is the stated preference of most archival programs as a result of the acceptance of 'trusted digital repositories'. A. Cunningham, 'Postcustodialism', L. Duranti and P.C. Franks, *Encyclopedia of Archival Science*, Lanham, Rowman & Littlefield, 2015, pp. 274-278.

⁵ Apart from Peirce's pragmatic thinking of a semiotic spacetime continuum, the concept of a records continuum can be dated to the 1950s when Ian Maclean, the Australian national archivist, stated that archival science should be directed toward studying the characteristics of records, record keeping systems, and classification processes. He promoted a view of a management continuum for records. See: F. Upward, 'In Search of the Continuum: Ian Maclean's 'Australian Experience' Essays on Recordkeeping', S. McKemmish and M. Piggott, *The Records Continuum: Ian MacLean and Australian Archives: first fifty years*, Clayton (Vict.), Ancora Press, 1994, pp. 110-130. In 1985, Canadian archivist Jay Atherton made the word 'continuum' explicit for a way of integrated management of all interrelated stages of records, pointing out the information management weaknesses of the lifecycle model. This model is based on the premise that the 'life' of a record can be divided into two distinct, separate stages of responsibility: that of records management (with creation, classification, maintenance and use, and disposition of records) and that of archives management (with acquisition, description, preservation, and reference and use of archival records). J. Atherton, 'From life cycle to continuum: Some thoughts on the records management-archives relationship', *Archivaria*, Vol. 21 (1985), Winter, pp. 43-51. Upward's theory is the culmination of thinking about a records continuum, philosophically enriched by postmodernisms and Giddens' structuration theory.

The continuum theory and model are based on four dimensions: create, capture, organize, and pluralize, corresponding with four steps of time-space distancing mentioned by Giddens (1984, p. 298) in an analytic example (!). The dimensions of the continuum describe how organizational archives (and the records captured within them) are disembedded from their original context(s) of use to become a part of a collective memory and carried through spacetime. Their context is represented by the axes of evidentiality, transactionality, record keeping, and identity (Upward, 2005). The theory is not about the archives themselves, it is about the information management activities that add new contexts to them such as capturing them into systems, or adding metadata. The status of archives is interpreted as part of a continuum of activity related to known and unknown contexts, to known or unknown social, cultural, political, and legal processes. According to the theory, it is this metaview, these contexts that are vital to interpret and (potentially) understand the role and value of archives in past, present, and future (McKemmish et al, 2010). A continuum approach highlights from the beginning that archives are both current and historical, representing one of the core concepts of structuration: the duality of structures. Archives and their records are viewed as fixed in content and structure, linked to mutable, ever-broadening layers of metadata to clarify their meaning and to enable their accessibility and usability over time (McKemmish, 2001).

Marshall (2000) states that the most important focus of the theory are the multiple purposes of archives (in multiple contexts) over time. Visualizations of the records continuum theory explain it (in essence) as a context theory, emphasizing the ever-broadening layers of contextual descriptions attached to records and archives. The aim of the theory is to provide a framework for conceptualizing archives in multiple contexts over space and time. Creating archives starts before they are created by implementing their requirements in policies, systems, organizations, processes, and laws. These requirements need to be integrated into social and business processes and purposes. The theory is heavily indebted to Australian postcustodial practices (see note 4), Terry Cook's (1992, 1997, 2005) ideas about macro-appraisal, and especially to David Bearman's (1993ab, 1994, 1996 (with Wendy Duff)) work on evidence, transactionality, and systems thinking. The influence of Bearman's extremely complex and inconsistent paper 'Record Keeping Systems' (Bearman, 1993a) is largely responsible for the mentioned axes of 'transactionality' and 'evidentiality'.

The theory's most important contribution is its accentuation of the importance of context and contextualizing for understanding the 'contextual narrative' of archives in spacetime. It has become common thinking in archival science that this 'contextual narrative' is an absolute necessity for revealing meaning, for accessibility, and for usability. But despite this long-lasting contribution and its very valuable insights into the context of records, which have greatly influenced my thinking about archives, from its formulation onwards, the theory *itself* has been on very shaky grounds.

3.1.2. Criticism: omissions, comprehensibility, and philosophical foundations

To counter *omissions*, some revisions of the theory have been suggested. Terry Cook (2000b) suggested (quite sensibly) to separate evidence and memory into their own

axes. He also suggests adding a new dimension (besides Create, Capture, Organize, and Pluralize) for archives of private origin. A fifth dimension is also (convincingly) proposed by Yvon Lemay and Anne Klein (2014), namely that of the use ('exploitation') of archives. But adding new dimensions to the theory is inconsistent with its structurationist nature. It would break the theoretical link to the four steps of time-space distancing mentioned by Giddens (1984, p. 298). These steps are the sole reason for the four dimensions of the Records Continuum theory. New dimensions eliminate the possibility to directly link the records continuum to Giddens' structuration theory. Karabinos (2015) created 'the shadow continuum' to correct an omission in the theory concerning archives stuck between dimensions.

Michael Piggott (2012), an Australian supporter of the theory, made several remarks about the theory's problematic *comprehensibility* and its abstract nature. He states (2012, p. 180) that 'the core texts are not always easy to understand' and that it is very difficult 'to comprehend the intended meaning of continuum writing'. More problematic is his contestation that the continuum model is an abstraction that relies 'on the viewer to draw a correct inference' (Piggott, 2012, p. 183). That is confirmed by Karabinos (2015, p. 14) who states that it is the reader to make conclusions on what the model attempts to visualize because the model is 'confusing and vague'. One could characterize this as a postmodernist expression, but it is, of course, problematic, for a model that seemingly cannot convey its meaning in a straightforward way is very difficult to test (Piggott, 2012, p. 185).

The *philosophical foundations* of the theory are also heavily criticized. Verne Harris (2004, p. 215-216) condemns, in quite strong terms, Sue McKemmish's (2001, p. 347) claim for the model as 'post-modern philosophical ... thinking' and to be 'universal' as 'the worst case of misidentification', as 'a co-opting – or colonising – move designed to have us believe that what is a wild tiger is only a domestic cat' and the fact that she 'ignores the fact that postmodernisms seek relentlessly to disturb every totalising conceptual container'. Harris is opposing the (theoretically untenable) totalizing worldview of the theory that ignores existing differences in information and records management. Andrew Lau (2013, p. 200-204) finds the structurationist theoretical foundations inadequate. Using Manuel DeLanda's (2006) neo-assemblage theory and its different view of society⁶, he analyses the continuum theory and reveals, for instance, the mechanistic view of society and social complexity that allows for the reductionist approach the theory needs to identify stabilized entities that create archives. Such a view, however, is only one way

⁶ Manuel DeLanda's neo-assemblage theory is an elaboration of the ontological framework developed by the postmodernists Gilles Deleuze and Felix Guattari in: *Capitalisme et schizophrénie 2: Mille plateaux*, Paris, Les Editions de Minuit, 1980. The theory offers a bottom-up framework for analyzing social complexity by accentuating exchangeability, indefiniteness, and multi-functionality. Deleuze and Guattari's assemblage theory is an approach that stresses that entities are not fixed, not predetermined, and not stable in their ontology or location. Assemblages are formed through coding, stratification, and territorialization processes. An assemblage, consisting out of imaginative articulations among heterogeneous elements, defines the relationships with the bodies in and around it, and demonstrates social complexity. See also: J.D. Slack, J. Macgregor Wise, *Culture and Technology. A primer*, New York, Peter Lang, 2014. DeLanda's starting point is his argument that assemblage theory is a reaction to the theory of organic totalities. In his opinion, all 'parts' have some independence regarding the assembled 'whole' they help to constitute. Although a 'whole' will change following the addition or removal of an individual 'part', the components themselves do not need to change as a consequence of the new (dis)assembly. Assemblages, though dynamic, are part of historical processes. DeLanda defines a reinterpretation of the concepts of Deleuze and Guattari that provides a robust theoretical framework for analyzing assemblages. For an overview: M. DeLanda, *Assemblage Theory*, Edinburgh, Edinburgh University Press, 2016.

to view society and social complexity, and a reductionist approach may not be possible (or might be difficult) in other views of society. The claim of ‘universality’ is, thus, nonsense. Lau also attacks the form of objectivity and impartiality that is suggested in the theory: ‘a privileged transcendent vantage point in which the archivist using the records continuum can ‘see’ all of society and speculate how records move from immediate contexts of creation through capture, organization, and the ultimate plural view of societal recordkeeping’ (Lau 2013, p. 202). Such objectivity and impartiality of the archivist is impossible as understanding of reality is never complete. It is always constrained by the observer’s perspective and knowledge and always carries blind spots, as Donna Haraway (1988) already stated. It ignores the effects of the archivist’s context, his social preoccupations, moral codes, preconceptions, and choices made in the process of ‘archivization’. This is remarkable in a theory that is (essentially) a context theory. As David Greetham (1999) concluded, archives do not tell us the truth. They propose a constructed, prejudiced, sometimes an idealized historical image. They are politicized bodies of information, pretending to be neutral. Joan Schwartz and Terry Cook (2002) stated that ‘the archive’ is always a reflection or a justification for the society that created it. Archivists are important in capturing, appraising, and maintaining archives and have a large responsibility for the reflection ‘the Archive’ provides.

3.1.3. Daily practice

The records continuum theory proves very challenging in the daily practice of managing business processes of organizations. Afshar and Ahmad (2015) propose a hybrid model for records management (a combination of continuum and linear models), because of the problems to implement the records continuum theory and model. Jeurgens (2014) concluded (albeit related to appraisal) that in daily (professional) practice ‘in spite of all efforts and even the firm belief held by some professionals that archival thinking has undergone a paradigm shift, there is still no revolutionary progress in solving the many puzzles of records management and archiving’. The suggestion of Karabinos (2015, p. 150) that by removing the theory’s ‘universality’ claim testing would not be necessary is, in my opinion, accepting defeat in bringing theory into practice. It is revealing that (although Sue McKemmish (2017, p. 143-144) states that the model is ‘widely used as ... an implementation model, as exemplified through its use in the development of standards, metadata entity-relationship models and schemas, and best practice guidelines for the design of recordkeeping systems and appraisal programs’) practical examples of implementation of the theory within daily organizational practice are genuinely missing. The (needless) ‘invention’ of ‘recordkeeping informatics’ to ‘re-figure a discipline in crisis’ (that is: a records management that does not use the records continuum theory and model) (Upward et al, 2013; Evans et al, 2014) only confirms that there is no convincing evidence that the theory has been used by organizations to manage their records and archives.

3.2. Digital diplomatics

3.2.1. The revitalization of traditional, proven methods in Digital Diplomatics

Not all archival scholars are following Foucault, Derrida or Giddens in their observations of ‘the archive’. There is still a tradition, based on the ‘old’ diplomatic science, in which principles and concepts are ‘universally valid’, precisely defined, and ‘objective’ regardless of place. It provides a systematic method for the analysis of

the internal and external elements of documentary form, the circumstances of the writing, and the juridical nature of the fact that is communicated. It analyses the creation, form, and status of transmission of records, and the relationship with the facts represented in them and with their creator, in order to identify, evaluate, and communicate their ‘true nature’ (Duranti, 1998, p. 27). The primary focus of this tradition has been the ‘record’ (equated with the documents that were the subject of diplomatic science) and all the elements that it embodies. The content of the record is subject of its analysis, but also the relationships of the record and the persons, functions, procedures, acts, and the system that created them. The basic affirmations of this diplomatic tradition is that hypotheses and theories need to be empirically testable. Its philosophical roots lie in empiricism. Luciana Duranti is nowadays the most notable scholar within this tradition. She revitalized the traditional diplomatic methods and has argued for its relevance to electronic records and archives (Duranti, 1998, 2005, 2010a).

Digital diplomatics integrates traditional diplomatic techniques, concepts and methods with archival theory ‘based on jurisprudence, the history and theory of administration, and an extensive and centuries old body of written reflection and experience’ about the nature of records and archives within organizations (MacNeil, 2004, p. 205). Digital diplomatics emphasizes the importance of identifying evidence. For being used as evidence, records need to be authentic for only than it can be presumed their integrity has been maintained. To prove authenticity, the continuing identity and integrity of records and archives must be established. Identity and integrity of records allow to determine the who, what, where, when, and why, and establish ‘perfection’ in quality. Identity is revealed by documentary form or presentation. It is the whole of the distinguishing attributes that in combination uniquely characterize records. They have stable content and a fixed form, reveal together with the metadata layers of the organizational archive it belongs to, the legal, administrative, provenancial, procedural, technological, and documentary context, belong to identifiable organizations, persons or groups, are part of actions, are linked to related records, and are stored within the infrastructure of the organizational archive (Duranti and Jansen, 2011).

3.2.2. Computerized processing

Duranti has tried to broaden the types of records to which diplomatics could be effectively applied. In the InterPARES projects (1998-2018), she has applied diplomatic mechanisms to investigate the veracity of records in new, computerized environments (Ross, 2012). Within these projects, theory and methods are developed capable of ensuring the reliability, accuracy, and authenticity of electronic records and archives created in dynamic, experiential and interactive systems. InterPARES developed the Chain of Preservation, a series of continuous records-centric activities that contribute to the authenticity and preservation of records stored within the organizational archive. All activities that a record participates in are linked together. Any omission in a link deteriorates the ability of the chain to preserve the authenticity of records (and the archive they belong to), its ultimate objective (Jansen, 2015). According to Duranti (2009), it is possible that digital diplomatics may not be sufficient for dealing with challenges of increasingly complex digital environments, which might require that concepts, principles, and methods of other disciplines are evaluated by digital diplomatics. An expectation

I tend to agree with. As such, it is interesting to see how in digital records forensics the relationship between digital diplomatics and digital forensics is researched (Xie, 2011).

Digital diplomatics produces very detailed definitions and requirements for authentic electronic records that help business informatics in designing adequate ICTs for the organizational archive. That will be necessary: in an information deluge it is economically only viable to manage and store records in the organizational archive in a computerized way. The biggest contribution of digital diplomatics are the very detailed frameworks of authenticity and integrity requirements and its Chain of Preservation that allow (ultimately) for computerized processing and archiving of 'trusted' records. They have greatly influenced me in my ideas about the quality requirements for records and the information value chain. It is this contribution that makes digital diplomatics into a very interesting theoretical framework for EIM.

3.2.3. Theoretical problems

There are, however, some theoretical challenges with digital diplomatics. As Geoffrey Yeo (2017) points out, the equation of 'records' with the documents that were the subject of diplomatic science (particularly made in an English-speaking environment) may be a problem. The word 'record' was, until the late twentieth century, confined to countries whose legal and administrative systems are of English origin. It has no equivalent in other linguistic cultures. It was most certainly not common in the civil-law traditions based on Roman law in which diplomatic science has evolved (Yeo 2015). Yeo (2017) agrees that the equation seems to be correct for legal, textual records, for diplomatic science was primarily designed for their analysis. But is it correct for the new forms of record in the contemporary world that are largely non-legal and non-textual? Is it possible to apply diplomatic principles, techniques, and methods to these records, too? Joan Schwartz (1995, p. 54-55) does not think so and asserts that, at least for photographs, the 'extension of diplomatics from records of bureaucratic transactions created within the procedural rules, written or unwritten, of a juridical system to records of cultural actions and transactions' cannot be directly made and that 'the rigour of diplomatic criticism is undermined by the inherent ambiguity of the photograph'. Yeo (2017) also tends to answer those questions negatively and, although it is not explicitly addressed, he implies that the mentioned equation never has been researched adequately and that, for that reason, digital diplomatics is partly based on an unproven hypothesis. It is a serious allegation that cannot be refuted without researching the equation *itself*.

Even before digital diplomatics was born, there were issues with the reductive emphasis of diplomatic science on the relationship between record and juridical act. According to Leonard Boyle (1976) and Armando Petrucci (1995) that emphasis risked overlooking the contextual complexities of documents, their function and the power dynamics involved. Boyle (1976, p. 78) claims that the application of diplomatics demands intricate knowledge of the context of the object of analysis. A 'thorough competence in the language of the document' is needed, 'a knowledge of chronology', 'of local usages [and] conventions' and 'an easy familiarity with the methods, formulae, and practices ... of the period and region'. Such knowledge is necessary to uncover the 'central reality' of the document to be analysed, but cannot

be gained by only using diplomatics. Petrucci (1995, p. 239) agrees with Boyle (1976) and states that 'the document is first and foremost evidence of a process entirely internal to its own making. And only the reconstruction of the process of documentation, of its articulations and reasons, can permit us to consider, with both greater insight and greater humility than before, the complex relationship between written documentation and the event that from time to time gave (or should have given) impulse to the process of documentation: what we call, in the language of diplomatics, the connection between action and documentation'.

Following these interpretations, Richard Brown (1997) challenged the strict (even narrow) contextual interpretation within digital diplomatics. He argued for a broader interpretation, in which social, cultural, ideological and other factors are considered, in addition to the very limited administrative-juridical context he observed in digital diplomatics at that time. And although digital diplomatists no longer perceive the juridical system as the only context for a record and recognize an extended range of contexts (legal, administrative, provenancial, procedural, technological, and documentary context (Duranti 2010b, p. 1596)), they have, as Yeo (2017) asserts, continued to emphasize the dominance of the legal context.

Digital diplomatics faces a contextual crisis. The context it captures is not enough in the long term to help users *understand* the wider social, cultural, and (inter-) organizational environment that generated the archive.

4. Concluding remarks

In this first part of the article, the problem EIM faces in contributing to organizational objectives and to defining business strategies was explored. To cope with the deluge of structured and unstructured information objects, EIM needs a theoretical foundation that effectively guides it in reaching business value. A possible solution for that problem is (following Smith and Steadman (1981)) 'the archive' and the records within it. Archival science has developed two overall theoretical frameworks relating to records and archives, but not focused on the (organizational or personal) construction of archives, the effects of (organizational) behaviour on their evolution, reaching organizational objectives, and designing business strategies. These two archival frameworks are based on philosophical traditions that are on opposite sides of the philosophical spectrum: postmodernism and empiricism. This shows itself especially in the very different forms of methodology used. The Records Continuum school uses deductive research methods, beginning with general a-priori concepts and, regardless of empirical data, deciding what to do with records and archives based on those concepts. Digital diplomatics uses inductive research methods, starting with empirical data and observations to find general principles about the subject.

The Records Continuum theory, characterized by structurationist and poststructuralist thinking, considers 'the archive' to be an epistemological and symbolic representation for the ways in which histories are constructed, organized, and narrated. An archive is a symbol of contestation, within which historical narratives, social power structures, and traditional meanings are challenged. This theory is not about records and archives themselves, but about their evolving

(especially societal) contexts within the dimensions of the theory that help to understand the meaning of their narrative in spacetime. It is used as a declarative model for the 'contextual narrative' of archives. Its philosophical foundation is weak, its comprehensibility problematic and its implementation in organizational practices debatable.

Digital Diplomats, characterized by more empiricist, traditional, proven, and revitalized diplomatic techniques, methods, and concepts, is, in contrast, almost solely about the records and archives themselves and the relationships between them. It concentrates on the continuing identity and integrity of records to reveal documentary form, the attributes that characterize records and reveal its legal, administrative, provenancial, procedural, technological, and documentary functional context. It produces detailed definitions of authenticity and integrity that allow ICTs to recognize and realize 'trusted' records using its Chain of Preservation. The theoretical framework of Digital Diplomats can be used as a declarative model for the (technical) generation of records, the relations between them, and their integrity and authenticity. It seems to be partly based on an unproven hypothesis and it faces a contextual crisis because the context it captures is not enough to understand the wider social, cultural, and (inter-) organizational environment that generated the archive.

The focus of both theories lays on the cultural (or historical) value (Records Continuum theory) and the evidential value (Digital Diplomats) of archives. Both are important values that can be used to improve the way records and archives are managed and used within organizations. They offer interesting insights for EIM. The Records Continuum theory emphasizes the importance of context for a 'reconstruction of the past', extremely important for realizing accountability, governance, and compliance (Van Bussel, 2012b, 2016). Digital Diplomats offers tools and frameworks to improve the authenticity and integrity of records to allow them to be used as evidence. Both theories offer, their theoretical weaknesses notwithstanding, convincing arguments for the value of archives and records for organizations. But they have not succeeded in linking these values to the challenges of reaching organizational objectives, designing business strategies, and constructing archives in a way that offers EIM the possibility to do so effectively. Both theories do not explain how and why the archive is as it is.

To emphasize the organizational value of archives, there is, I think, enough space for another theoretical view: an *organizational* one, the view of the 'Archive-as-Is', a pragmatic view on archives and records, their genesis, construction, use, and continuous management in the everyday life of people and organizations. A view that can be used as a declarative model for understanding the archive 'as-it-is', how it has been designed, constructed, processed, manipulated, and managed as a valuable business resource within EIM. A view that explains how it has 'grown' to be the archive that the organization or the person that generated it, wants it to be, with all distortions consciously and unconsciously embedded within it.

Archives are constructed in organizational settings and are the result of organizational behaviour, business processes, and predetermined rules and regulations. Cultural and social preconceptions, deviant behaviour, and (conscious

or unconscious) negligence are influencing decision making within organizations and affect EIM in its management of records and archives. Researching the genesis of organizational (or personal) archives, the records within them, and their fundamental components is necessary to understand them, to contextualize them, and to use them for reaching organizational objectives, the design of business strategies, and the increase of business value. That is what they were primarily made for....

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Archives in Liquid Times aims to broaden and deepen the thinking about archives in today's digital environment. It is a book that tries to fuel the debate about archives in different fields of research. It shows that in these liquid times, archives need and deserve to be considered from different angles.

Archives in Liquid Times is a publication in which archival science is linked to philosophy (of information) and data science. Not only do the contributors try to open windows to new concepts and perspectives, but also to new uses of existing concepts concerning archives. The articles in this book contain philosophical reflections, speculative essays and presentations of new models and concepts alongside well-known topics in archival theory.

Among the contributors are scholars from different fields of research, like Anne Gilliland, Wolfgang Ernst, Geoffrey Yeo, Martijn van Otterlo, Charles Jeurgens and Geert-Jan van Bussel. This book includes interviews with Luciano Floridi and Eric Ketelaar, in which they reflect on key issues arising from the contributions. The editors are Frans Smit, Arnoud Glaudemans and Rienk Jonker.