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APPLICATION OF THE RECORDS LIFE-CYCLE AND RECORDS CONTINUUM MODELS IN ORGANIZATIONS IN THE 21ST CENTURY

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Abstract

This study provides a descriptive examination and traces the historical development of records management approaches, as well as their significance to the records management practice and their limitations. The study focuses on the records continuum model, developed in Australia's archival sciences field in recent years and discusses its implications for the practice of records and archival management. Prior to the emergence of the records continuum model, the life-cycle theory dominated most records management fields globally. The records continuum model responds – in ways that the life-cycle theory is unable to deal with the challenges of electronic records and proposes a new set of management thinking of the preservation of the electronic environment, in which contemporary institutions and their associated electronic records coexist. There appears to be insufficient literature on the practice of these two records management theories in the organizational context. To contribute to bridging this gap, this study analysed the major components of each records management theory and presents models of organizations built on these approaches. Therefore, the study examines the uses of the records continuum model and life-cycle theories within the broader field of archival research. The study is a literature review within a qualitative, interpretative paradigm. Relying on historical and narrative analysis, the findings established evidence of the practice of the records management theories in the organizations. The study concluded that records management practice in organizations can be enhanced, if specific factors within each records management approach are given adequate consideration in their application.

Introduction

The International Records Management Trust (IRMT) (1999:14) and Kilkki (2004:14) note that the care of records and archives in the context of the public sector is governed by two major established methodologies in the archival world, which are: the records life-cycle and the records continuum. These theories are useful because they reduce the complex reality of managing records to something we can grasp and understand. Models and theoretical approaches offer some clarifying perspectives on that reality by emphasizing what is to be seen as particularly important and crucial in a context (Hofman 2017). No theoretical ideal

can show the full image of the reality it aims to explain. Model, however, can be used as theoretical lenses to comprehend different aspects of reality. Models and theoretical tools are based on assumptions, and these assumptions are not always explicit (Alvesson & Sandberg 2011; Hofman 2017). Assumptions that have not been made explicit can be questioned and possibly shown to be invalid (Alvesson & Sandberg 2011). Hofman (2017) states that the value of a model is its longevity and the "durability" of its assumptions.

McKemmish (2017:131) notes that the life-cycle theory is criticised as being unsuitable for digital records and archives as it separates the archive's creating organization from the archival institution. For instance, it does not include the complexity of digital records dissemination in shared systems. Notably, Yusof and Chell (2000:138) criticise the records life-cycle theory's failure to accommodate interrelations that exist between records management and archival operations. While being guided by such sentiments, the current study did not dismiss the records life-cycle theory as a valid approach to records management, but instead adopted it alongside a multimedia-embracing theory, namely the records continuum model.

Records management is often described as a "life story" with a linear "narrative" or an organic, naturally occurring phenomenon: "The life-cycle theory aims to describe records as if they behave in accordance with a biological imperative, a set of elementary laws of biological development" (Brothman 2006:244). The current study is guided by the records life-cycle because, according to Atherton (1985:47), the life-cycle theory promotes a sense of order through a systematic approach to the overall management of recorded information. For instance, the records life-cycle theory is practically useful when related to mandates and responsibilities. However, life-cycle theory was perceived as a linear process which is less practically applicable in the digital environment. Yusof and Chell (2000:136) and the Records Management Unit (2002) acknowledge that the records life-cycle is one of the core theories in records management and that it continues to form the basis for an effective records management programme.

For that reason, the life-cycle was perceived in this study as the starting point for creating an effective record management programme as it allows the development of appropriate tools, systems and procedures to appropriately manage each phase of the life of a record. However, the assumption that the records life-cycle is linear and that records and archives management are two separate fields can become problematic if they obscure the possibilities for affect and change existing practices (Brothman 2006:244).

Acknowledging these problems, Kemoni (2008:105) observes that the records continuum model is more useful than the records life-cycle theory for understanding the complexity of record-keeping. This model is widely accepted for managing records and archives both in paper and electronic form, while it also allows for the active involvement of both archivists and records managers in managing every stage in the life of a record. Furthermore, the records continuum model is not a linear model: several stages can happen at once. It has been described as "a more progressive way of dealing with the management of the entire information/records continuum" (Svärd 2013:161).

Therefore, this study was informed by both records management theories as analytical tools for managing paper and electronic records. The life-cycle theory assumes that records management is the result of objective business activities and that it follows a predictable timeline, while the records continuum model views it as "a continually interacting and evolving set of contingent activities with individual, institutional, and societal aspects" (Gilliland & McKemmish 2018:100). Since this paper's research focus consists of a literature study on the use of the life-cycle and the records continuum model covering the broad

archival science field with scholars and practitioners from different records management and archival traditions, it is able to provide a historical overview of the practices of the records management theories and concepts in organizations, particularly governmental organizations.

Problem statement

Efficient and systematic records management is key to effective and efficient organizational administration and resources management, as well as to public accountability, transparency and cost reduction (Abankwah & Hamutumwa 2017:168). Rotich, Mathangani and Nzioka (2017:127) emphasize that without proper records management, accountability, transparency and efficiency in organizations would be heavily compromised, leading to corruption and loss of confidence. It is widely accepted that "without accurate and reliable records management approaches and effective systems to manage records, governments cannot be held accountable for their decisions and actions, and the rights and obligations of citizens and corporate bodies cannot be upheld" (World Bank/IRMT Partnership Project 2002:1). Hence, there is a need to maintain an effective and efficient records management programme for an organizational system through applying appropriate records management approaches.

The effective management of records is fundamental to good governance, effective and efficient administration. It forms the basis for formulating policies, managing resources and ensuring service delivery. It enables an organization to find information easily as well as, the efficient flow of information through establishing an orderly, to perform its functions successfully and efficiently. Therefore, an improved records management programme based on organization-wide approaches can prevent corruption and promote transparency (De-Mingo & Cerrillo-i-Martínez 2018:257).

This means that, to prevent unethical conduct, bad governance, fraud and corruption in the digital age, appropriate records management approaches are imperative in guiding the proper management of records (Wamukoya & Mutula 2005:71). Consequently, a widespread deployment of information and communication technologies such as electronic records management programmes has taken place as a way to improve records management for enhanced service delivery (Saman & Haider 2012). Despite records management theories being available to afford great potential for the effective management of recorded information, there are still pervasive occurrences of fraud, as well as mismanagement of resources and outright corruption globally. Therefore, these theories of managing records in organizational departments need to be explored, and if they are properly applied, they should facilitate the agile, effective management of records that are vital for the efficient business operations and for accountability.

Purposes and objectives of the study

The main purpose of the study was to examine literature regarding the records management approaches, specifically the records continuum and life-cycle, through a review of literature. The following were the specific objectives of the study:

- Reflection on both the life-cycle theory and the records continuum model on the management of records.
- Assessing the inadequacies of both the life-cycle and records continuum approaches in the existing organizational environment.
- Discussing the life-cycle and records continuum perspectives and drawing conclusions on their respective usefulness.

Methodology

This study is based on a qualitative research approach based on a review of literature related to the two main approaches to records management, which is analysed by using a narrative method that will lean more towards the interpretivist angle rather than the positivist one. This interpretivist approach presupposes that a researcher cannot assume a value-neutral stance or remain impartial, because he/she is always implicated in the phenomena being studied. Thus, interpretivists try to comprehend phenomena as described by participants in research studies, rather than by testing through scientific standards of verification (Roth & Mehta 2002). Based on this, the analysis emerging from an interpretivist angle can only be justified and measured by the merit of each case and the support of evidence put forth. As the purpose of this paper is to understand the phenomena of the records management approaches employed by public sector organizations, the interpretivist method was deemed most appropriate.

This study, being descriptive as well as historical, relied essentially on secondary information sources gathered by the researchers via theses, books and journal articles. Secondary data was preferred because, as a source of data collection, it is relatively inexpensive, compared to primary source data collection (Zikmund 1984), and it does not require contact with respondents or subjects because it is historical in nature and consists of data already collected by previous researchers on the subject matter (Ember & Levinson 1991). Secondary sources help to explain, describe and validate findings and to infer from all findings certain conclusions (Black & Champion 1976).

The literature study undertaken in the area of records and archival management dealt with works, including by Kemoni (2008), which generally focused on developing a theoretical framework analysis and a literature review of graduate-level records management research using content analysis. Qualitative data can be analysed in various ways, of which content analysis is one (Elo & Kyngäs 2008). Haradhan (2018:25) notes that content analysis is a method of analysing written, verbal or visual communication messages. The content analysed in the present study was from the sources obtained from various theses, books and articles.

The raw content from various sources was organized into categories or themes, as informed by the research objectives. The researchers carefully examined emerging themes from the literature and employed a combination of conventional/inductive and directed/deductive content analysis approaches (Hsieh & Shannon 2005), all of which can be used to interpret meaning from the content of text data.

Hsieh and Shannon (2005) note that conventional content analysis is generally used with collected data in a study design whose aim is to describe a phenomenon, and when the existing theory or research literature on a phenomenon are fragmented or limited. For the present study, this phenomenon refers to the application of the life-cycle theory and records continuum model to manage organizational records, in particular in the public sector.

Deductive content analysis is applied when the purpose of the study is to test a theory or extend an existing theory or prior research (Elo & Kyngäs 2008; Hsieh & Shannon 2005). The qualitative deductive approach involves building on a theory, model or research findings to validate or extend them. In the present study, the theory, model and findings examined during the literature study are thus extended by employing deductive content analysis.

Results and discussions

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Reflections on the life-cycle theory on records

Since the late 1930s, the life-cycle theory (which defines the relationship between creation, use and disposition of records as a linear process) has been the main theoretical framework for managing records, especially in the paper environment. The life-cycle theory states that records can only live once in each stage in their life, clearly defining the responsibilities for the management of records at each stage. The life-cycle theory had been developed by United States National Archivist Theodore R. Schellenberg during the 1930s and was formulated as theory from 1940 (Lin 2015:24).

The governments, institutions and organizations worldwide faced an enormous amount of paper-based records and had few procedures to address this phenomenon. Dingwall (2010) notes that the life-cycle theory emerged as a proper and efficient mechanism to manage the enormous volumes of governmental records being created. The theory was developed specifically in response to the ever-increasing volume of administrative records produced by organizations (Yusof & Chell 2000:135). Therefore, the life-cycle theory has been noted to provide a framework for the operations of the records management programme.

Life-cycle theory depicts records' existence as distinct sequential phases from creation, through use, maintenance and temporary storage to their elimination or permanent retention. This theory has been criticized for its portrayal of separate phases with no connection between current and archived records. According to Lemieux, Hofman, Batista and Joo (2019:35), the life-cycle theory sets out a framework in which records have distinct phases of existence, and the actions required of the record-keepers depend upon what phase of the life-cycle the records are in. Furthermore, Lemieux et al. (2019:35) indicate that the most significant feature in life-cycle theory is the separation of recordkeeping responsibilities into two condensed professions. For instance, at the creation of their existence, the records are generated and managed by their creators and kept as their value and use gradually decrease. These phases are administered by records and information managers and after the completion of primary phases, the records reach the disposal phase where they can either be destroyed or transferred and preserved as archives. That is the starting point of the archivist's role.
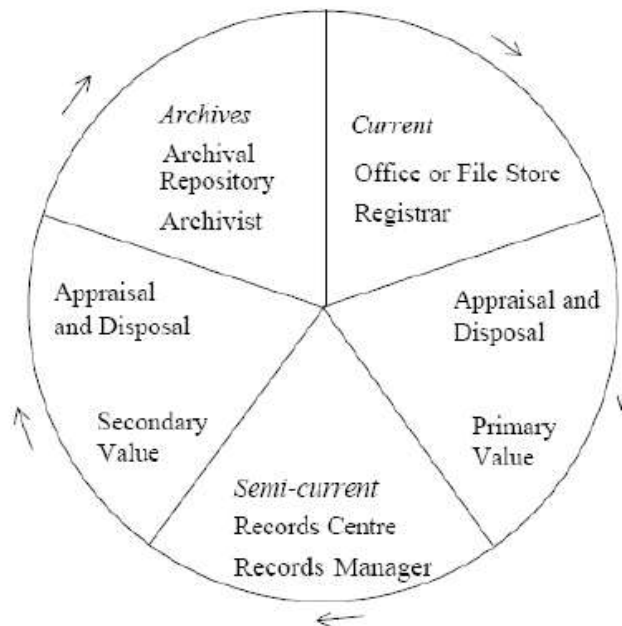

Figure 1: Records life-cycle (Roper & Millar 1999:19)

The records life-cycle remains central to the theory of records management and the basis for its principles and practices (Valtonen 2007:39). The records life-cycle presupposes that records must be managed from creation to disposal. It is based on the belief that managing records from the creation stage to the disposition stage leads to efficient use, maintenance and disposition of recorded information. The life-cycle theory is based on the assumption that recorded information has a life similar to that of a biological organism in that it is born (creation phase), it lives (maintenance phase) and it dies (disposition phase) (Williams 2006:10). For decades, the life-cycle theory has been accepted as key to contemporary records and archival management (Williams 2006). The records are seen to be instruments that support individual or organizational activities and, if they have a continuing value, that must be preserved by being transferred to archives (McKemmish 1998).

The life-cycle theory is available in a number of versions with different numbers of steps or stages for handling documents based on a division between active, semi-active and passive actions, where responsibility for these stages is regulated based on the stage of the actions (Lin 2015:24). Since the 1950s, many variations on the records life-cycle concept have been modelled and documented in the literature (Shepherd & Yeo 2003:5). A development towards an increasingly complex division of the life-cycle stages from three to a total of ten steps/stages emerged in response to technological developments and the life-cycle's difficulty to meet the challenges of electronic records management actions (Yusof & Chell 2000:140).

Most of these models show a progression of actions taken at different times in the life-cycle of a record, typically, its creation, capture, storage, use and disposal. Some scholars and authors have indicated the life of records as a linear progression, while others describe it as a loop or a circle (Shepherd & Yeo 2003:5). The argument is that all the variants have something in common, such as their time view of the records life-cycle as a linear progression, because the cycle is repeated in a certain order. In other words, the records "must change" gradually in nature as time passes (McKemmish 1998).

The most widely accepted view of the life-cycle theory is the "social rituals version", which consists of a current, semi-current and non-current stage (Katekwe & Mutsagondo 2018:398). Oweru and Mnjama (2014:144) note that within the three-phased records life-cycle, records undergo the current stage (where records are used by the organization or creator of the record), the semi-current stage (where their business value is reduced), and the non-current stage (where records have little or no business value but can cater for research or historical purposes). The model asserts that when records cease to have business value to records creators, those with archival value are moved to an archival institution for long-term preservation after the appraisal process during which their long-term value is determined (Couture & Rousseau 1987). In most cases, such records constitute 5 per cent of the whole records body (Bantin 1998:17). It also stipulates responsibilities for managing records at each stage of the life-cycle where records managers are responsible for the creation, description and provision of access during the active and semi-active stages, while archivists are responsible for the preservation, description and provision of access to records during the inactive stage (Bantin 1998:17).

According to Yeo and Chell (2000), however, there is a four-stage records life-cycle, as is depicted in figure 1. The first phase is the creation stage, when records are created or received by an organization and they become part of the body of records of that organization. The second phase is the current or active stage, when records are maintained through applying descriptors and identifiers for ease of storage and access, as they are frequently required during this phase. The third phase is the semi-current or semi-active stage when records are stored in a records centre, pending their disposal, since they are not frequently required for

current business. The fourth phase is the non-current stage when records are not required for current business, with a small percentage (3-5%) being transferred to archives.

The inadequacies of the life-cycle theory

Lemieux (2017) notes that despite the continued popularity of life-cycle theory, it has its limitations. For instance, the separation of duties between the records managers and archivists that the life-cycle theory presents barriers to proper effective preservation of digital records. The vulnerability of digital records requires specialized management from the point of creation before they even become archives. The management of records based on the life-cycle theory has been connected to a passive, weak, and object-based organizational management approach (Lin 2015). This is because it assumes that records undergo a fixed progression of characteristics and developments through each of the distinct stages of the life-cycle. The life-cycle theory thus neglects the complex process in which social activities are often in a state of continuation and interaction, and have no clear end point.

The emergence of electronic records exposed the shortcomings of the assumptions on which the life-cycle theory is based. In a digital environment, records are very dynamic and may exist in more than one stage of the life-cycle at the same time. This notion implies that they may not follow a linear existence with definite stages from creation to disposition (Lemieux 2017). There are no clear, fixed products or entities to manage as electronic records are mutable or variable in nature, depending on their changing context in terms of usage, space and time (Lin 2015).

McKemmish (1998) notes that the continuumists find the life-cycle theory's basis in linear progression to be problematic, because the same records can have different uses and social implications in different "time-space" structures, making the nature and function of the records not necessarily a one-directional fixed step-by-step process. Moreover, the continuumist scholars believe that all forms of records in the past are essentially the same (McKemmish 2003). Lin (2015) articulates the inadequacies of the life-cycle theory as follows:

1. The life-cycle theory is centred on records as linear-phased in their nature and activities, instead of on the ongoing and varying identity and purpose of records.
2. The life-cycle theory views records as physical entities destined for eventual disposal instead of emphasizing effectively managing record preservation activities as a whole.
3. The life-cycle theory has led to the over-focus on records management as a "product" of human activity, instead of focusing on the overall management of record-keeping activities in an organization's operational management.
4. The life-cycle theory emphasizes the dichotomous "current/non-current" status of records, which is detrimental to the preservation of records in the longer term.

Development and an overview of the records continuum model's application to, and use in, the archival sciences

Karabinos (2015:11) notes that the records continuum model presents an interconnected and layered model to show the fluid movement of records between dimensions. The model is viewed as an upgrade and advancement over the unidirectional aspects of the life-cycle theory. Notably, the model was launched as a reaction to issues related to the life-cycle and digital records. This was due to the massive shift in communication in the 1980s and 1990s, during which electronic records were developed, leading to new archival and records management practices. Therefore, during the years from the mid-1980s to the mid-1990s, intensive discussions took place in the archival scientific research environments on how

archival practice and theory needed to be transformed to support the current and contemporary organizational activities which were increasingly becoming digital (Cumming 2010:46). Frank Upward and Sue McKemmish, who were researchers at Monash University in Australia – collaborating with others, including Davide Bearman, Terry Cook and Margaret Hedstrom – worked towards debating and innovating archival science (Piggott 2012:177).

Cumming (2010:43) notes that the records continuum model that emerged viewed records keeping as a continuing and progressing process that does not separate the life of the records into fixed phases in time and space. Upward (2003:1) explains that the records continuum model suggests notions of the record in different dimensions through time and space without specific directions or divisions. Therefore, in the records continuum approach, there are no strict boundaries between records and archival management responsibilities, as current records can also become archives right from creation, instead of waiting for final disposition to determine their fate, while non-current records can also become active again, as and when they are required for an organization's purposes.

Rotich et al. (2017:132) state that the records continuum is a consistent and coherent regime of management processes, from the time of the creation of records and before creation, in the design of recordkeeping systems, through to the preservation and use of records as archives. The creation, systematic management and preservation of records are thus not separate and linear phases so that the continuum approach means the end of the traditional demarcation between the functions of the records manager and the archivist, which is seen by some as artificial and restrictive (Millar 2006:67). This means that the records continuum model is significant because it broadens the interpretation of records and recordkeeping systems offered by the life-cycle theory. Such broadening is crucial due to the range of contexts in which archivists and records managers operate and the various time/space situations in which archives and records are used.

Upward (1996) asserts that the records continuum is based on four principles:

1. A concept of records, which includes records of short term and ongoing value and unified record and recordkeeping approaches, which stresses their uses for transactional, evidentiary, and memory purposes.
2. An understanding of both paper and electronic records as logical entities, rather than physical ones.
3. An implicit and explicit institutionalization of the role of the recordkeeping profession as integral to organizational and societal processes and purposes.
4. A recognition that archival science is the foundation for organizing knowledge that is revisable in response to the changing operations of organizations and society over history, currently and into the future.

Rotich et al. (2017:32) highlight that the continuum model is a proactive, purpose-oriented systems approach to records management that fundamentally changes the role of recordkeeping. The IRMT (1999) found the continuum concept to be preferred over the life-cycle theory as the best practice for managing both electronic and paper records since the former supports the improvement of responsiveness, increases efficiency and satisfies users' requirements. McKemmish (2004:1), cited Cook (2003:11) sees the records continuum as "the world's most inclusive model for archives". Meanwhile, according to Svärd (2013), the records continuum model has been used to heighten awareness that there are various stakeholders in the information being kept in records and archives as well as for understanding recordkeeping in organizations and society at large.

The records continuum model has been perceived in a range of ways, including as a device, a tool, a paradigm, a metaphor, a logical model, a space/time construct and a method of thinking (Piggott 2012:163). Similarly, McKemmish (2017:143) states that the records continuum model is widely used as a teaching tool, a conceptual-framework or an instrument for research, a metaphor and an implementation model, as indicated by its use in developing standards and relationship models between metadata and entities, as well as designing systems and programmes for recordkeeping and appraisal.

Hofman (2017:645) agrees that the records continuum model has been used as a conceptual framework; for example, in the development of the Strategic Partnerships with Industry – Research and Training (SPIRT) Recordkeeping Metadata Project at Monash University, which led to the establishment of a Recordkeeping Metadata Schedule (RKMS), which in turn was the basis for international metadata standard ISO 23081 (Hofman 2017:645).

Furthermore, Klareld (2018) notes that the records continuum model has been used as a way of merging the processes of transactions and documentation; as a tool through which focus could be placed on the context of the documentation process; and as an instrument for the analysis of the differences between the processes related to the creation, capture and organization. Klareld (2018:103) used the records continuum model to study the implementation of metadata schemas, while it formed a single holistic conceptual framework in Valtonen's (2007) study, and Svärd (2013) employed it to design interview questions and to discuss ways in which long-term preservation problems could be mitigated.

Instead of distinguishing separate phases, the records continuum model (see figure 2 below) identifies and determines four dimensions and vectors used to represent records management procedures. At creation, documents are produced as traces of organizations' or individuals' transactions. Some of these documents are then captured as records for evidence of the activities of the organization's units or of the individual. By utilizing categorization schemes, these often dissimilar records are then organized into archives representing organizations' corporate or individual memory. Finally, records transcend their original context and become part of national cultural heritage and collective memory to ensure societal continuity (Kilkki 2004:15).

The records continuum model perceives records as continuously changing with no definitive end and therefore as characteristically unstable (Borglund 2008:24). This means that in essence, records remain always current and all phases are perpetually intertwined. As Kilkki (2004:14) notes, the records continuum model more adequately depicts records' existence in a digital environment.
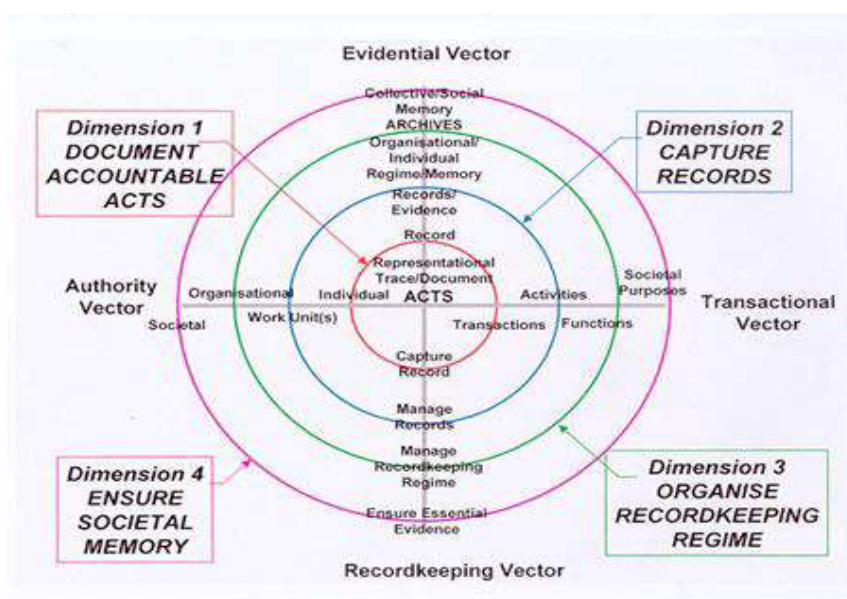
Piggott (2012:182) notes that the records continuum model
> …[covers] the whole extent of a record's existence… [and is based on the concept of] a consistent and coherent regime of management processes from the time of the creation of records (and before creation, in the design of recordkeeping systems), through to preservation and use of records as archives.

The driving force behind the formulation of the records continuum model was the recognition that in the electronic environment archivists needed a strategy for intervening in the records management process from the creation phase (McKemmish 1998). Therefore, this model provides a mechanism for the best practice of managing records and archives through an integrated approach where records managers and archivists are brought together with the goal of ensuring the reliability, authenticity, and completeness of records (An 2001).

The impact of the development of the records continuum model on archival management has been notable both in terms of practices and with regard to a number of standards that influence archival management, both in Australia and internationally (Gilliland 2018:220). As McKemmish (2003) points out, the theory led to the establishment of a variety of Australian records management guidelines, such as the document management standard AS 4390 developed in 1986, which formed the framework for the preservation of electronic records and the professional competence guidelines for clerical staff and which was adopted by the Australian Council of Archives. Shepherd and Yeo (2003) explain that the AS 44390 formed the basis of the 2001 International Standards Organization's records management design and implementation standards methodology ISO 15489.

The ISO 15489 encapsulates the continuum model in that it views records management from a "big picture" stance, in its eight interrelated aspects. As outlined by Shepherd and Yeo (2003), the first aspect is the need to understand why an organization exists, what products or services it provides and its mechanisms of operation in the past and currently. This includes external economic, political, legal, regulatory and social factors that affect the organization. The second aspect highlighted by the ISO 15489 is the requirement to study the factors impacting on the requirements for creating and maintaining records such as legislation, regulations, as well as business, accountability or social needs which, together, involve a wide range of stakeholders, including staff and customers (Shepherd & Yeo 2003).

Shepherd and Yeo (2003) notes that the third aspect of the ISO 15489 methodology concerns the fact that records managers rarely have a clean slate to begin working with so that existing systems and records need to be integrated with newer ones, taking into account common problems such as congestion, poor organization, missing records and dichotomies between the contents of paper and electronic records. The next aspect is that of identifying strategies for meeting record requirements such as agreed procedures, responsibilities, and system functionalities which are all made explicit in organization-wide policies, with specific details for areas of creation, capture, retention, access and preservation. The fifth aspect of the ISO 15489 is the design or appropriate systems to meet the requirements of the records and the organization, as well as ensuring the staff and other resources are in place. Thereafter, the implementation of the system must be carefully planned and managed across the organization. Reviews and adjustments will follow periodically to ensure that the records management system continues to function optimally (Shepherd & Yeo 2003).

Figure 2: Records continuum model (Upward 2000:123)

The records continuum model originates from Australia and was introduced into the archival discourse during the 1990s (Upward, McKemmish & Reed 2011:198). An (2001) notes that the evolution and development of the records continuum model can be traced back to three periods, namely: the origins of the continuum model; the widespread use of the continuum model; and the formulation and implementation of the records continuum model to both paper and electronic based formats. In the first period, the continuum model that records and archival management are one process, was initiated in the 1950s by Australian national archivist, Ian Maclean. His assertion was that records managers were the true archivists and that the focus of archival science should be on studying the characteristics of recorded information, recordkeeping systems and classification processes (Upward 2000:118). In the second period, the Canadian archivist, Jay Atherton, emphasized the interrelation of all stages of records so that records managers and archivists are involved in a continuum of managing recorded information. He thus promoted the use of the word continuum at the Annual Conference of the Association of Canadian Archivists in 1985.

The International Records Management Standard (15489-12016) notes that the records continuum model was a response to the more complex digital development of records and archives and influenced by post-modern thinking. McKemmish (2001) notes that the records continuum model embraces the important change in possibilities that information technology offers, such as to share, disseminate and exploit records for any purpose. The records continuum model stipulates that records do not necessarily pass through three distinct linear life-cycle phases; instead "managing records is seen as a continuous process where one element of the continuum passes seamlessly into another" (Shepherd & Yeo 2003:9). This is depicted in the four dimensions of the model provided by Upward (2001), namely: records creation, capture, the organization of corporate and personal memory, and the pluralisation of collective memory (see figure 2).

In diagrammatic form, the theory is represented by four concentric circles, providing an integrated approach to managing records, rather than one made up of separate stages. This integrated approach is encapsulated in the eight aspects of the ISO 15489, which highlights the key importance of organization-wide practices and procedures for records management, with the specifics being determined by the space/time context in which the document is being used and not by the life-cycle phase of the document. Luyombya (2010:40) explains the records continuum model's four levels as follows:

- Dimension 1, Create: Records management concerns organizational actions and reliable evidence thereof being created by capturing records of the transactions related to or supporting these actions.
- Dimension 2, Capture: Logical groups of transactions and records series documenting processes are managed by recordkeeping systems to institute control of records by arranging and describing them systematically.
- Dimension 3, Organize: Records are managed for their optimal maintenance and use, while archival records are described to allow for their continued control.
- Dimension 4, Pluralize: Records are physically controlled by disposal to archives or by destruction, while archival records are managed for optimal preservation and usage, often beyond the organization's business purposes for which they were created and used.

The records continuum provides a way of making sense of the complexity of recordkeeping in the digital environment. The dimensions and the axes can be used as a practical tool to identify at which stage of development an organization is in terms of managing its information as evidence for accountability (Oliver & Foscarini 2014:13). For instance, the vertical and horizontal axes, illustrated in figure 2, represent the major records management

themes (transactional, identity, evidential and recordkeeping). Records across all four dimensions thus serve on an ongoing and constantly changing basis as accounts of transactions between different stakeholders, as proof of identity, as evidence of activities and as archival general records.

The circles in figure 2 represent the dimensions of the continuum (create, capture, organize and pluralize). In a continuum there are no separate steps, both within a digital and paper system. Thus, records do not pass through distinct, set stages, as implied by the records lifecycle theory. Instead, the stages act as a point of reference in a particular context, rather than as fixed functions of records management. These stages are interrelated through the records continuum model, forming a continuum in which both records managers and archivists are involved to varying degrees in the management of recorded information (Luyombya 2010:41; Abankwah & Hamutumwa 2017:170).

The records continuum model seems to have spread through the development of standards to the international document archives community (Gilliland 2018:220). However, the formulation of standards or policies does not mean that the actual practice of recordkeeping has already widely implemented the concept of the continuum model. The existing literature lacks empirical research on the theory in practice, such as the application of set standards or the evaluation of the theory's substantive benefits, whether the theory has really exerted its influence, the way it affects the management of records, and the extent of its impact.

The records continuum model emphasizes social responsibility and accountability and places record-keeping in a key position with regard to maximizing the administrative return of an organization, thus giving clerical and archival personnel an active role as managers of record-keeping actions, coordinators, policy makers and supervisors instead of being simply technical staff and dealing only with passive, operational responsibilities (Lemieux 2017). This takes place not only to ensure organizational effectiveness and efficiency, but to preserve collective social memory (Brothman 2006).

There are further impediments to putting the continuum model into practice. For example, the understanding of the record as variable and constantly changing is contrary to the general perception of the nature of records and the gap between the basic assumptions means that the existing practice often simply continues. This makes it difficult for the wider community to test the rationality of the theory (Frings-Hessami 2020). Apart from the problems arising, there are a number of inherent inadequacies of the records continuum model.

The inadequacies of the records continuum model

The records continuum model, like any other model, is not without limitations, shortfalls, and flaws. Piggott (2012:183) argues that the records continuum model is an "abstraction, one which must take its chances due to its reliance on the viewer to draw a correct inference." The theory is comprised of an interconnected web consisting of four potentially concurrent and recurring dimensions that serve to provide a range of functions. The details of what needs to happen at each point are thus not explicit, hence Piggott's use of the term "inference". Karabinos (2015:14) agrees that the theory is "confusing and vague."

An additional limitation of the records continuum model, according to Piggott (2012:185), is that it is a worldview that cannot be applied to every era or culture, with its applicability not having been seriously tested in this regard. Therefore, this calls attention to the lack of critical debate about the continuum model after its development. This is supported by Karabinos (2015:14), who states that during the formative years in the mid-1990s, when the records continuum model was being developed in Australia, it was accepted without any substantial

tests of the claims put forth by its defenders. Karabinos (2015:15) indicates that Frings-Hessami tested the rationality and applicability of the records continuum model and attempted to apply the model to non-traditional archives, coming to the conclusion that the model is in its current state insufficient.

The comparison between life-cycle theory and records continuum model

The records continuum model and the life-cycle theory are the two key approaches in the field of records and archival management (Svärd 2013:163). Comparisons between them are usually made from the perspective of the records continuum model in relation to the life-cycle approach, a comparison in which many explanations of the records continuum model take place. Thus, the life-cycle theory is viewed as being focused on records as entities and on certain tasks associated with different stages in the handling and managing of the records (Hofman 2017; Yusof & Chell 2000; Lin 2015).

In comparison with the life-cycle theory as regards the long-term use of information, the records continuum model is often seen as superior on a number of points. The continuum model, for example, supports the idea of records as key to upholding social and organizational memory. In addition, the continuum model emphasizes the need for a seamless or unbroken and dynamic or responsive system of records management that is not limited by linear phases in time or space (Svärd 2013:162).

Meanwhile, in the digital world, the continuum model is suitable to assist in developing archival electronic information systems. Overall, this model allows "for unending circular and recursive processes", suitable for the "contemporary use of records, and justifies their long-term preservation for smart organizations" (Svärd 2013:162). Shepherd and Yeo (2003) notes that the continuum-supporters criticize the life-cycle theory for relying on the physical entities of paper records, instead of viewing them as logical entities which would then naturally encompass digital records too. This reliance on the physical entity of a record by the records life-cycle thus threatens the management of electronic records.

The post-custodial idea that undermines the concept of records being under the custody of a specific department during a particular phase of their life-cycle, is sometimes put forward to explain the difference between a life-cycle theory and a records continuum model of recordkeeping, which means that the records managers and archivists have responsibility for the records along the entire continuum (Klareld 2017:16). Millar (2006:67) notes that records continuum model places emphasis on the archivists' proactive action from the point of the records' creation, unlike life-cycle theory which is the passive archival phase based on the perceived value of records. However, given the stress placed on managing government records, Millar (2006:67) is of the view that private papers with historical value are somewhat neglected by the continuum model.

Theoretical criticism and discussion

Six key aspects are dealt with in detail here. Firstly, the relationship between the records manager and the archivist and the relationship between the record and the archives as perceived by the life-cycle theory and continuum model. This leads to the second aspect, namely the relationship between the records and the archives. Thirdly, the two views on the nature of the records as an entity. Fourthly, the concept of determining the recordkeeping tasks and processes based on phases as opposed to context. Fifthly, the relative practical and theoretical natures of the life-cycle and continuum recordkeeping approaches and sixthly, the question of the universal applicability of the two models.

The first point to be made about the two models concerns the relationship between the records manager and the archivist. McKemmish (2003) and Upward (2003:1) strongly disagree with assertions made by records and archival management theorists that there are clearly defined and separate stages in the life of a record. Consequently, McKemmish (2003) argues that there should be a unifying purpose for recordkeeping that is inclusive of archives and that no boundary should exist between archivists and records managers.

The proponents of and commentators on the records continuum paradigm have further advanced the case for the records continuum practice, emphasizing the need for the active involvement of archivists from the creation of the record onward, and not only at the end of the life-cycle (Bearman 2003:9; An 2003:24). Following the same view, Cumming (2010:42) believes that the records continuum model's holistic approach equally "recognizes recordkeeping and archival processes and does not give primacy to one over the other."

Secondly, if, as is stipulated by the continuum model, the sharp dividing lines between records manager and archivist are to be torn down, the same must occur with the records themselves. Huvila, Eriksen, Hausner and Jansson (2014) thus note that, according to the records continuum model, it is irrelevant to "conceptualize… [records'] processes of emergence and existence as a linear life-cycle with only a single beginning and end." As McKemmish argues, with a continuum perspective, the "dichotomy" between the "record-as-evidence" and the "record-as-memory" disappears. According to this approach, records cannot be categorized like either one or the other. It is their evidence/evidential nature that allows them to play a specific role in a particular context, for example, in accounting for a transaction, in constituting a memory or in shaping an identity (McKemmish 2001:352).

The third aspect in discussing the two approaches concerns the nature of the record. The definition of a record is generally accepted as being a document that is preserved for serving a function of representing evidence of a transaction or activity, while the evidential value of a record in turn depends on the preserving of its content (the information it contains), structure (as a paper or electronic record) and context (the place/time of its creation and use) (Cox 2001). In addition, a record cannot serve as evidence without authenticity and reliability, which the International Organization for Standardization (ISO) 15489 (2001:7) defines as follows:

> An authentic record is one that can be proven a) to be what it purports to be, b) to have been created or sent by the person purported to have created or sent it, and c) to have been created or sent at the time purported… A reliable record is one whose content can be trusted as a full and accurate representation of the transactions, activities or facts to which they attest and can be depended upon in the course of subsequent transactions or activities.

In the life-cycle view, the record is the entity that guides its entire approach, as such the life-cycle approach aims to preserve the record in terms of its content, structure and context, while also protecting the authenticity and reliability of the record. Meanwhile, the continuum model does not view the record as an entity, but rather as a logical construct required in a context for a function. The preservation of the content, structure and context of the record within the continuum approach is repeatedly done through the four dimensions of creating, capturing, organizing and pluralizing the record according to the context of its use along the axes: as authentic and reliable resources showing evidence, memory, identity and transactions. As Van-Bussel (2017:28), referring to Upward (2005), explains:

> The dimensions of the continuum describe how organizational archives (and the records captured within them) are dis-embedded from their original context(s) of

use to become a part of a collective memory and carried through space-time. Their context is represented by the axes of evidentially, transactionality, recordkeeping, and identity.

The fourth aspect of the two theories is the phrasal focus as opposed to the dimensional one. The linearity and phased divisions of the life-cycle theory aims to systematically control the creation, use, maintenance and preservation of records. This linear and phased records management system is based on the assumption that a record is a fixed entity. However, this assumption can thus undermine the goals of protecting the records' authenticity and reliability of the content, structure and context, because records are – as pointed out by Upward (2005) – inherently unstable, especially in the digital age. Records can contain errors, be altered, manipulated, lost, hidden or destroyed. Staff diligence, competence and cross-departmental coordination, as well as systems functionality are variables that can easily destroy the content, structure and context of a record as well as its authenticity and reliability. In addition, records are unstable with regard to their life-cycle phase, since they can be created and re-created, they can be archival from the beginning and they can serve multiple roles at different times to provide evidence and give accountability to retain social memory, to underpin transactions or to prove identity.

In the continuum model, the guiding factor is not the record as an entity in a specific phase of its life, but the record as document with content and structure in a context in space and time as well as the function that that record serves at a particular point in time. Thus, records can have multiple life-cycles and are changing continuously (Upward 2000) and, according to McKemmish (2001:336), use of the continuum model will ensure the "accessibility of meaningful records for as long as these are of value to people, organizations, and societies – whether that is for a moment or millennia." The continuum model thus focuses particularly on the function required to be served by a record to fulfil a purpose on meeting the needs of that purpose efficiently and effectively.

Van-Bussel (2017:22) notes that the records continuum model receives criticism for being too theoretical and disconnected from the realities of information management. A similar criticism is given by Lappin (2010:254) who argues that the model was created for a certain period in time when the shift to networked environments was taking hold, but "before we knew what it was like for organizations to be networked and digital." Lappin (2010) concludes that solutions to practical problems have not been properly provided by the records continuum model. Van-Bussel (2017) similarly criticizes the continuum model for being non-pragmatic and heavily theory-based to the extent of being removed from reality. The actions taken during each dimension of the continuum do not deal with the records as items in a phase in their life, but as concepts along axes of functions that serve society. Van-Bussel (2017:28) states that these criticisms, while valid, do not take into account that the theory does acknowledge, and does in fact accentuate, the importance of context and contextualization – albeit in a different sense of the word – for revealing the meaning of a record, for ensuring accessibility to those impacted by a record and for enhancing a record's usability in achieving a purpose or function.

The sixth aspect examines the claims of the continuum model proponents that it has universal applicability. Piggott (2012:185) questions Upward's (1997:31) assertions that the model offers an any time, any place approach to recordkeeping and that it can map how societies, globally and throughout history, created records, captured them, organized and preserved them. Gilliland (2014:222) also points out in this regard that the model fails to address the question of how power in society impacts on archival management, which is a key issue, especially in the postmodern and postcolonial environment which brought heightened awareness of the dangers of meta-narratives in general. Piggott (2012:185) and Karabinos (2018:208) both criticize the lack of comprehensive and rigorous testing of the model, with

both concluding that the claims of culture- and record-independence have not been proven. However, as Van-Bussel (2017:28), referring to McKemmish (2001), explains:

> …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, social, cultural, political, and legal processes. According to the theory, it is this meta-view, that are vital to interpret and (potentially) understand the role and value of archives in past, present, and future (McKemmish et al 2010).

Conclusion and recommendations

A methodical understanding of the main theories to records management as elucidated above, as well as a discussion of each theory's limitations and relevance, and the theories' impact on the practice of records management have been presented. The life-cycle theory and the records continuum model are useful instruments to understanding and meeting immediate business requirements, as well as other use of official records that may occur currently or in the future.

While the records continuum model has advanced important aspects of records management, the fundamental practices employed in the traditional paper environment, as illustrated in the life-cycle theory, are still relevant in the current organizational context. While the need for a new paradigm shift is recognized, the researchers are of the view that the life-cycle theory must not be dismissed or rejected because organizations continue to be responsible for creating, capturing, organizing, maintaining and preserving records throughout their life-cycle. Instead, the records continuum model should be looked at as an additional strategy useful for managing records in the electronic environment. This is because their existence as virtual objects make their management in separate and clearly identifiable stages a difficult task.

The literature reviewed seems to advocate for the records continuum fail to take into account the fact that paper-based records continue to grow, even in the context of computerized systems. In view of this, and of the fact that in the majority of organizations manual systems are still prevalent, the life-cycle theory remains relevant in records management.

The records continuum model, however, also has critical emphasis and tools to offer in giving new direction to developments in the archives and records management profession, especially in the digital space. Digital records in particular do not always follow a fixed linear life-cycle and may undergo numerous lives being created, re-created, captured and re-captured, organized and re-organized, preserved and re-preserved. All records are used in different contexts in varying times and places for a range of purposes. These stretch across all phases of the records life-cycle theory or all dimensions of the records continuum model. The records continuum model highlights the ultimate aims of why records are kept at all and reminds all stakeholders of the key roles they play, within and beyond their immediate recordkeeping responsibilities, in ensuring the availability of authentic and reliable records for the benefit of all of society.

Therefore, in conclusion, this paper contributes a synthesis of the views on the key archival theories: the records life-cycle theory and the records continuum model in archival science research, in order to discuss their key features, limitations, comparison and theoretical and practical value and applicability to contemporary archival science.

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