

SAARA PACKALÉN

# Functional Classification Systems in Finnish Public-Sector Organisations

The background of the cover is white, featuring a decorative pattern of numerous blue, semi-transparent spheres of varying sizes. These spheres are scattered across the page, with some appearing larger and more prominent than others, creating a sense of depth and movement. The spheres have a subtle texture and are rendered with soft shadows, giving them a three-dimensional appearance.



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in Finnish Public-Sector  
Organisations



ACADEMIC DISSERTATION

To be presented, with the permission of  
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# Abstract

Records are created and received in the course of organisations' functions. In the public sector, records serve as evidence of actions carried out by authorities, provide openness and transparency in governance, and serve in some part as memory of the society. To fulfil these objectives, records need to be reliable, be authentic, have integrity, and be usable. For usability, records must be findable, accessible, and understandable in both the present and the future. To be understandable later, in turn, an individual record needs to be connected to other relevant records and to the function for which it was originally created. Today, functional classification systems are widely applied internationally: through function-based classification, records are systematically organised and connected together for their later interpretation and use.

The thesis focuses on functional classification systems in the Finnish public sector, where the approach to records organisation and recordkeeping is comprehensively function-based and context-oriented. Functional classification systems are examined primarily from recordkeeping professionals' perspective, via a study composed of four sub-studies (studies I–IV). The first of these (Study I) focused on recordkeeping professionals' conceptions of functional classification systems. The second (Study II) addressed the difficulties faced by recordkeeping professionals in functional classification systems' use and on how those difficulties are handled. Next, Study III highlighted these professionals' perceptions of functional classification system users and the systems' use in Finnish public-sector organisations. The fourth sub-study (Study IV) explored the labelling used in the functional classification systems that the recordkeeping professionals used in their work.

The thesis describes and analyses problematics in functional classification systems, which constitute the prevailing approach to records' organisation. The context of Finnish recordkeeping, with its special characteristics, and previous literature surrounding function-based approaches to records organisation provide the framework for the study. Interviews were the primary data-collection method. In total, 22 recordkeeping professionals, working in three individual Finnish public-sector organisations, were interviewed, through semi-structured interviews conducted in spring 2013. In addition, the functional classification systems at their three organisations were used as a data source. The data on the functional

classification systems analysed were obtained in the same spring. The data analysis employed mainly qualitative methods; in Study IV, quantitative methods were used supplementally.

The study has generated new knowledge of functional classification systems in Finnish public-sector organisations. The findings reveal that there are various ways to understand these systems. The recordkeeping professionals' concrete understanding of their organisation's functional classification system was intimately connected with the tasks they performed in the organisation. Accordingly, various justifications were given for the functional classification systems. Several difficulties were identified in these classification schemes' maintenance and use, among them the abstract terminology applied in the functional classification systems. However, the study uncovered several ways in which the recordkeeping professionals handled the difficulties they faced. For instance, these professionals collaborated with colleagues to address some of the issues. In addition, the findings reveal that recordkeeping professionals identified other users of the functional classification systems in their organisations. Also, they perceived the systems as, in part, underused. The findings highlight, furthermore, the use of varying and ambiguous title wordings in functional classification systems. A clear logic in title wordings, followed throughout all the labels used in a given classification system, was found to be lacking.

The results indicate that there are contradictory needs in various contexts of functional classifications' use and among groups of users of functional classification systems in Finnish public-sector organisations. For example, for selection of the most appropriate class for a record, currentness in the lower, more specific levels of the system was perceived as very important, in contrast to the maintenance-associated aim of avoiding constant changes in the classification system and maintaining balance in it. The results point to several challenges in functional classifications' use. They also indicate a need for agreement and rigorous analysis of the labels selected for classifications. Moreover, the study highlights a need for robust theoretical foundations for a function-based approach to records organisation.

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Saara Packalén

In Pälkäne, on 31 May 2017



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# List of original publications

The thesis is composed of a framing summary and the following four research articles. In the summary, the articles are cited with reference to the sub-studies performed for them, termed studies I–IV.

- I. Packalén, S. & Henttonen, P. 2016. Recordkeeping professionals' understanding of and justification for functional classification: Finnish public sector organizational context. *Archival Science*. Vol. 16, No. 4, pp. 403–419.
- II. Packalén, S. 2015. Functional classification: Recordkeeping professionals' difficulties and their handling in maintenance and use of FC in Finnish organisations. *Records Management Journal*. Vol. 25, No. 2, pp. 166–182.
- III. Packalén, S. 2016. Recordkeeping professionals' perceptions of users and use of functional classification systems in the Finnish public sector. *Information Research*. Vol. 21, No. 1, paper memo3.
- IV. Packalén, S. & Henttonen, P. 2016. Ambiguous labels: Facet analysis of class names in Finnish public-sector functional classification systems. *Knowledge Organization*. Vol. 43, No. 7, pp. 490–501.

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The authors' contributions to studies I and IV are the following:

- I. Henttonen contributed to revisions for the article. Everything else is the work of the first author.
- IV. Henttonen contributed to the general design of the study and to the revision of the article. Everything else was done by the first author.

# 1 Introduction

Records serve as evidence of actions performed. In public-sector organisations, records are created and received mostly in the course of organisations' statutory functions. Records produced as public-sector organisations carry out their functions have substantial legal and societal significance today and in the future as we research our history. Records also serve as memory of the society, so they need to be preserved for later use or appropriately destroyed. It is clear that records need to be found and accessed in line with their current and future use.

To be understandable later, an individual record must be connected to contextual information about its existence. For this reason, records are connected to the functions and activities of their origin and to records related to the same matter. When paper records reigned supreme, the context was often rendered obvious by the physical record itself and through the records around it. However, especially in digital environments, where records consist of bits in cyberspace, contextual data must be somehow added to them today. Functional classification systems provide a method for this purpose. In simple terms, classification is a way of grouping like things together on the basis of a certain characteristic or criterion (Hunter, 2009, p. 1). A functional classification system connects records belonging to the same function.

Traditionally, records are organised for purposes of being easily accessed. In the past, there was greater variation in approaches and methods employed to this end. A shift toward a shared vision of basing records organisation on the functions of the record-creating organisation began as the number of records within organisations began to grow and because of their gradual change in nature from static to dynamic and digital. Today, a certain international interest in function-based records organisation exists in public-sector organisations. Function-based organisation is an internationally accepted and widely used approach.

Recordkeeping professionals seem to prefer a function-based approach to records organisation (Foscarini, 2012; Smith, 2007, p. 54). This approach is advantageous in providing context to records (Shepherd & Yeo, 2003, pp. 73–74), which is especially important in digital recordkeeping systems. Linking records to their functional context provides essential information on their origin. Furthermore,

functions are expected to constitute a stable foundation for the categorisation of records (Smith, 2007, p. 54).

Professional literature and textbooks on this subject systematically describe the function-based approach as the main method for records organisation (Kennedy & Schauder, 1998, pp. 113–114; Shepherd & Yeo, 2003, pp. 73–74; Smith, 2007, pp. 55–56; Tough & Moss, 2006, p. 15). However, previous studies have revealed confusion around the most basic of function-related concepts. Understanding of what constitutes a function, activity, transaction, etc. varies (Alberts et al., 2010; Foscarini, 2009). Often those concepts are used without being defined. Also, various difficulties in applying function-based logic to records organisation are evident, and methods for creating functional classification systems are perceived as confusing (Foscarini, 2009). One of the major issues plaguing functional classification systems is their usability: several types of usability problems have been noted in recent studies (Calabria, 2006; Gunnlaugsdottir, 2012; Ifould & Joseph, 2016; Singh et al., 2008). Recently, functional classification systems' use for records organisation has been questioned in today's multifaceted digital environment as an active user shuttles between past and current, creating his or her own tracks (Bak, 2012; Yeo, 2012).

In Finland, functional classification systems have seen increasing use in public-sector organisations ever since the 1980s, yet studies have not examined these classification systems in a Finnish context, with only a few exceptions (Henttonen & Kettunen, 2011; Seitsonen, 2010).

The study carried out in the thesis project was motivated by the lack of clarity in understanding, application, and use of functional classification systems. Conceptual inconsistencies and usability issues noted internationally, especially coupled with the low number of studies in Finnish recordkeeping environments, motivated the design of the study. In Finland's public-sector organisations, the function-based approach to recordkeeping is comprehensively applied across the records' entire life span, with the most focus in recordkeeping plans being placed on pre-existing records. Therefore, the Finnish approach represents a relevant case for study.

This work has yielded new knowledge of functional classification systems and their use in Finnish recordkeeping context. Importantly, the study deepens our understanding of the challenges faced in connection with functional classification systems and forms a starting point for preparing for future challenges.

The study contributes to the literature on function-based records organisation and various ways of using functional classification systems. With its structured representation of functional classification systems' current status and situation in the

landscape of recordkeeping practices in Finland, the work also contributes to the conceptual clarification of ‘functional classification system’ and related concepts.

One of the main contributions of the study is its strengthening of the scientific foundation for the practically oriented discipline of archives and records management. The study clearly adds to the body of research into records management and studies focused on recordkeeping in the Finnish environment.

Such practical contributions may lead to changes in practices through increased awareness of issues affecting the utility and day-to-day usage of functional classification systems in organisations.

The overall aim set for the study was to broaden our understanding of functional classification systems for records organisation. For reaching this goal, the following research questions were addressed:

- What are recordkeeping professionals’ understandings and perceptions of functional classification systems in Finnish public-sector organisations?
- What difficulties do recordkeeping professionals face in maintenance and use of functional classification systems, and how do they handle these difficulties as manifested in Finnish public-sector organisations?
- How do recordkeeping professionals in Finnish public-sector organisations perceive the users and use of functional classification systems therein?
- How do the labels employed for categories in functional classification systems in Finnish public-sector organisations represent functions?

The thesis consists of a summary and four research articles (on studies I–IV). Study I was designed to ascertain how recordkeeping professionals working in three distinct public-sector organisations in Finland understood functional classification and how they justified a function-based approach to records organisation in Finnish public-sector organisations. Study I created a foundation for Study II, which uncovered difficulties that recordkeeping professionals face in maintaining and using functional classification systems in their organisations. Also, the article discusses their ways of handling the various difficulties. Once the challenges faced by recordkeeping professionals themselves were thus revealed, Study III was carried out, to explore the recordkeeping professionals’ perceptions of other users of functional classification systems in the organisation. Finally, Study IV went further, addressing the usability issues of functional classification systems via analysis of the

labels used in the functional classification systems employed in the above-mentioned three case organisations.

The thesis employs the following structure: Firstly, Chapter 2 provides background for the study by introducing the key concepts behind the work and by presenting a review of previous professional literature and studies in the relevant field. It also presents the Finnish recordkeeping context and the phases in the public sector's movement toward a function-based approach to recordkeeping. Then, Chapter 3 describes the research design: the framework for the study, the data, and methods used are discussed. In Chapter 4, the findings from studies I–IV are presented one by one, with a synthesis of all of them provided as a summary. After the main findings and reflections on the value they contribute are presented, in Chapter 5, conclusions are stated in brief in Chapter 6.



## 2 Records in their functional context

This chapter describes the context and the premises for the study. The work is situated in an emergent research arena. With empirical work being far less commonplace, textbooks and other professional literature aimed at practitioners play the most prominent guiding role in this field. Here, I look at the main writings falling within the scope of the study, both the practically oriented literature and the scholarly studies carried out thus far.

In Section 2.1, core concepts applied in the study are introduced and defined. Then, Section 2.2 delves into classification of records and various ways of carrying out this process. The focus in Section 2.3 is on the function-based approach to records' organisation and on functional classification of records. Section 2.4 describes and discusses the previous studies in relation to statements in relevant professional literature. The Finnish recordkeeping context is introduced in Section 2.5. This background is followed by brief presentation of the gap that the study was designed to bridge, in Section 2.6.

### 2.1 Core concepts for the study

According to the International Organization for Standardization, in ISO 15489-1 (2016)'s 'Terms and definitions' section (3.14), **record(s)** are 'information created, received and maintained as evidence (3.10) and as an asset by an organization or person, in pursuit of legal obligations or in the transaction (3.18) of business'. External forms of records vary; what is essential is the evidential value of records, the activity that generated them, that forms their context. In the study, **context** was understood in the way Henttonen (2015a) describes it: the features outside a record that then determine that record's place in the classification. In addition to context, the other aspects of the 'recordness' of records are their content, medium, and structure. If they are to be evidential, records also need to be authentic, reliable, of guaranteed integrity, and useable (McLeod & Hare, 2006, pp. 20–24).

Records hold the power both of remembering and of total oblivion. Because records are the key to a society's memory or forgetting, they need to be managed. In

the Finnish **recordkeeping** environment, records and archives management are intertwined (Lybeck et al., 2006, p. 19). They belong together, forming an unbroken continuum that is proactively planned in organisations.

As records do not exist in isolation – they have various relationships in the network of documentation, people, and activities in the conducting of business – records need to be connected to these processes, in one way or another. Via classification, records are linked together as soon as they are captured, tied into some sort of recordkeeping system (Reed, 2005, p. 111). To **classify** is ‘the grouping together of like things according to some common quality or characteristic’ (Hunter, 2009, p. 1), and a **classification scheme** or **classification system** is a tool for records’ classification. Sometimes, it goes by the name ‘file plan’ or ‘record plan’. This thesis applies the term ‘classification system’. A classification system serves several purposes at the same time; therefore, it also has impact on several issues in the course of a record’s life span. It is essential for linking records together and determining the place of an individual record and file among other records. A classification system also aids users in the retrieval and interpretation of records. It serves as a basis for intellectual control of records and facilitates the management and use of records as a whole, including records’ capture, retrieval, maintenance, and disposal over time (Shepherd & Yeo, 2003, p. 73). In addition, legal requirements for adequate records management are fulfilled through classification.

Public-sector organisations create and obtain records as they perform the business **functions** they are legally obliged to fulfil. Alberts et al. (2010, p. 376) define a function as ‘an action description that emphasizes the group carrying out the action, their responsibility, and how their action supports a general goal or organisational state’. Hence, and in light of this, functions constitute the upper-level aims and objectives that the organisation is responsible for taking care of. Functions can be broken down into smaller units also: activities and transactions that describe, more or less, the steps in carrying out the main functions.

To connect records to the context or their origin (the functions and activities that the records were generated for), the current best practice internationally is to apply a function-based approach to records’ classification. There are various understandings and manifestations of functional classification systems, in different recordkeeping environments. For purposes of the study, a **functional classification system** is understood in the sense employed by the Finnish National Archives, as ‘a hierarchically structured list of an organisation’s statutory and supportive functions’ (Arkistolaitos, 2008).

## 2.2 Classifications for records organisation

The world around us has been classified through various sorts of categories. For humans, classification is a fundamental way of making sense of the world (Broughton, 2006, p. 1). The properties of a classification system have been described by Bowker and Star: such a system, in an ideal sense, operates with consistent and unique classificatory principles, the categories are mutually exclusive, and the system covers the whole of the world it describes, but these requirements are not met by any real-world classification systems (Bowker & Star, 1999, p. 11). It is impossible for a classification system to reflect the world (either social or natural) in a completely accurate way. Classification simply acts as a tool for exploring the real world (Bowker & Star, 1999, pp. 322–323).

Classification is an essential tool in the way information and records are arranged in organisations. For records in today's digital environment, Foscarini (2009, pp. 53–54) considers classification even more important than it was in the past, chiefly because of the intellectual control it exerts over digital records. With archives, the organisation's approach is mainly custodial and the focus in classification is on arrangement (Ribeiro, 2014).

There are various approaches to records organisation. The approaches known to exist are functional, subject-based, organisational-structure-linked and hybrid systems, as presented in a guidebook by Smith (2007, pp. 54–55). Some textbooks promote functional classification as the principal approach to records organisation (Shepherd & Yeo, 2003) while others take account of the other methods too (Kennedy & Schauder, 1998).

Some comparisons of approaches have been conducted (Connelly, 2007; Todd, 2003), which describe their typical advantages and disadvantages. In organisation of records, the simplicity of the classification system is of great importance for ensuring understandability to everyone (Myburgh, 2009, p. 4462). As Campbell (1941) points out, the objective of a classifier is to produce a classification scheme that is useful for its users, not to create a scholarly achievement alone. Certain pragmatic issues arise. Accessing records that are arranged on the basis of the organisation's structure and administrative history requires such knowledge of historical developments as the searcher rarely possesses. The greater the classifier's scholarly bent, the harder is the task of the searcher (Campbell, 1941). The selection of the language and names for use in any classification is imbued with the organisation's view of its functions. At the same time, the systems represent what our society finds an acceptable way of referring to the relevant functions or other entities (Reed, 2005, p. 113).

## 2.3 A function-based approach to records organisation and to classification systems

Today, functions of the record-creating organisation serve as a widely used foundation for records organisation internationally. The approach has its roots in the early 1940s, with Campbell (1941) and Schellenberg (1956) among its early advocates. The increasing volume of records and their digitalisation sparked stronger interest in the function-oriented approach to records organisation. The need to manage such a vast quantity of records was perhaps the most important impulse for applying the approach. Furthermore, it promises continuity: the fundamental purpose for creating organisational units is to perform certain functions with the same functions being performed no matter the changes an agency may undergo (Campbell, 1941).

Schellenberg (1956, p. 53) saw three elements as important to think through in classifying of public-sector records. These are the action that the records were connected with, the record-producing agency's organisational structure, and the subject of the record. Since records result from functions and are used in relation to those functions, Schellenberg (1956, pp. 62–63) held that they should be classified in accordance with functions. In the model he developed (p. 55), the functions of the organisation are divided into substantive and facilitative activities, with each of these two divided into policy transactions and operational transactions. According to Schellenberg (1956, p. 62), organisational structure is often too fluid for records' classification, and subject-based classification should be used only in exceptional circumstances.

Function-based systems for records organisation started to gain more attention from the 1980s onward. At that time, there was a wider paradigm shift ongoing in the archival realm (Cook, 1997). On account of the changes in the nature of records, systems, uses, etc., a shift towards acknowledging the context of records' creation might have been inevitable. After the release of international standard ISO 15489 in 2001, organisations around the world started to introduce functional classification systems for their records (Connelly, 2007). The functional approach was something new, and hopes arose for it to be 'the missing link' pulling records management together with information technology (Connelly, 2007, p. 19). It is noteworthy, however, that, while encouraging the functional approach, ISO 15489 does not rule out other methods (Connelly, 2007).

In the functional approach to records organisation, records are identified by function or activity in the organisation (Williams, 2006, p. 78). Functional

classification focuses on the question of why the records were created (to do with the action in which the records originated). Functions only suggest the content of records (Myburgh, 2009, p. 4461.) If classification approaches are divided into contextual ones (describing the features external to records) and intrinsic ones (wherein one can recognise properties by looking at the record), functional classification belongs to the former group (Henttonen, 2015a, p. 477).

Current textbooks highlight the outstanding value of functional classification systems in adding contextual information to records, especially in digital form. In a digital environment, contextual information about records' creation is vital. When a record is linked to the function of the organisation for which it was initially created, its interpretation in the future is possible (Shepherd & Yeo, 2003, pp. 72–74). This is evident when records are understood as aggregates instead of individual items such as books (Williams, 2006, p. 85).

## 2.4 Previous literature

The number of studies focusing on functional classification systems from multiple angles is slowly growing. A study by Orr (2005) served, in a sense, as a thematic opening for discussion of the variety of interpretations of functional classification systems. Since then, studies have been conducted from various perspectives, including those of understanding of function-based approaches (Foscarini, 2009, 2012), function-based systems' development (Mokhtar et al., 2016; Park & Neal, 2012; Sabourin, 2001), practical implementation processes for electronic records-management systems with functional classification (Bedford & Morelli, 2006; Gregory, 2005), and use and usability issues connected with functional classification systems (Bailey & Vidyarthi, 2010; Gunnlaugsdottir, 2008, 2012; Henttonen & Kettunen, 2011; Ifould & Joseph, 2016; Singh et al., 2008) Also, some theoretical underpinnings to the function-based approach to records organisation have been developed (Alberts et al., 2010; Henttonen, 2015a).

Far and away the broadest individual study thus far to focus on functional classification systems is reported upon in a work authored by Foscarini (2009) that addresses the functional classification systems applied in records-management practices at central banks. That study also was a major inspiration for the present thesis. Her ambitious work focused on understanding the concept of function and the functional approach to records classification. Using documentary information, observations, and interviews both with people responsible for the development of

records-classification systems and their implementation and with users, a case study was conducted in four central banks in Europe and North America. It revealed that understanding of functions and of the function-based approach to records classification varied, and the differences were linked to organisational culture. Further, Foscarini found out that methodologies for developing functional classification systems are confusing and that the classification systems used do not always serve records-management or business purposes (Foscarini, 2009).

#### 2.4.1 Advantages of a function-based approach

Certainly, there are fundamental advantages to basing records' organisation on functions and activities of the entity in question. Recordkeeping guidebooks and textbooks place particular emphasis on the benefits of function-based classification of records in a digital environment, and the same is true of the professional literature.

As mentioned earlier in the thesis, functional classification of records provides records with their originating context and assists in records' interpretation and understanding (Shepherd & Yeo, 2003, pp. 72–74). Reflecting business functions in records' organisation is cited as possessing strategic advantages for recordkeeping. In addition to the contextual link it gives to records, it enables them to be managed as aggregates when, for example, access rights are being assigned (Reed, 2005, p. 112). Stability of organisations' functions in comparison to organisational structure is another often-cited benefit of function-based classification: organisational structures are fluid and often subject to reorganisation (Smith, 2007, p. 56; Todd, 2003, p. 3; Tough & Moss, 2006, p. 17), while functional classifications are considered more flexible (Shepherd & Yeo, 2003, p. 74). Comparing function-oriented taxonomies with subject- and organisational-unit-based ones, Connelly (2007) took the view that the former confer advantages also in such respects as determination of ownership and accountability, the ease of adding new functions, and reduced need for scope notes. It has been stated also that a function-based approach can improve the effectiveness of the organisation utilising it (Smith, 2007, p. 55). This approach to classification provides a high-level view and a holistic, bird's-eye perspective on the organisation's records (Kwasnik, 1999; Shepherd & Yeo, 2003, p. 74).

The literature also indicates that function-based organisation of records is the approach best serving the entity's recordkeeping objectives (Reed, 2005, pp. 112–113) and that recordkeeping professionals prefer it over other classification methods because it is easier to manage (Smith, 2007, p. 54; Todd, 2003). For instance, recordkeeping professionals' preference for functional classification systems was

evident in Foscarini's (2012) study. Upon interviewing recordkeeping professionals, Gunnlaugsdottir (2012) concluded that, after participation in the design of the scheme and proper training, and with support from the top management, functional classification systems are invaluable tools for recordkeeping in organisations.

## 2.4.2 Challenges facing the approach

While guidebooks and other practice-oriented professional literature often refer to the advantages of functional classification systems, studies have been conducted that reveal several challenges linked to this approach.

First of all, the theoretical foundation for function-based records organisation remains weak. Recent efforts from Alberts et al. (2010) address concepts' definitions and the relationships between various basic concepts, such as 'function', 'activity', 'transaction', and 'process'. In other work, Henttonen (2015a, p. 478) has stressed five dimensions to contextual classifications: their stability (the need to change and update the classification), generality (the number of contexts covered), granularity (the number of levels in the hierarchy and the subdivisions within each), specificity (exactness of the descriptions), and validity (the classification's power to describe and predict features of the context). Henttonen points out too that looking at the relationship between records and categories is important.

Secondly, while the term 'function' is widely used, this is primarily without definition of it. The terminology utilised is varied, and so is how concepts such as function are understood. They are used in various contexts without full consensus on their meaning (Alberts et al., 2010) and with blurred lines between them (Connelly, 2007). Some authors have even catalogued the variety of definitions (Connelly, 2007; Foscarini, 2012). Foscarini (2009) concluded that the meanings adopted for 'function' and 'classification' vary and that functional methodologies are confusing for classification developers. As Foscarini (2009, p. 290) states, function is a relative concept; the hierarchy used in functional classification systems that systematise functions, activities, and transactions does not stem from the real world (Foscarini, 2009, pp. 289–290).

One of the main concerns in recent studies focusing on function-based records organisation is the user of functional classification systems. Usability issues have been noted in several recent studies (Alberts et al., 2010; Calabria, 2006; Foscarini, 2009; Gunnlaugsdottir, 2012; Ifould & Joseph, 2016; Orr, 2005; Singh et al., 2008). Those responsible for recordkeeping in an organisation have a holistic view of recordkeeping, unlike the others involved, who focus mostly on the records

belonging to their own sphere of tasks (McLeod & Hare, 2006, pp. 37–38). Henttonen and Kettunen (2011) found that individual employees use only a small part of the classification. In addition, users often think about subjects, not functions (Calabria, 2006).

Alberts and colleagues (2010) remark on the limited search capabilities afforded by records when they are assigned only a single location, findable via their functional classification alone. With appropriate metadata added, records are searchable by content, type, case, project, subject, etc. When studying the implementation and use of electronic records-management systems in Iceland, Gunnlaugsdottir (2008) found that the number or name of a class in a functional classification system was seldom used as a search parameter in search for and retrieval of records in these records-management systems. It is clearly important to note the limitedness of functions as a route of access to records. The functions of the organisation that the records originate from represent only one way of accessing records. In digital recordkeeping systems and practices, functional classification is only one tool among many, in this respect.

Alberts et al. (2010) note also that with a functional classification system there is a risk of creating information silos since functions and processes might not overlap when horizontal processes cut across multiple functions. In addition, organisational culture affects how records management and business processes are understood (Foscarini, 2009, 2012).

### 2.4.3 Reflections on the future of records organisation

Organisations create recordkeeping policies that vary, depending, for example, on the business and legal requirements adhered to, cultural factors, and traditions. These are then translated into organisations' recordkeeping policies, which describe the recordkeeping procedures needed in more detail. However, even the most ideal framework can never fully reflect the reality. No matter how well the rules and regulations are incorporated into digital systems, it is people who deal with the records (Hofman, 2005, pp. 144–146). In addition to aiming to meet the organisational needs, one must intensely consider the users of the records-management systems and meet their needs. Bailey and Vidyarthi (2010) stress the value of solutions provided in the human–computer interaction (HCI) field.

The growing number of records and their increasing digitalisation has changed attitudes. Organisations began seeing records as not static but multidimensional. An



apparent need arose for moving toward a continuous process of arrangement and description (Yakel, 2003). In the digital era, wherein physical requirements for a record to be in only one place do not exist anymore, technology enables us to create and use multiple classifications also (Reed, 2005, pp. 111–113). Today, there is a need to see, view, and process records from new perspectives (Bailey, 2009; Bak, 2012; Yeo, 2012). Traditional aggregations are stable and the systems follow hierarchical principles, with the collections in physical archives being arranged in set form ‘before the user arrives on the scene’ (Yeo, 2012, p. 56). Today’s users, who have become used to connecting items in several ways for temporary collections in other domains, will expect the same capability in the archival realm; accordingly, Yeo (2012) suggests granularity and relational modelling in addition to appropriate interfaces as premises for building future collections.

Bailey (2009) advocated automated records management nearly a decade ago. He went beyond merely considering the move to electronic records, by even then stressing a need to grasp the nature of their creation volume and comprehend their creators. He suggested taking advantage of the information-technology industry and the possibilities it offers for gaining information about the actual work of records’ users, citing as an example the way Amazon collects data from its users’ behaviour in the online shopping context.

Bak (2012) argues that recordkeeping professionals have created functional classification systems for recordkeeping-based purposes, thereby rendering them more suitable for these purposes than for users. Also, the demand for a record to be placed in only a single function class serves the recordkeepers (not the record creators or users) most, by making the aggregations static and predetermined. In this connection, the option of using hybrid classification systems is noteworthy. Bak (2012) sees no need to maintain the system’s ‘purity’ (i.e., basis on functions alone). For example, the high-level classes in the system could be function-linked while the lower levels are based on subjects, for better use and retrieval of records. Bak calls on recordkeepers to justify basing recordkeeping on functions and argues for distinguishing digital records from their paper counterparts by stressing the importance of item-level metadata, management, and thinking (Bak, 2012).

## 2.5 The Finnish recordkeeping context

‘One of the difficulties in undertaking research about archives and records is that there are few, if any, concepts that are understood beyond doubt and used with

exactly the same meaning by all professionals or scholars in the international community’, states Henttonen (2007, p. 17). There is a considerable amount of variation between recordkeeping traditions and among the practices adhered to. However, usability issues appear to be a common challenge connected with functional classification systems internationally.

For practical and research-economic reasons, the study was conducted in Finland, which presents a context that provides an illustrative example of comprehensive use of a function-based approach to recordkeeping. Therefore, this section of the chapter briefly lays out the context, background, and practices of recordkeeping in Finnish public-sector organisations. The main characteristics of proactive recordkeeping and recordkeeping plans, stages in the adoption of functional recordkeeping in Finland, and the country’s registration tradition are presented, in that order.

### 2.5.1 Proactive recordkeeping and recordkeeping plans

In theoretical terms, recordkeeping in the Finnish public sector follows a proactive and context-orientated approach (Henttonen, 2015b, p. 215). In Finland, records and archives management are closely intertwined. Records received or created by an organisation form part of its archives from the time of their capture (Archives Act, 831/1994). The entire life of organisations’ records is planned proactively even before the records come into existence, by means of the recordkeeping plan, a Finnish records-management tool whose name (in Finnish, ‘arkistonmuodostussuunnitelma’) is abbreviated to ‘AMS’. This plan is used to manage records’ whole life span: current use, access, appraisal, disposal, and preservation. An AMS ‘is a combination of functional classification scheme, retention schedule and file plan. An AMS identifies records that are created or received by the organisation and instructs [in] their handling. An AMS works as a guidebook for the organisation. In an electronic environment it is the source of record metadata values’ (Henttonen & Kettunen, 2011, p. 87). It documents both the process of planning the recordkeeping and its results (Lybeck et al., 2006, p. 78).

In Finland, public-sector organisations are obliged by law (Archives Act, 831/1994) to adopt an AMS. Today, it is recommended by the National Archives that records organisation in Finnish public-sector organisations follow a function-aligned structure (Kansallisarkisto, 2007). Accordingly, the AMS is based on a functional classification scheme.

In the Finnish public sector, three separate classification systems are in use at the same time. One is the grouping used in an AMS, the second is applied for the registration system, and the third is for those records with continuing value that are in archival custody (on the basis of an archival plan). This is rooted in the traditional Finnish solution for managing records and archives, which involved three independent classification schemes along similar lines. One of them was described in a records-management plan (to guide in records' retention, disposal, and access), another at the above-mentioned registry level (to serve retrieval of information from registered records), and the third for archives (specifying the structure of archival record series and aimed at ready retrieval of information from the archives). (Henttonen, 2012.) Today, it is recommended that all three be based on the same functional classification and be subsumed by it (Lybeck et al., 2006, pp. 46, 81, 87). The key advantage in having similar classification-system content is that the three are easy to integrate, while a disadvantage is found in empty classes remaining in some quarters, since not all function classes defined in the AMS are used in the registry system or in archives (Henttonen, 2015b, p. 214). With this approach, the functional classification scheme covers the classes that are needed for registration purposes, such that the grouping in the registry system can apply the system. Similarly, the archive plan addresses classes within the functional classification scheme that are relevant when records with value for permanent preservation exist.

Records' appraisal is carried out before the record has even been created, and retention times are defined in the AMS. This appraisal is based on function and record type. For practical utility, this means that all possible combinations of function class and record type that could exist have to be listed in the scheme. Hence, the scheme is 'enumerative' (Henttonen, 2015b, p. 217). In Finland, National Archives policy determines which records in public administration have evidential value for permanent preservation, while the record-creating organisations determine the retention periods for other records.

Mäkinen (2013, p. 82) states that records management should be recognised as an activity for the whole organisation and for all of its employees. Today, the classification systems intended for record retrieval, appraisal, and records' processing and contextualisation are, after all, meant to be used by both recordkeeping professionals and other users in the organisations (Henttonen, 2015b, pp. 214–215). Considering reality against the backdrop of this ambitious aim, Valtonen (2005, p. 251) found that the AMS remains primarily a guide to ascertaining records' retention periods.

## 2.5.2 The path to a function-linked approach to recordkeeping

Traditionally, records organisation in Finland's public sector was based on record type (Lybeck et al., 2006, pp. 145–146). The archives law of 1939 focused mainly on preserving material in disorganised archives (Jääskeläinen, 2000, p. 2). This seemed to be enough, since organisations' archives in the early decades of the 20th century were static, containing mostly legal or administrative evidence. Finland's first archival guidelines for authorities, based on the Swedish tradition of records' form, were stated in the 1940s, and the growing number of records and their qualitative changes led only later to questioning of this solution. The model focusing on archival custody became problematic from the perspective of the archive-creating organisation (Vartiainen & Sihvonen, 1983, pp. 150–152).

The need for a new Archives Act arose from this development: the growing amount of material and changes in records' nature. A new law was proposed, with the aim being to manage both the active records and their preservation as a cultural heritage. At the same time, the drafters sought to confirm the status of the National Archives. With the Archives Act of 1981, the concept of archives started to include records from the moment of their initial entry with the relevant authority. That incarnation of the Archives Act changed the policy for archives' and records' means of management in Finland (Vartiainen, 2002, pp. 251–254). Under this law, public-sector organisations were obliged to create guidelines for their records and archives management, including an AMS.

In consequence, two distinct viewpoints emerged within the National Archives of Finland with respect to how to proceed in forming archives. One view emphasised the traditional (non-function-based) schema for records having value for permanent preservation and official instructions for operations. The other view was more practice-oriented and entailed preference for a function-based approach to recordkeeping. Undermining the status of traditional methods was criticised (Vartiainen, 2002, pp. 251–252). The two, conflicting views differed mainly in whether the emphasis was placed on records' later use in archival custody or instead on their handling and use in the active phase. The main difference between these two views was that the AMS, being function-based, proceeds from the function, starting with the phase of records' creation and their place in the archive. The starting point of the archive plan is a function that has already been performed and an archive that has already been formed (Vartiainen & Sihvonen, 1983, p. 159). Municipal organisations disagreed especially strongly with the function-based approach, since they thought it laborious and too theoretical (Jääskeläinen, 2000, p. 27). At the turn

of the 1980s, meetings in the Finnish archival domain witnessed discussions on whether the AMS should indeed be based on functions. The National Archives issued a recommendation addressing the issue in 1984. As only a recommendation of a function-based approach, it did not discount the option of using other structures for records organisation. There was a delay in applying the functional approach, partly because of lack of resources and partly because the traditional method was perceived as practical. At that time, the records-management profession was still in its infancy (Vartiainen, 2002, pp. 258–274).

The practical implications of the functional approach for everyday work started becoming visible in the 1980s, and functional classification systems gradually were implemented in the 1980s and 1990s. The need already extended to a push to change the approach taken to defining the structure of archival record series and facilitating information retrieval from archives; however, until the 1990s, municipalities still needed permission if wishing to develop functional classification for archival materials (Seppänen et al., 1990, pp. 63–64).

In today's Finland, public-sector records and archives management is strictly regulated. Current laws such as the Archives Act (831/1994) and the Act on the Openness of Government Activities (Freedom of Information) (621/1999) and both statutes and guidelines set forth by the National Archives are followed. The regulation known as SÄHKE2 (Arkistolaitos, 2008) gives guidelines on AMS use in an electronic environment and on preservation of electronic records with value for permanent retention. The SÄHKE2-recommended approach is strictly function-oriented and process-based (Henttonen, 2015b, p. 178). While it is not mandatory to follow the guidelines and regulations issued by the National Archives of Finland, they are widely applied. These represent best practice in the field. Finland's freedom-of-information policy gives everybody the right to access public records as soon as they are created, so record-creating organisations need to provide access to the records in their custody.

The current state of the use of function-based AMSes in public-sector organisations is not known. According to a master's thesis that presented data obtained via a 2011 Web-based survey of all Finnish municipal organisations (Heikkilä, 2012, p. 24), they were used in 63.9% of the responding organisations (the response rate was 47%). In other work, Seitsonen (2010) identified four types of AMSes utilised in Finnish municipalities. In 19% of the AMSes obtained for that study, the traditional Finnish approach based on record types was still applied (pp. 25–26).

### 2.5.3 The registration tradition

Registration is a central function in Finnish recordkeeping. It has long traditions that have their roots in Swedish and German registration principles (Lybeck et al., 2006, p. 39). In such registration, organisations keep track of their incoming and outgoing records (Henttonen, 2015b, p. 202).

In Finland's public sector, there is often have a single, centralised registry office for the whole organisation. Larger organisations that have several units, spread out across various cities, may have several registry offices, though.

In Finnish registration practice, classification of records is carried out during registration, before their routing to the right office. In such a centralised registry process, recordkeeping professionals' role is important. The duties of registrars in Finland are quite similar to those described by Kallberg (2013) in a Swedish context. In addition to registering of records, employees working in a registry office (i.e., registrars) perform operations-management tasks related to incoming post, filing, and preparation of records' transfer to archival custody (Kallberg, 2013, p. 179).

Today, registration in the public sector in Finland is stipulated at the level of decrees (the Decree on the Openness of Government Activities and on Good Practice in Information Management, 1030/1999). The registration practice enables keeping track of the records, ensures legal protection, facilitates recordkeeping, serves to index organisations' records, etc. (Seppänen et al., 1990, pp. 35–36).

Registries have their origins in ancient Rome (Stephens, 1995), and registries in the mature form of the classical Prussian registry system were, already in the 18th and 19th century, used to enable finding records, tracking them, creating and organising files, and ensuring their appropriate storage (Miller, 2003, p. 49).

In Finnish registration practice, certain recordkeeping professionals are responsible for the process of registration. When records receive an identification code, a place in the records-organisation system is assigned to them. From then onward, they are a part of the records system. This might have influenced the way archives are understood in the Finnish recordkeeping context: existing as a logical assemblage immediately after the records' creation. It is also important to note that individual records are added to the record system in the course of registration right after their creation or entry in the organisation, before the business process of working with them begins (Henttonen, 2015, p. 203).

## 2.6 Concluding remarks on the literature and the gap to be bridged

Contextual information about records' origin is necessary if those records are to be understandable and usable later on. In the world of paper records, the context is often recognisable. Digitally born records, however, are intangible, and all contextual information must be explicitly added. With the growing volume of (digital) records in organisations that are handled in electronic records-management systems, this contextual information indicating why a record exists is made evident via accompanying information on the organisational functions, activities, and processes that created the record.

Basing records' organisation on the functions that produced the records provides the context that is so obviously needed. Today, functional classification systems are widely used internationally, and they indeed yield several benefits for organisations' recordkeeping (e.g., Shepherd & Yeo, 2003; Smith, 2007). However, according to the studies reviewed in preceding sections of this chapter, the theoretical foundations for the functional approach are weak, understanding of function-related concepts and the use and applications of functional classification systems vary, and several usability issues and issues with understanding function-based logic have been identified (e.g., Alberts et al., 2010; Foscarini, 2009). Relative to the extent of functional classification systems' use, the number of studies focusing on these systems is quite low.

From the 1980s onward, the functional approach to recordkeeping has gradually become established in Finnish public-sector organisations. Today, using functional classification systems for records organisation is recommended by the Finnish National Archives (Kansallisarkisto, 2007), but no prior extensive academic research has focused on the issues associated with functional classification systems from the Finnish public-sector recordkeeping perspective. Finland's public-sector recordkeeping, with its characteristics of proactive recordkeeping strategy, use of recordkeeping plans, longstanding traditions of registration, and the significant role of recordkeeping professionals in handling records, diverges in several respects from many equivalents in other countries.

Therefore, the results of the international studies conducted previously might not be directly pertinent to a Finnish recordkeeping context, while the study conducted in a Finnish recordkeeping environment for the thesis project may provide some new insights to those in other surroundings. For example, the proactive recordkeeping strategy applied in Finland in connection with a function-based approach might spark wider interest. In fact, a proactive recordkeeping strategy that

emphasises planning in advance is the way forward in any case, representing how digital records need to be handled.

In summary, the aim with the study is to start constructing bridges across the widest gaps identified in this field of interest, gaps to do with the concepts' understanding and the systems' usability issues. Accordingly, functional classification systems in Finnish public-sector organisations with their various contexts of use therein serve as interesting cases for study.



## 3 The research design

The goal for the study was to gain better understanding surrounding the functional classification systems of public-sector organisations in Finland. It provided a chance to highlight the characteristics specific to this local expression of an internationally prevalent phenomenon in records organisation.

For a rigorous investigation, four sub-studies (studies I–IV) were designed, to approach the topic from different angles. The aim with this approach was to build a solid foundation for future work in this research area, especially in a Finnish recordkeeping context.

This chapter presents the conceptual framework for the study, the materials and methods used in the study as a whole, and description of the data-collection and analysis procedures.

### 3.1 The framework for the study

Research methodology is the overarching framework for the research that covers the paradigm, methods, and tools or techniques that are selected to answer the research questions stated and, by implication, to arrive at new knowledge (Williamson, 2013, p. 4). The methodology frames the chosen approach to investigating the world (McKemmish & Gilliland, 2013, p. 92).

It is debatable whether records management has a theory behind it and, if so, what the nature of that theory is. Collaborating with scholars of related disciplines and considering records management in different contexts is inevitable in efforts to understand its nature and develop a theory (Buckland, 1994). Buckland (1994) sees the triviality or complexity of records management as a crucial element in determining what it is that we try to theorise upon. If records management is regarded only as practical procedures such as numbering and shelving records, there is not much ‘meat’ for theorising. If we see records management as having to do with access to working records in organisations, the phenomenon is more complex. Buckland mentions three aspects to it: information retrieval, the records’ life cycle, and information policy.

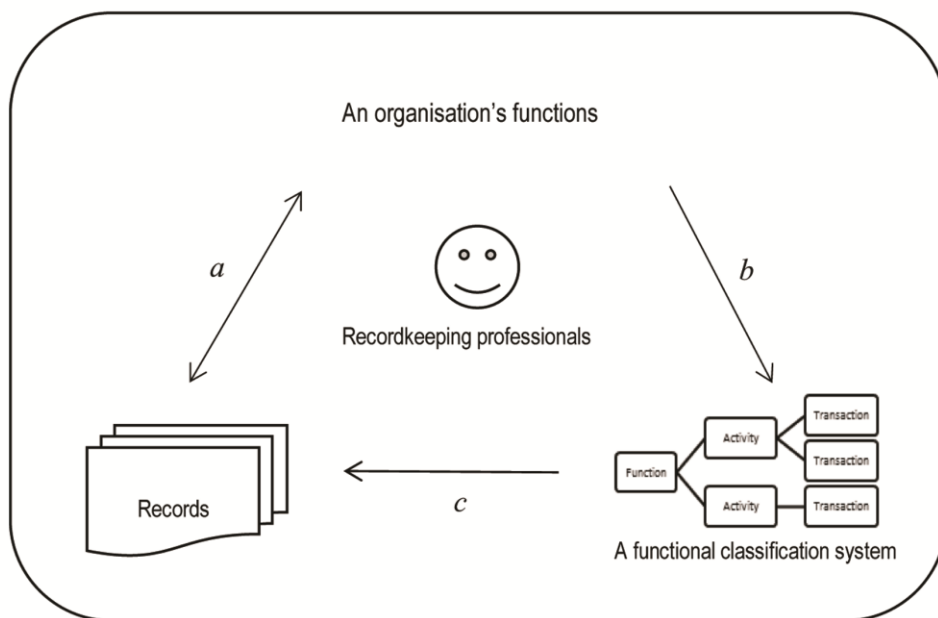
The theory applied to records management does not need to be unique to records management. The broader area that records management might be a part of – i.e., its ‘theoretical context’ – could, according to Buckland (1994, p. 349), be functional (serving the organisation), professional (as a member of a family of retrieval-based information systems), and/or intellectual (the source of ideas of records management, as in archival theory). Traditionally, records management has been situated within two bodies of knowledge, either management, in records and information management (RIM), or archive-based theories (Yusof & Chell, 2002). Yusof and Chell (2002) developed the theoretical construct for records management further by combining the theory in these areas with application of an information-technology perspective.

Expansion of archival research has been witnessed since the 1990s. New approaches and research designs have gained ground in this research (Gilliland & McKemmish, 2004), and the growth and maturation of the archival and recordkeeping research field is leading to emergence of new research areas, wider research fronts, and theory-building as well (McKemmish & Gilliland, 2013).

In Finland, recordkeeping processes exist in close relationship with archival elements. Central questions in archival science, such as acknowledgement of the evidential value of records, are as important to recordkeeping as they are in archival science. Perhaps it should be unsurprising, then, that Finnish archival legislation combines archives and records management (Lybeck et al., 2006, p. 250).

The study is situated within a recordkeeping framework in the organisational context. Any specific, qualified theoretical framework for a functional approach to recordkeeping, at least a directly applicable one, has not been developed, though various *ad hoc* solutions have been applied in organisations.

The approach employed for the analysis undertaken in the study can be described as theory-guided in the sense applied by Eskola (2007, p. 162), in contrast to data-driven or theory-driven. A study characterised as theory-guided is not directly based on or bound by any one theory and is grounded in various theories, results from previous studies, and concepts related to the relevant phenomena (Eskola, 2007, pp. 162–163). The conceptual framework depicted in Figure 1 was used for study of functional classification systems as used in prevailing practice.



**Figure 1.** The conceptual framework.

The conceptual framework of the study addresses the relations among the following concepts: **organisations' functions, functional classification system, records, and recordkeeping professionals.** The figure illustrates how these interact in Finnish public-sector organisations, thus showing how the study is framed.

Public-sector organisations have certain statutory and supporting functions to perform. In the figure, **the organisation's functions** stand in the background, since they exist regardless of the recordkeeping processes or practices. In carrying out those functions, organisations' employees create and receive **records**. As was noted earlier in the thesis, if one is to understand and interpret records later, they need to be connected to each other and to those functions and activities that they originate from. Records also serve as evidence of those functions and activities. Line *a* depicts the two-way connection between records and the organisation's functions.

The organisation's functions, activities, and transactions are described in the hierarchical **functional classification system** created. In case the organisation's functions change, the functional classification system needs to be updateable. Hence, line *b* describes the resulting relationship. Line *c* represents the functional

classification systems' role in organising records in keeping with rules set in advance. When classified in the system, records are categorised in terms of the functions, activities, and transactions for which they were created.

Although automated classification of records is sometimes technically possible, records in today's organisations are not usually connected to those functions automatically; **recordkeeping professionals'** or other users' intervention is needed. Firstly, recordkeeping professionals create and maintain the functional classification systems used for records organisation. In Finland, there are various manifestations of this (the AMS, grouping in the registry, and the filing scheme). In addition, during registration, these professionals select the appropriate class for each record or the matter to which the record is connected. In Finland, the roles of other users in recordkeeping processes are unclear. The recordkeeping professionals' position at the centre of the figure highlights the central role of these professionals in Finnish public-sector organisations' recordkeeping practices. This positioning of the human, specifically the recordkeeping professional, at the core amidst records, the functional classification system, and the organisation's functions also illustrates the main standpoint of the study: recordkeeping professionals' perceptions of functional classification systems.

The intent with this figure was to form a structured view of the phenomenon in the context of the study, which the author perceives as important for any later conceptual efforts in the relevant field of research. Within this conceptual framework, the research questions emerged from the gaps noticed in prior literature.

## 3.2 Research questions

The following research questions were addressed in studies I–IV:

1. What are recordkeeping professionals' **understandings and perceptions of functional classification systems** in Finnish public-sector organisations? (Study I)
2. What **difficulties** do recordkeeping professionals in Finnish public-sector organisations face in **maintenance and use** of functional classification systems, and how do they handle these difficulties? (Study II)

3. What perceptions do recordkeeping professionals in Finnish public-sector organisations have of the **users and use** of functional classification systems? (Study III)
4. How do the **labels in class titles** within functional classification systems in Finnish public-sector organisations **represent functions**? (Study IV)

In each of the sub-studies (studies I–IV) reviewed in Chapter 4, more specific research questions were examined in depth.

### 3.2.1 Research strategy

As the discussion above attests, archives and records management is a growing research area. Therefore, the work in the study concentrated on confirming basic research carried out at a diversity-rich research front.

The study was analytical-descriptive in nature. It was situated so as to describe and analyse the problems attendant to the global phenomenon of function-based records organisation in the less studied environment of the Finnish public sector in the context of proactive recordkeeping strategy.

Table 1 gives an overview of the methods used in the individual sub-studies.

**Table 1.** Methods used in studies I–IV

<b>Study</b>	<b>Title</b>	<b>Method</b>	<b>Data</b>
<b>Study I</b>	'Recordkeeping professionals' understanding of and justification for functional classification: Finnish public sector organizational context'	Qualitative data analysis	Interviews with 22 recordkeeping professionals
<b>Study II</b>	'Functional classification: Recordkeeping professionals' difficulties and their handling in maintenance and use of FC in Finnish organisations'	Qualitative data analysis	Interviews with 22 recordkeeping professionals
<b>Study III</b>	'Recordkeeping professionals' perceptions of users and use of functional classification systems in the Finnish public sector'	Qualitative data analysis	Interviews with 22 recordkeeping professionals
<b>Study IV</b>	'Ambiguous labels: Facet analysis of class names in Finnish public-sector functional classification systems'	Facet analysis	Functional classifications used in three individual Finnish public-sector organisations

For the most part, qualitative methods were used in the analysis (for studies I–III and aspects of Study IV). In addition, quantitative methods were used as a component of Study IV. This entailed triangulation, with the research issue being observed from at least two distinct vantage points (Flick, 2004, p. 178). Triangulation

techniques address the weaknesses of a single research method (Gorman & Clayton, 2005, p. 126), in this case with that method being the interviews.

‘Qualitative research is a process of enquiry that draws data from the context in which events occur, in an attempt to describe these occurrences, as a means of determining the process in which events are embedded and the perspectives of those participating in the events, using induction to derive possible explanations based on observed phenomena’, state Gorman and Clayton (2005, p. 3). The assumption behind qualitative research is that in-depth understanding of an occurrence requires seeing it from the perspective of those involved (Gorman & Clayton, 2005, p. 3). Proceeding from this idea, the work on studying the phenomenon of functional classification systems in the Finnish public sector started with focusing on the perceptions of those closest to the issue: recordkeeping professionals. Therefore, recordkeeping professionals working in Finnish public-sector organisations were interviewed. For a more holistic picture, the other method was used, analysis of class names used in functional classification systems (Study IV) at the organisations where the interviewees worked.

### 3.3 Organisations participating in the study and the data

Three public-sector organisations were selected as case organisations for the study. The main criteria in this process were that the organisation should represent the public sector (i.e., be obliged by the Archives Act and other regulations to carry out public-sector recordkeeping in Finland) and should use a classification system for records organisation that it perceived to be function-based.

The public sector in Finland encompasses organisations in state government and municipal organisations. In addition, there are various government-owned enterprises and private companies with public responsibilities, self-government communities, and organisations such as churches and universities that are subject to the archival legislation.

To capture the variation in the uses of functional classification systems in public-sector organisations of different kinds, three organisations were selected for the study: one municipality, one university, and one government entity. The number of case organisations was limited to three for work-economy reasons.

Recordkeeping in the case organisations followed the typical Finnish proactive strategy that includes an AMS, a registry system, and archival records series all sharing the same functional classification scheme. Functional classification formed

the basic structure of the systems used. The functions of the organisations varied with the organisation's statutory functions and role in society.

The informants were promised protection of their privacy. Therefore, since Finland is a relatively small country and, on average, the number of recordkeeping professionals working in the organisations was quite low, the decision was taken not to indicate the names or other detailed information on the participating organisations. In addition, the names of the organisations were ultimately not found to be relevant with respect to the outcomes of the study.

### 3.3.1 The interviews

After selection of the case organisations, employees were recruited for the interviews with the aid of contact persons at each of the organisations. To obtain diverse perceptions, a purposive sample and stratification (Gorman & Clayton, 2005, p. 128) were used. Recordkeeping professionals working in various assignments, at various levels of the organisational hierarchy, were recruited, as were both long-serving and recently appointed employees. Example titles of informants participating in the study are registrar, designer, records-management assistant, information-service assistant, archival assistant, archival specialist, and responsible archivist. For the study, the term 'recordkeeping professional' has been used to denote personnel performing duties in records and/or archives management. In Finland, no distinction is drawn between personnel working with current records in records management and personnel working with records in archival custody. Since the organisations differed in size, the number of workers who were willing to participate varied between the organisations. The number of informants in each of the organisations is shown in Table 2, below.



**Table 2.** The number of informants in the case organisations

Type of organisation	Municipal organisation (A)	University (B)	Government organisation (C)
Total number of informants	8	3	11

The interviews were conducted in February to May 2013. They covered six themes related to the subject of the study: the meaning of functional classification and its justification, implementation, structure, usage, and maintenance. The themes, as shown on Table 3, were presented to the informants beforehand. Details of expansion on these themes can be found in Appendix 1. All six themes for Studies I-III were addressed in a single interview.

**Table 3.** Interview themes

Themes	
1.	What do you understand the term 'functional classification' to mean? What does it mean to you?
2.	Why are functional classification systems developed and needed? Why was a functional classification system put in place in your organisation?
3.	Please, tell me about the creation and implementation of the functional classification system in your organisation.
4.	What are your perceptions of the structure and content of the functional classification system used in your organisation?
5.	Please, tell me about the use of the functional classification system, both in the organisation as a whole and in your own work specifically.
6.	Please, tell me about the maintenance and possible needs for development of the functional classification system in your organisation.

In semi-structured interviews, the phrasing of the questions may vary (Tuomi & Sarajärvi, 2009, p. 75). An interview guide, in which the topics were specified in advance (Gorman & Clayton, 2005, p. 127), was used. In the interviews, questions' wording did not strictly follow these outlines, and some questions were repeated or completely skipped in keeping with the situation at hand. Interviewees' background knowledge and understanding of function-based records organisation varied. In any case, all of the themes were discussed, to greater or lesser extent. One of the clear benefits of the interview method in general is its flexibility, creating such possibilities as repeating or amplifying the questions during the interview (Tuomi & Sarajärvi, 2009, p. 73). Interviews are advantageous in the room they allow for exploring the meaning in questions as well as in the answers given (Gorman & Clayton, 2005, p. 125). On the other hand, biases may enter in. Interviewers' personal traits and even appearance has effects on an interview and its quality (Gorman & Clayton, 2005, p. 126).

In total, 22 recordkeeping professionals were interviewed. In all, 13 informants were interviewed in personal interviews, the others in groups of two or three, upon request by the interviewees. All interviews were recorded on tape. Three media were used in the interviews: face-to-face interviews, computer-based conferencing, and interviews by telephone. When computer conferencing and interviews by telephone were used, this was mostly for geographical reasons. The structure of the interviews was entirely the same from one medium to the next, and the tape recordings were all processed in the same manner. No difference was seen between media, no matter the commonplace view that telephone interviews are lacking in some quality in comparison to face-to-face interviews (Novick, 2008). The interviews are characterised by type in Table 4, below.

**Table 4.** The types of interviews

(A = municipal organisation, B = university, C = governmental entity)

Type of interview	Face-to-face	By videoconference	By phone
Single interviewee (one-on-one situation)	3 (A) 3 (B) 1 (C)	4 (C)	2 (C)
Group of 2–3 persons	2 (A)	2 (C)	

### 3.3.2 Functional classification schemes

In addition, the details of the functional classification systems used in the three case organisations were received as data for the study in spring 2013. The schemes followed the basic structure of a functional classification system in the manner presented in the guidelines of the National Archives of Finland (Kansallisarkisto, 2007), with some organisation-specific variation. The hierarchies had three to four levels. Their classes were designated by some sort of numbering as well as via function label.

The classification schemes' content varied with the functions of the organisation. However, the principal structure was essentially the same: they began with common supportive functions such as general administration, personnel administration, and financial administration, followed by the statutory functions assigned by the laws and regulations to a certain authority. Examples of statutory functions are teaching, public-transport operation, and health-care services.

The details of the functional classification schemes were used in the study as background information, and they were most important as a source in the facet analysis carried out in Study IV, as presented in sections 3.4 and 4.4, below.

## 3.4 Methods of data analysis

Soon after each interview, I conducted the 'time-consuming and soul destroying task' (Gorman & Clayton, 2005, p. 137) of transcribing the tape-recorded interview data. The total amount of content from the interviews came to approximately 18 hours of recorded data and 326 pages of transcribed text.

In the first three sub-studies (studies I–III), I used the interview data, approaching the data from a different perspective for each, in line with the respective research questions and research interests. The process of analysis followed the same basic principles in all three, though. I analysed the data by applying qualitative methods.

Generation of codes representing the categories of data can be drawn from previous literature and from interview themes. This kind of concept-driven coding differs from data-driven coding, wherein the codes are derived from the data without many preconceptions. Also, a study can apply both approaches. (Gibbs, 2007, pp. 44–46.) In the study reported upon here, previous pieces of literature were utilised as sources of inspiration for coding of the data.

Characterisation of the data (Savin-Baden & Major, 2013) was a one-time exercise. The interviews were recorded and transcribed verbatim, though verbal tics and murmuring were excluded from the transcripts. I immersed myself in the data by reading the transcribed text and listening to the recordings several times. For each of the sub-studies (studies I–III), the coding of data to categorise the text, identification of items from the data, and conversion of the codes and categories into themes had distinctive nuances, presented later in this chapter.

In the process of handling and analysis of the data, the data-analysis software ATLAS.ti was consistently used. ATLAS.ti is a tool that supports the organisation and analysis of qualitative data. Computer programs offer advantages for qualitative data analysis, such as easing the burden of the process of writing and rewriting; supporting sorting, referencing, and coding; and facilitating creation of statistical tables and graphics (Gorman & Clayton, 2005, p. 220).

In Study I, firstly, the appropriate parts of the dataset were coded and categorised under the themes in line with the research questions stated. Next, focused sub-codes were identified and added to the categories. Then, a hierarchical list of codes was produced in parallel with the reading process. The coding system was created to aid in understanding the data and conceptualising the codes (Friese, 2012, pp. 122–123). Finally, the data behind the codes were examined one by one and in parallel with each other in light of the research questions.

In Study II, procedures presented by Savin-Baden and Major (2013, pp. 420–433) were used to some extent. After characterisation of the data was immersion in the data. Next, the dataset was divided into segments, and the resulting chunks were denoted in ATLAS.ti. The data then were coded for categorisation to present a framework for analysis. Difficulties and the methods for handling them were identified from the data. After that, these were linked together and elucidated via graphical illustrations produced by ATLAS.ti (Friese, 2012, p. 216).

In Study III, elements from the transcripts were categorised by means of codes. The analysis strategy was again supported by ATLAS.ti. Code-and-retrieve strategy (Coffey & Atkinson, 1996, p. 170) was implemented in the data's organisation. In generating and using ideas and in generalising, the analysis was informed by writing analytic memos and creating lists. Recordkeeping professionals' perceptions were exemplified by translations of excerpts from the interviews.

In Study IV, facet analysis was applied. With this analysis method, the titles used in functional classification systems were organised into facets. In facet analysis, concepts are organised so as to represent certain types, such as actions or products (Suominen et al., 2009, p. 223). The lowest-level class names were selected for this

analysis since normally that level is used for classifying records in Finnish registration practice. For selecting a representative sample from each of the classifications' class names, probability sampling techniques were applied (Pickard, 2007, p. 61). The full sample size was 315 class names, 105 from each classification. An Excel spreadsheet was used in listing the titles and in the analysis.

Five suitable facets were created. They were derived *a priori* from previous research (e.g., Alberts et al., 2010; Sabourin, 2001; Shepherd & Yeo, 2003) that described functions and how one can create functional classifications. The following facets were used:

1. Actor (who / which part of the organisation is acting)
2. Action (what is happening / what is being done)
3. Object of Action (the object / target / receiving end of the action)
4. Subject (what subject matter / theme is dealt with in the class)
5. Object of Documentation (the outcome/record articulated in the class name)

The numbers of entities under each facet were summed in Microsoft Excel. The class names varied in their nature and structure. Hence, there was variation in their distribution across the facets. Some of the class names fitted one facet, while others included elements from more than one facet. For presentation of the findings, tables and simple bar charts were created. Also, the results were qualitatively described.

# 4 Findings

The original publications, covering studies I–IV, constitute the core output of the thesis project. In this chapter, a summation of the key findings from studies I–IV is presented. The individual sub-studies are addressed in chronological order by the time when they were conducted and written up, not that of publication in journals. In Study I, recordkeeping professionals’ understanding of functional classification, their perceptions of the purposes it serves, and their justification for the approach were addressed. Study II focused on the difficulties that recordkeeping professionals have faced with functional classification systems and how they were handling those difficulties. In Study III, recordkeeping professionals’ perceptions of other users of functional classification systems in Finnish public-sector organisations were explored. Finally, Study IV examined the class names used at the lowest function level of the hierarchy in these organisations’ functional classification systems. After the findings of the respective sub-studies are discussed, below, an integrative summary of the findings from all four is presented.

## 4.1 Study I

Study I was conducted for gaining an understanding of how recordkeeping professionals in Finland’s public sector perceive and understand functional classification, what purposes they perceive it to serve, and how they justify the use of this method. Recordkeeping professionals were interviewed for this sub-study, with the total number of informants being 22.

Study I addressed the following research questions:

- How is functional classification understood by recordkeeping professionals in Finnish public-sector organisations?
- What purposes do recordkeeping professionals perceive functional classification to serve in Finnish public-sector organisations?
- How do recordkeeping professionals justify the use of functional classification in Finnish public-sector organisations?

The findings indicate that functional classification was perceived as the predominant approach to records organisation. The function-based approach was shown to be integrated into Finnish recordkeeping practices and records-management tools. In general, the recordkeeping professionals perceived functional classification in concrete terms from the standpoint of their own professional duties. How they spoke about functional classification depended on their duties and the manifestations of the functional classification system that they used in conducting their work. Hence, they often spoke about the AMS or registry when referring to functional classification.

The findings also reveal various purposes they perceived functional classification as serving in organisation. These were related mainly to recordkeeping requirements. The purposes mentioned were to organise records in a manner facilitating their management and use, to enable easily finding them, to represent the organisational environment logically and understandably by providing an overall picture of the organisation, and to guide records management. In creating a structure, functional classification was perceived as clarifying the employees' work. However, it seemed that, to a large extent, they just needed some structure to follow and it did not necessarily have to be function-based.

Most interviewees found functional structure logical. In an important illustration of the organisation's functions, they expressed a desire for it to be used as a tool in introduction of the organisation to new employees.

The findings also illustrate various justifications for a function-linked approach to recordkeeping. In part, the elements that were perceived as its purposes were described as justifying the approach. The recordkeeping professionals justified its use also in its ability to link records to their functional context in a logical manner. The results indicate in addition that the informants saw themselves as pressured to follow the approach, by the recordkeeping regulations and the prevalence of the method.

Interestingly, alternatives to the approach were hardly ever cited. Some of the professionals even seemed to be confused when they were asked about some other methods of records organisation that could be used. The findings indicate a lack of methodological alternatives. On the few occasions when functional classification was compared with other methods for organising records, the function-based approach was perceived as the most suitable in light of current recordkeeping practices, especially in an electronic environment.

## 4.2 Study II

Study II addressed the usability issues identified in previous studies as linked to functional classification systems. It uncovered various difficulties faced by recordkeeping professionals in maintaining and using Finnish public-sector organisations' functional classification systems in various contexts of use in the course of their duties. This sub-study focused also on the methods for handling the difficulties faced. In all, 22 recordkeeping professionals were interviewed to provide the data for Study II. In the reporting on this work, the abbreviation 'FC' was used to denote functional classification.

The following research questions were addressed:

- What difficulties (if any) do recordkeeping professionals face when maintaining and using FC in its various contexts of use in Finnish public-sector organisations?
- What kinds of methods do recordkeeping professionals apply to handle the difficulties they face when maintaining and using the FC system?

The findings indeed show that recordkeeping professionals encounter difficulties in maintaining and using the organisations' functional classification systems. Difficulties of one type or another were identified in every context that was studied: in maintaining the FC system, in using it at the point of registration, in using FC for records' retrieval, and in filing.

In the article on Study II, the issues faced were called 'difficulties'. To proceed with their work, the recordkeeping professional needed to find a way to move on despite these. It is important to note that the difficulties were not perceived as substantial, however, and the interviewees knew how to handle the difficulties for the most part.

The main difficulties in maintenance and updating of the FC system were related to changes in environment, which were perceived as constant, and structural issues with the system. The recordkeeping professionals saw it as impossible to keep the system perfectly up to date. Needs for updating arose mainly at lower function levels in the scheme. The findings show conflicting interests related to the needs of different user groups – some professionals needed the classification to be fully up to date, to facilitate the classification process, and the people responsible for maintenance had to balance this with stability of the scheme.



At the point of registration, clearly the greatest difficulty lay in choosing the appropriate class for the record or matter in question. The issue stemmed from the scheme not being up to date, abstract terminology used in the scheme, or encountering of a record that dealt with several issues at the same time. The findings show that familiarity with the functional classification system and with the records to be handled were important for competence in use of the system. Also, structural issues with the scheme and technological problems were mentioned as difficulties. In addition to their own judgement, interviewees used consulting with colleagues and organisational guidelines as tools for handling difficulties. Where available, a representation of the functional classification system that features concrete examples was valued and used. One option mentioned was to learn the scheme through active reading. In contrast, technological issues (e.g., waiting for updates to the functional classification system or the software used) were not easily resolved by the recordkeeping professionals themselves.

Functional classification was rarely the only search element used for records' retrieval. Most systems allowed the use of various search elements. When functions were used as a search element, differences in logic between the searcher and the person who had categorised the record were identified as a difficulty: sometimes, several function classes were possible for a record. Getting used to the FC and the relevant technological systems aided in searching for records.

The informants seldom mentioned using the functional classification system in filing. The level in the FC hierarchy at which paper records were filed varied. Also, the recordkeeping professionals held various opinions about using FC in filing of paper records. Later finding of paper records was mentioned as problematic in cases wherein they were filed in accordance with function-based logic.

The findings highlight several ways of handling the difficulties faced. Mainly, these methods were developed by the professionals themselves, and they were mainly practical in nature. The interviewees employed individual-level decision-making, co-operation with colleagues to find answers, and application of organisational guidelines to proceed in cases of difficulty. For instance, when they faced difficulties that they could not handle themselves or when they could not find an answer on paper, they chatted with colleagues to find a way to move forward.

## 4.3 Study III

The objective with Study III was to shed light on the various users and uses of functional classification systems for records in the Finnish public sector. Since the other users (apart from recordkeeping professionals) of functional classification systems in Finland were previously unidentified, this work took the recordkeeping professionals' perspective as its starting point. Interviews were conducted with 22 recordkeeping professionals to reveal their perceptions of the issue.

Two research questions were examined:

- What kinds of users do recordkeeping professionals perceive functional classification systems to have in Finnish public-sector organisations?
- What perception do recordkeeping professionals have of the use of functional classification systems in Finnish public-sector organisations?

The key finding from this sub-study was that there are various other users of functional classification systems in Finnish public-sector organisations. The recordkeeping professionals interviewed perceived the functional classification system mainly as a recordkeeping tool and themselves as being the main users of that system. They were responsible for maintaining the system and for guiding others in its use. Most informants, however, did see the functional classification system in some of its embodiments as meant for all employees who were supposed to handle some records in the organisation. The other users mentioned were the employees participating in administration and decision-making procedures or in handling of matters. They created or handled records mostly in electronic document- or records-management system.

The level of functional classification systems' use varied, and the recordkeeping professionals perceived the systems as not always used to the fullest extent possible. They saw poor usability of some electronic features or recordkeeping systems as being one of the reasons for non-use of the classification system. Also, certain employees' personal attitudes were viewed as preventing some intended usage of the systems.

The recordkeeping professionals had various expectations with regard to users. Many of them expressed hope that other employees would become more familiar with the functional classification system, while others stated that users who are not recordkeeping professionals do not need to know the classification system well and that they have other duties and responsibilities to take care of. There were different

views on how much those users should even use the systems. Some of the recordkeeping professionals did not trust in those other users' abilities to handle the functional classification system. Most of them thought that users were able to use the system at the level necessary. The recordkeeping plan (the AMS, with its functional classification structure) was available to all employees but was not perceived as being of interest to most employees.

The amount of guidance given to users varied between the organisations. In addition, the interviewees knew that not everyone followed the instructions to use the system, with some letting others do that part of their job. Negative user attitudes were reported. The recordkeeping professionals perceived the functional classification as relatively invisible to users other than themselves, and they stated that many might not even realise that they are using a functional classification system when handling some records in an electronic document- or records-management system.

#### 4.4 Study IV

Study IV focused on the labels used in functional classification systems in Finnish public-sector organisations. This sub-study was motivated by the various usability issues that previous works have reported to be associated with functional classification systems. The aim was to explore the labels used in class names of functional classification systems in possible relationship to functional classification systems' usability issues.

These were the research questions:

- What kinds of labelling are used in titles at the lowest function level in Finnish public-sector organisations' functional classification systems?
- Do the titles used at the lowest function level in functional classification systems in Finnish public-sector organisations represent functions?

Three functional classification schemes of Finnish public-sector organisations were used as source data. One of these classification systems belonged to the municipal organisation (A), the second to the university (B), and the third one to the governmental organisation (C). To answer the research questions presented above, facet analysis was conducted. The method of facet analysis applied in Study IV is described in Section 3.4 and in the original publication in detail.

The findings show a variety of forms of terminology used in the class names. In the classification system used in the municipal organisation (A), the elements in class names used at the lowest function level of classification were most often (53%) categorised as describing actions. Verbal nouns were typically used. Under a fifth of the elements (17%) were subjects.

The classification system of organisation B typically used terms describing the object of documentation (25%). Reaching nearly the same level of use, however, were actions (23%) and subjects (23%). In this classification, elements fitting the actor category were quite commonplace (16%) in comparison with the other two classifications.

Finally, in the classification system used within the government entity (C), tortuous and lengthy expressions were often used. Also, paragraphs of law were used in class names. Most labels denoted an action (42%), while almost a fifth of the elements (19%) were subject terms.

At aggregate level, the class names used at the lowest function level in the public-sector organisations' functional classification systems were various. However, most of the phrases still were read as actions (40%). Usually, these were individual verbal nouns or other indirect wordings. Therefore, it is open to interpretation whether they were actually actions or instead subjects broadly describing the subject of the action. In total, Actor was seldom present (it was found in 6% of the elements).

Actions were seen in elements of titles. The expressions were largely ambiguous, abstract, and loose, though. Titles differed greatly between the organisations. Also, none of the organisations followed a specific logic across all title wordings.

## 4.5 Summary of the findings

Together, the findings from studies I–IV paint a good overall picture of functional classification systems in Finnish public-sector organisations. Use of the functional approach to records organisation appears to be a multidimensional phenomenon. From a bird's-eye perspective, the approach was highly valued and seen as logical. For digital records' organisation, contextual information provided by function information was perceived to be important. Also, the results support the prior assertion that functions represent the predominant approach to records organisation in Finland.

Various concrete manifestations of functional classification systems are visible in Finnish public-sector organisations. In actual use of applications, difficulties were

identified and various complexities were evident. However, the recordkeeping professionals, as the main users of the systems, knew how to handle the difficulties. Individual-level decision-making, co-operation with colleagues, and use of organisational guidelines were the means for this. The findings identified variety in the difficulties, though the relative significance of the various issues was not studied.

Findings from the sub-studies also outline the various users of functional classification systems within organisations. In addition to recordkeeping professionals, organisations have other users who deal with the functional classification system. That said, the systems were not perceived as being used in the fullest extent possible, and negative user attitudes were reported. There were contradictory perceptions of the level to which users should be able to use functional classification systems. It was highlighted also that today's users may not be aware of the functional classification system embedded in a recordkeeping system.

Titles used at the lowest function level in the classification systems varied. The fourth sub-study highlights the differences in labelling between organisations and also within a single organisation. None of the organisations followed a specific logic in its title wordings. Actions accounted for the greatest percentage (40%) of the total quantity of elements categorised by facet; however, the expressions used were often ambiguous and abstract.

## 5 Discussion

This chapter discusses the findings from studies I–IV. The discussion in the chapter proceeds as follows: Section 5.1 reflects on the core contribution of the study, and the practical implications of the findings are addressed in Section 5.2. Then, suggestions for future research are provided, in Section 5.3. In Section 5.4, limitations of the study are identified, and, finally, in Section 5.5, the reliability and validity of the study are considered.

### 5.1 The contribution of the study

The main objective for the study was a better understanding of functional classification systems in public sector records organisation. The study was conducted in the context of public-sector organisations in Finland. Specifically, the research focused on the nature and uses of functional classification systems in Finnish public-sector organisations, mostly from the recordkeeping professionals' perspective. Recordkeeping professionals' understandings of and justification for employing a functional classification system, along with their perceptions of its use and users, were explored in studies I–III. In addition, Study IV focused on the terminology used in class-name titles in functional classification systems.

Thus, the ensemble nicely adds to our understanding of functional classification systems in the Finnish public sector. Notwithstanding the mainly descriptive nature of the study, its results assist in understanding the nature and role of functional classification systems in recordkeeping in general. Important contributions of the study are the strengthening of the literature and scientific foundations for the discipline of archives and records management.

The main contribution of the study is a deeper understanding of function-based records organisation and functional classification systems in Finland's public-sector organisations. The study offers new knowledge of recordkeeping professionals' understanding of functional classification systems, the difficulties they face in using functional classification systems, and their perceptions of functional classifications' use and users in organisations. In addition, the study adds to our knowledge about

the importance of acknowledging the terminology used in functional classification systems.

The study shows that there are differences in functional classification systems across organisations in the Finnish public sector. The facet analysis conducted for class names in functional classification systems clearly adds to our knowledge of terminological issues in functional classification systems. Explicit guidelines as to what kind of terminology should be used at various levels of functional classification's hierarchies do not exist in Finland. The instructions and references available that describe the content for classes are relatively vague (e.g., Alberts et al., 2010; Hurley, 1993; Shepherd & Yeo, 2003). Prior to this study, no thorough analysis of the labels used in class names in organisations' functional classification systems had been conducted. Analysis of the titles used in class names has even greater importance in Finland in light of the endeavour recently undertaken for harmonisation among functional classification systems across various public-sector organisations (e.g., Happonen, 2010).

The study also contributes to understanding of functional classification systems' role in organisations. Foscarini's study (2009) provides extensive interpretation of the phenomenon by focusing on understanding of classification and functions in a heterogeneous organisational environment. The study for the thesis project has added to this by addressing the phenomenon in a specific cultural and recordkeeping context with detailed analysis of the difficulties faced in functional classification's use and of the title wordings used in the classification schemes of organisations.

The study provides further evidence supporting the findings of previous studies, suggesting that functions represent the most prevalent approach to records organisation. It was stated earlier that recordkeeping professionals prefer a function-based approach to records organisation (Foscarini, 2012; Smith, 2007, p. 54). Indeed, the study supports this assertion and also previous findings surrounding usability issues attendant to functional classification systems (Calabria, 2006; Gunnlaugsdottir, 2012; Ifould & Joseph, 2016; Singh et al., 2008). Records need to be created, used, and preserved. They must be usable, and some of them need to be permanently preserved. They have to be usable in their active phase and just as well during archival custody. However, the study identified difficulties in the use of functional classification systems and inconsistency in the titles applied in the schemes. Consistency in forms of expression in labelling of the classes was lacking. This ties in with results of previous studies that point to functional classifications being non-intuitive to users (Calabria, 2006; Gunnlaugsdottir, 2012; Singh et al., 2008). Furthermore, interviewees in this study questioned other users' understanding

of the functional classification system in use, and the systems were perceived, in part, as underused.

It was, in fact, somewhat surprising that the results support those of previous studies so strongly. Indeed, the special characteristics of Finnish recordkeeping practices, as presented earlier in the thesis, did not seem to have significant effects with regard to the results of the investigation. This result may be simply explained by the fact that the Finnish approach, its differences from other recordkeeping cultures notwithstanding, is strongly function-based. This is reflected in the finding that there was a certain lack of methodological alternatives to functional classification systems. This was visible in the results of Study I, which showed that, at least somewhat, recordkeeping professionals perceived use of a functional classification system as current best practice, to which they did not have many alternatives.

The study provides evidence of a counterpoint between the positive views of a function-based approach to records organisation and the manifold problems evident in their practical use. In delineating between previous studies and what is recommended in the professional literature – i.e., between evidence and supposition – the study could spark discussion among recordkeeping professionals on interpretations and assertions surrounding functional classification systems.

## 5.2 Practical implications

The study extends our understanding of functional classification systems for records organisation in a manner that may be of benefit to society through greater efficiency in public-sector recordkeeping, especially for those people working with records in organisations. It may lead to guidelines for changing organisations' record-handling practices in a manner that is to all employees' advantage.

The study investigated a phenomenon familiar to recordkeeping professionals through their daily work. The findings presented might not necessarily surprise professionals who work with functional classification systems; however, the study might give them new insights into functional classification systems' maintenance and use with regard to the issues that create challenges in their duties, by providing food for thought. The findings definitely can be input to developing and improving the terminology used in titles in functional classification systems.



### 5.3 Avenues for future research

In relation to a functional approach to records organisation, there are many options for fruitful research paths. Two key research needs that are stressed by the results of the study, related to recordkeeping challenges that should be tackled, are presented next.

Usability issues encountered with functional classification systems have been cited in several earlier studies (e.g., Calabria, 2006; Gunnlaugsdottir, 2012). This study led to a similar conclusion. In future, attention should be paid to the users of the systems if we are to avoid hampering the systems' efficient use by imposing difficulties. More studies focusing on use and usability of functional classification systems is needed for identifying the key issues that create difficulties in their effective and smooth use in organisations. Various user tests in authentic real-world situations are important for pinpointing the problems.

Another important research front in this area involves establishing and strengthening a robust theoretical basis for the functional approach to records organisation. Special attention should be paid to the use and definition of concepts related to function and functional classification systems. Studies conducted in collaboration with disciplines with interests in recordkeeping practices, such as archival science, administrative science, information technology, and even linguistics, might provide the broader perspective that is necessary for anchoring the function-oriented hype in the premises behind it.

### 5.4 Limitations of the study

The study has some shortcomings. For a deeper sense of functional classification systems' use in organisations, carrying out observation and user testing in real work situations instead of interviews might have been a more fruitful approach.

Participants' understanding of some concepts used in the interview questions might have differed somewhat from the understanding of the researcher. For example, functional classification system often was equated to AMS. A specific definition of such interrelated concepts might have been valuable for rigorous analysis of the respondents' perceptions. However, revealing the obscurity and lack of clarity in how the recordkeeping professionals used the concepts in their organisations yielded important information on an ambiguous phenomenon.

Another limitation is that only three Finnish case organisations participated in the study. By a strict interpretation, the low number of case organisations and the special characteristics of Finnish public-sector recordkeeping (proactive recordkeeping, AMS use, and registration) mean that caution must be applied in any generalisation, as the findings might not hold in other kinds of recordkeeping contexts.

In addition, the choice of a descriptive approach instead of a theory-based one for studying the phenomenon might be considered a limitation of the study. A robust theoretical foundation derived from, for example, archival science might have conferred more value on the study.

## 5.5 Reliability and validity of the study

‘The key to ethics in research is to minimize the harm or cost and maximize the benefit’ (Gibbs, 2007, p. 101) serves as good guidance. The concepts of validity (accurately capturing what is happening), reliability (giving consistent results), and generalisability (being true for a wide range of circumstances) have been developed in the context of quantitative research, alongside approaches and techniques for ensuring them. In qualitative research, instead of a simple reality against which to check the analysis, there are multiple views as to interpretation (Gibbs, 2007, pp. 90–91, 104).

In qualitative research, collection of data is seen as an interactive process in various contexts with measures that are not repeatable by other researchers. Therefore, researchers conducting qualitative research accept distinctive results (Neuman, 2003, p. 185). The study for the thesis project was conducted in Finland, in a specific recordkeeping context. Hence, although the results might be more widely applicable, they are not generalisable as such.

To provide reliable research, methods of data-gathering and the procedures for analysis of the data are described in the reporting on each of the sub-studies (studies I–IV) in detail. I ensured that the analysis was consistent and reliable by checking the transcripts and striving to avoid definitional drifts in coding, as suggested by Gibbs (2007, pp. 98–99). Also, I aimed to apply ‘reflexive good practice’ (Gibbs, 2007, pp. 92–93) by means of an open research process and through discussion and assessment of integrity, along with addressing various possible issues with the data.

Triangulation was employed in the study to address the validity or accuracy of the research. In examination of the phenomenon, analysis of functional classification schemes was conducted in addition to analysis of the interview data. When the

subject is viewed from multiple angles (e.g., via the use of several, quite different data sources), several investigators are involved, or various research methods are applied, one can obtain a more accurate view (Gibbs, 2007, p. 94). In addition to triangulation as applied in the thesis project, a further way of adding to the validity of one's interview-based analysis is to provide evidence in the form of quotations from the interviews (Gibbs, 2007, p. 97). For studies I–III, quotations were used extensively, strengthening the results' validity still more.

## 6 Conclusions

Digitalisation has changed how we proceed with records. Their organisation greatly influences the records' findability and use, today and in the future. This is of immense significance. Adding information to (digital) records that identifies their origin is vital in facilitating their later understanding. Today, the functions of the organisation that created or received the records in the course of carrying out its tasks serves as the basis for records' organisation internationally.

The way we organise records in public-sector organisations dates back to times when digitalisation in its current degree was a utopian vision. Using hierarchical, enumerative functional classification systems to arrange and manage records in organisations requires great effort on the part of recordkeeping professionals and other users of those systems. Even highly experienced recordkeeping professionals face difficulties with functional classification systems. Extending these classification systems' use to every employee in an organisation appears to represent a huge challenge in Finnish recordkeeping culture. If that path is to be pursued, special attention should be paid to the content of the classification systems, especially their terminology and consistency in their logic.

A theoretical foundation for the functional approach to records organisation needs to be constructed. After confirmation of a strong theoretical basis for the functional approach, various applications of functional classification systems might be methodically developed so as to find the approach that best serves both the user and the organisation in the use of current records and for records that are to be preserved for posterity.

# References

- Act on the Openness of Government Activities of Finland, 621/1999.
- Alberts, I., Schellinck, J., Eby, C., & Marleau, Y. (2010). Bridging Functions and Processes for Records Management. *The Canadian Journal of Information and Library Science*, 34(4), 365–390.
- Arkistolaitos (2008). *SÄHKE2. Sähköisten asiakirjallisten tietojen käsittely, hallinta ja säilyttäminen* [‘Processing, Management, and Preservation of Electronic Records’]. Archives Act of Finland, 831/1994.
- Bailey, S. (2009). Forget Electronic Records Management, It’s Automated Records Management That We Desperately Need. *Records Management Journal*, 19(2), 91–97. <http://doi.org/10.1108/09565690910972048>
- Bailey, S. & Vidyarthi, J. (2010). Human–Computer Interaction: The Missing Piece of the Records Management Puzzle? *Records Management Journal*, 20(3), 279–290. <http://doi.org/10.1108/09565691011095300>
- Bak, G. (2012). Continuous Classification: Capturing Dynamic Relationships among Information Resources. *Archival Science*, 12(3), 287–318. <http://doi.org/10.1007/s10502-012-9171-8>
- Bedford, D. & Morelli, J. (2006). Introducing Information Management into the Workplace: A Case Study in the Implementation of Business Classification File Plans from the Sector Skills Development Agency. *Records Management Journal*, 16(3), 169–175.
- Bowker, G.C. & Star, S.L. (1999). *Sorting Things Out: Classification and Its Consequences*. Cambridge (Mass.): MIT Press.
- Broughton, V. (2006). *Essential Classification*. London: Facet Publishing.
- Buckland, M. (1994). On the Nature of Records Management Theory. *American Archivist*, 57(Spring), 346–351.
- Calabria, T. (2006). Evaluating Caloundra City Council’s EDMS Classification Case Study (2004). Step Two Designs Pty Ltd.
- Campbell, E.G. (1941). Functional Classification of Archival Material. *The Library Quarterly*, 11(4, Oct.), 431–441.
- Coffey, A. & Atkinson, P. (1996). *Making Sense of Qualitative Data*. Thousand Oaks (Calif.): SAGE.
- Connelly, J. (2007). Functional Taxonomies: Myth or Magic? *Informaa Quarterly*, 27(4), 18–22.
- Cook, T. (1997). What Is Past Is Prologue: A History of Archival Ideas Since 1898, and the Future Paradigm Shift. *Archivaria*, 43, 17–63.
- Decree on the Openness of Government Activities and on Good Practice in Information Management of Finland, 1030/1999.
- Eskola, J. (2007). Laadullisen tutkimuksen juhannustaiat: Laadullisen aineiston analyysi vaihe vaiheelta [‘The Magic in Qualitative Analysis’]. In J. Aaltola & R. Valli (eds), *Ikkunoita tutkimusmetodeihin II* [‘Windows to Research Methods, 2nd Edition’]. Jyväskylä, Finland: PS-Kustannus.
- Flick, U. (2004). Triangulation in Qualitative Research. In U. Flick, E. von Kardorff, & I. Steinke (eds), *A Companion to Qualitative Research*. London: SAGE Publications Ltd.

- Foscarini, F. (2009). Function-based Records Classification Systems: An Exploratory Study of Records Management Practices in Central Banks. Faculty of Graduate Studies. Library, Archival and Information Studies. Vancouver: University of British Columbia. Thesis.
- Foscarini, F. (2012). Understanding Functions: An Organisational Culture Perspective. *Records Management Journal*, 22(1), 20–36.
- Friese, S. (2012). *Qualitative Data Analysis with ATLAS.ti*. Los Angeles: SAGE Publications Ltd.
- Gibbs, G. (2007). *Analyzing Qualitative Data*. Los Angeles: SAGE.
- Gilliland, A. & McKemmish, S. (2004). Building an Infrastructure for Archival Research. *Archival Science*, 4(3), 149–197.
- Gorman, G.E. & Clayton, P. (2005). *Qualitative Research for the Information Professional: A Practical Handbook* (2nd ed.). London: Facet.
- Gregory, K. (2005). Implementing an Electronic Records Management System: A Public Sector Case Study. *Records Management Journal*, 15(2), 80–85. <http://doi.org/10.1108/09565690510614229>
- Gunlaugsdottir, J. (2008). Registering and Searching for Records in Electronic Records Management Systems. *International Journal of Information Management*, 28(4), 293–304. <http://doi.org/10.1016/j.ijinfomgt.2008.01.013>
- Gunlaugsdottir, J. (2012). Functional Classification Scheme for Records – FCS: A Way to Chart Documented Knowledge in Organisations. *Records Management Journal*, 22(2), 116–129.
- Happonen, P. (2010). Yhteinen vai organisaatiokohtainen tehtäväluokitus? *Akti 2*, 12-13.
- Heikkilä, A. (2012). *Kuntaorganisaatioiden näkemykset kuntien yhteisestä tehtäväluokituksesta sekä sähköisestä arkistonmuodostussuunnitelmasta* [‘Municipal Organisations’ Perceptions of a Common Functional Classification System and Electronic Recordkeeping Plan’]. Finland: University of Jyväskylä. Master’s Thesis.
- Henttonen, P. (2007). *Records, Rules and Speech Acts*. Tampere, Finland: Tampere University Press. Thesis.
- Henttonen, P. (2012). Diversity of Knowledge Organisation in Records and Archives Management. In A. Neegameghan & K.S. Raghavan (eds), *Categories, Contexts and Relations in Knowledge Organization: Proceedings of the 12th International ISKO Conference, 6–9 August 2012, Mysore, India. Advances in Knowledge Organization 13* (pp. 277–283). Würzburg, Germany: Ergon.
- Henttonen, P. (2015a). Dimensions of Contextual Records Management Classifications. *Knowledge Organization*, 42(7), 477–485.
- Henttonen, P. (2015b). *Johdatus asiakirjahallinnan tutkimukseen* [‘An Introduction to Recordkeeping Research’]. Helsinki: Avain.
- Henttonen, P. & Kettunen, K. (2011). Functional Classification of Records and Organisational Structure. *Records Management Journal*, 21(2), 86–103. <http://doi.org/10.1108/09565691111152035>
- Hofman, H. (2005). The Archive. In S. McKemmish, M. Piggott, B. Reed, & F. Upward (eds), *Archives: Recordkeeping in Society* (pp. 131–158). Wagga Wagga, Australia: Centre for Information Studies.
- Hunter, E. (2009). *Classification Made Simple: An Introduction to Knowledge Organisation and Information Retrieval* (3rd ed.). Farnham: Ashgate.
- Hurley, C. (1993). What, If Anything, Is a Function? *Archives & Manuscripts*, 21(2).
- Ifould, P. & Joseph, P. (2016). User Difficulties Working with a Business Classification Scheme: A Case Study. *Records management Journal* 26(1), 21-37.
- International Organization for Standardization (2016). ISO 15489-1: Information and

Documentation – Records Management. Part 1: General.

- Jääskeläinen, J. (2000). *Arkistotoimen sisällön ja toimintatapojen muotoutuminen vuoden 1981 arkistolain pohjalta* [‘Forming of Recordkeeping Practices after the Archives Act from 1981’].
- Kallberg, M. (2013). Shaping a Profession?: A New Professional Context and Changing Status for Registrars in Sweden. *Records Management Journal*, 23(3), 177–190. <http://doi.org/10.1108/RMJ-02-2013-0006>
- Kansallisarkisto (2007). *Arkistonmuodostussuunnitelma AMS* [‘The Recordkeeping Plan, AMS’]. Retrieved on 22 December 2016, via <http://www.ams-opas.fi/>.
- Kennedy, J. & Schauder, C. (1998). *Records Management: A Guide to Corporate Record Keeping* (2nd ed.). South Melbourne, Australia: Longman.
- Kwasnik, B.H. (1999). The Role of Classification in Knowledge Representation and Discovery. *Library Trends*, 48(1), 22–28.
- Lybeck, J. et al. (2006). *Arkistot yhteiskunnan toimiva muisti. Asiakirjahallinnon ja arkistotoimen oppikirja* [‘Archives – the Memory of the Society: Recordkeeping Textbook’]. Helsinki: Arkistolaitos.
- Mäkinen, S. (2013). *Records Management in Mobile Work*. Tampere, Finland: Tampere University Press. Thesis.
- McKemmish, S. & Gilliland, A. (2013). Archival and Recordkeeping Research: Past, Present and Future. In K. Silliamson & G. Johanson (eds), *Research Methods: Information, Systems, and Contexts* (pp. 79–112). Prahran, Australia: Tilde Publishing.
- McLeod, J. & Hare, C. (2006). *How to Manage Records in the E-Environment* (2nd ed.). London: Routledge.
- Miller, T. (2003). The German Registry: The Evolution of a Recordkeeping Model. *Archival Science*, 3(1), 43–63.
- Mokhtar, U.A., Yusof, Z.M., Ahmad, K., & Jambari, D.I. (2016). Development of Function-based Classification Model for Electronic Records. *International Journal of Information Management*, 36(4), 626–634.
- Myburgh, S. (2009). Records Organisation and Access. In *Encyclopedia of Library and Information Sciences* (3rd ed.) (pp. 4460–4464). New York: Taylor & Francis.
- Neuman, W.L. (2003). *Social Research Methods: Qualitative and Quantitative Approaches* (5th ed.). Boston: Allyn & Bacon.
- Novick, G. (2008). Is There a Bias against Telephone Interviews in Qualitative Research? *Research in Nursing & Health*, 31(4), 391–398. <http://doi.org/10.1002/nur.20259>
- Orr, S.A. (2005). Functions-based Classification of Records: Is it Functional? School of Informatics, Division of Information & Communication Studies. Newcastle: Northumbria University.
- Park, S. & Neal, D.R. (2012). A New Wave of Government Information Management: The Development of a Function-based Classification Structure in a Canadian Government Organisation. *Journal of Library Metadata*, 12(1), 23–38. <http://doi.org/10.1080/19386389.2012.652569>
- Pickard, A.J. (2007). *Research Methods in Information*. London: Facet Publishing.
- Reed, B. (2005). Records. In S. McKemmish, M. Piggott, B. Reed, & F. Upward (eds), *Archives: Recordkeeping in Society* (pp. 102–130). Wagga Wagga, Australia: Centre for Information Studies.
- Ribeiro, F. (2014). The Use of Classification in Archives As a Means of Organisation, Representation and Retrieval of Information. *Knowledge Organization*, 41(4), 319–326.
- Sabourin, P. (2001). Constructing a Function-based Records Classification System: Business Activity Structure Classification System. *Archivaria*, 51, 137–154.

- Savin-Baden, M. & Major, C.H. (2013). *Qualitative Research: The Essential Guide to Theory and Practice*. London & New York: Routledge.
- Schellenberg, T.R. (1956). *Modern Archives: Principles and Techniques*. Chicago: University of Chicago Press.
- Seitsonen, K. (2010). *Kuntien yhteinen tehtäväluokitus ja semanttinen web* [‘A Common Functional Classification System for Municipalities and the Semantic Web’]. Finland: University of Tampere.
- Seppänen, V., Oittinen, R., & Gröhn, E. (1990). *Arkistointi ja kirjaaminen kunnallishallinnossa* [‘Filing and Registration in Public Administration’] (2nd ed.). Helsinki: VAPK-kustannus.
- Shepherd, E. & Yeo, G. (2003). *Managing Records: A Handbook of Principles and Practice*. London: Facet.
- Singh, P., Klobas, J., & Anderson, K. (2008). EDRMS Users’ Information-seeking Behaviour: Managerial and Training Challenges for Records Managers. *Informaa Quarterly*, 24(3), 28–33.
- Smith, K. (2007). *Public Sector Records Management: A Practical Guide*. Aldershot: Ashgate.
- Stephens, D.O. (1995). The Registry: The World’s Most Predominant Recordkeeping System. *Records Management Quarterly*, 29(1), 64–66.
- Suominen, V., Saarti, J., & Tuomi, P. (2009). *Bibliografinen valvonta: johdatus luetteloinnin ja sisällönkuvailun menetelmiin* [‘Bibliography: An Introduction to Description’]. Helsinki: BTJ.
- Todd, M. (2003). *Business Classification Scheme Design*. Kew: The National Archives.
- Tough, A. & Moss, M. (2006). Records and the Transition to the Digital. In A. Tough & M. Moss (eds), *Record Keeping in a Hybrid Environment: Managing the Creation, Use, Preservation and Disposal of Unpublished Information Objects in Context* (pp. 1–25). Oxford: Chandos.
- Tuomi, J. & Sarajarvi, A. (2009). *Laadullinen tutkimus ja sisällönanalyysi* [‘Qualitative Research and Content Analysis’]. Helsinki: Tammi.
- Valtonen, M.R. (2005). *Tapaustutkimus poliisin esitutinnan dokumentoinnista: asiakirjahallinnan näkökulma* [‘A Case Study of Documentation in Pre-trial Investigation: A Records Management View’]. Helsinki: Arkistoyhdistys. Thesis.
- Vartiainen, T. (2002). Tehtävän mukaan minäkin paperini järjestän: muistikuvia ja tosiasioita arkistonmuodostussuunnitelman alkua ajoilta [‘I Organise Records According to Function: Memories and Facts from the Early Phases of the Recordkeeping Plan, AMS’]. *Arkisto. Arkistoyhdistyksen Julkaisuja*, 8.
- Vartiainen, T. & Sihvonen, R. (1983). Arkistokaava ja tehtäväpohjainen arkistonmuodostussuunnitelma arkistonmuodostajan ja yleisarkiston näkökulmasta [‘The File Plan and Function-based Recordkeeping Plan (AMS) from the Record-creating Organisation and from the Archives Perspective’]. *Arkisto. Arkistoyhdistyksen Julkaisuja*, 1.
- Williams, C. (2006). *Managing Archives: Foundations, Principles and Practice*. Oxford: Chandos Publishing.
- Williamson, K. (2013). Research Concepts. In K. Williamson & G. Johansson (eds), *Research Methods: Information, Systems, and Contexts* (pp. 3–23). Prahan, Australia: Tilde Publishing.
- Yakel, E. (2003). Archival Representation. *Archival Science*, 3(1), 1–25.
- Yeo, G. (2012). Bringing Things Together: Aggregate Records in a Digital Age. *Archivaria*, 74(Fall), 43–91.
- Yusof, Z.M. & Chell, R.W. (2002). Towards a Theoretical Construct for Records



Management. *Records Management Journal*, 12(2), 55–64.

# APPENDIX 1: The interview guide and questions

## **Background information**

- What is your name?
- What is your title?
- Please tell me about your work.
- How long have you been working with your current duties?
- What kind of education in records and archives management do you have?

## **What does the term ‘functional classification system’ mean to you?**

- What do you understand a functional classification system to be?
- Why are functional classification systems needed at all?
- What do you think: who requires, needs, and uses them?
- Do you use some other term instead of ‘functional classification system’?

## **Why are functional classification systems developed and needed? Why was a functional classification system put in place in your organisation?**

- What do you think about why records are categorised on the basis of functions?
- What alternatives do you see to functional classification systems? In your opinion, what other approach could work better?
- If you could choose, how would you categorise records?
- Do you think you could manage without a functional classification system?
- Are you aware of the reasons the functional classification system was put into operation in your organisation?
- In your duties, does using a functional classification system make the work easier? / What kinds of benefits do you see from a functional classification system in your work?
- Does use of a functional classification system complicate your work?
- What benefits do you see a functional classification system having in some other quarters? For whom?
- Could using a functional classification system complicate someone else’s work? Whose work?

**Please, tell me about the creation and implementation of the functional classification system in your organisation.**

- When was the current functional classification system implemented in the organisation?
- Did you participate in creation of the functional classification system of your organisation? How?
- How did its creation proceed?
- From where was the information collected?
- Was some other classification system used as a basis for the new one?
- How were the functions selected?
- What were your perceptions of the creation phase?
- What was the easiest or most difficult part of it?
- Have you created functional classification systems before? Where?
- Did you participate in implementation of the current functional classification system?
- In your opinion, how well did the implementation in your organisation go?
- Was user training organised? How much? For whom?
- Did you receive this training? Did you find the training personally useful? In what respect / in what way not?
- What do you think about the training? What kind of training was organised? Who conducted the training? Did you?
- Did you receive any feedback from the training and implementation phase? What kind of feedback?
- How good was the timing of the training?

**What are your perceptions of the structure and content of the functional classification system in your organisation?**

- What do you think of the structure of the functional classification system in your organisation? Do you find the quantity and specificity of the levels in the hierarchy suitable?
- Do you know why the structure is the way it is? On what is it based?
- What do you call the various levels in the hierarchy (e.g., functions, activities, and transactions)?
- Do you find the classification to be function-based? Are there any other framings for the system? What kinds?
- Are the labels used in the classification system functions? If not, what are they?

- How well/poorly do the functions denoted in the functional classification system equate to the actual functions of your organisation?
- In your opinion, what is the relationship between records and functions in the classification? Do the records' origins lie in the functions whose name they bear?
- Have you followed other ways of classifying records in your work?
- How would you describe your organisation's current classification system, as compared to any others you used previously?

**Please, tell me about the use of the functional classification system both in the organisation as a whole and in your work specifically.**

- How does the functional classification system manifest itself in your organisation?
- What purposes does the functional classification system serve in your organisation? Who works with these?
- Can you think of any other purposes for the functional classification system?
- How would you characterise the duties in which the functional classification system is used in your organisations? Are they routine tasks or some other kinds of tasks?
- Are there functions in your organisation in which records are created but not categorised?
- How do you use the functional classification system?
- Do you use the functional classification system to categorise the records you create?
- Is it obligatory that a record's creator categorise it in the functional classification system?
- If a record's creator does not categorise the record, who does, in your perception?
- How do you retrieve records/material you need?
- In your opinion, can the functional classification system be used for information retrieval?
- What might be better means for information retrieval?
- How often do you use the functional classification system – daily, every week, every month, ...?
- What is most difficult about using the functional classification system? Why?
- What aspect of using the functional classification system is easy, and why?
- What kinds of user groups are there for functional classification systems in your organisation?

- In your organisation, is use of functional classification in electronic records management restricted? That is, are employees restricted to using only those function classes that they need to deal with in their duties?
- Do you use the functional classification system in its entirety?
- What is your perception as to whether different user groups are able to use the functional classification system?
- What do you perceive as being most difficult for other users to understand? What is the easiest?

**Please, tell me about the maintenance and possible needs for development of the functional classification system in your organisation.**

- How is the functional classification system in your organisation maintained?
- How does the functional classification system adapt to changes in the organisation?
- Is user training still organised (on-site or in some other way)? Is training called for?
- In your opinion, are there any problems with your organisation's current functional classification system? What kinds? How should they be solved?

**Is there anything else related to functional classification systems that I didn't notice that I should ask, or something else you would like to say?**

**If something comes to mind that I didn't notice that I should ask or that you didn't think to say, you can send it to me by e-mail, to be added to the data for the study.**

# Recordkeeping professionals' understanding of and justification for functional classification: Finnish public sector organizational context

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**Abstract** Today functional classification is the predominant approach to records organization. It is, however, apparent that the functional approach to records classification often involves methodological and conceptual confusion as well as usability issues. The purpose of this study is to gain a better understanding of how recordkeeping professionals perceive functional classification, what are the purposes the classification serves and how they justify this method in Finnish public sector organizations. The article presents the results of the study in which 22 recordkeeping professionals in three Finnish public sector organizations were interviewed. The data were analyzed with qualitative methods. The results show the integration of the functional approach in Finnish recordkeeping practices and records management tools. The results also describe various purposes served by functional classification in organizations. They illustrate various justifications for this method and the recordkeeping professionals' lack of methodological alternatives.

**Keywords** Functional classification · Records management · Records organization · Finland · Recordkeeping professionals

## Introduction

Functional classification has recently drawn increasing attention as a method for organizing records in electronic records management (Alberts et al. 2010; Bak 2012; Foscarini 2012; Gunnlaugsdottir 2012; Henttonen and Kettunen 2011). It is

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highly valued by records management professionals (Foscarini 2012; Orr 2005) and sometimes even presented as the only reasonable method for classifying records (Shepherd and Yeo 2003). Other options for records classification, i.e., subject, record type, organizational structure (Smith 2007, pp. 54–55) or hybrid classifications (Bak 2012, pp. 297) more or less escape attention.

The functional approach to classification of records has its roots in the distant past (Campbell 1941; Schellenberg 1956). With the increasing volume of records in organizations and use of electronic records management systems (ERMS), the functional approach has become more popular. At the same time, however, there has also been a growing interest in the problems that functional classifications involve (Alberts et al. 2010; Calabria 2006; Foscarini 2012; Orr 2005).

Although functional classification is a generally accepted method for organizing records, its idea and terminology are open to interpretation. Problems have been noticed in how functional classification is understood and how functional terminology is interpreted. Usability of classifications has also been questioned, and the advantages it has brought to organizations and to recordkeeping professionals are unclear. In addition, recordkeeping professionals' understanding of what purposes this classification actually serves in their organizations has not been studied.

Although the value of functional classification is internationally acknowledged, its implementation and the practices behind it are not uniform. In the Finnish public administration, functional classifications have gradually become more common since the 1980s. The National Archives Service has the authority to guide Finnish public sector recordkeeping and it recommends using functional classification as a basis for managing records. Therefore, today functional classification schemes can be seen as a fundamental method of Finnish public sector records management.

There have been no earlier studies which have focused on Finnish recordkeeping professionals' perceptions of this particular classification strategy. The purpose of this study is, therefore, to shed light on their interpretations of functional classification. The study seeks to find out how recordkeeping professionals understand the concept of functional classification and what purposes they see it as serving in the organizations. In addition, the study explores how recordkeeping professionals justify its use in their organization.

## Functional classification of records

Today functional classification is widely adopted (Myburgh 2009) and considered as the primary approach to records classification (ISO 15489-1: 2001, s. 9.5.2; Kennedy and Schauder 1998, p. 113; Smith 2007, p. 33; Tough 2006). It is also presented sometimes as the only option for classifying current records (Shepherd and Yeo 2003), and as an option also for archival arrangement (Williams 2006, pp. 75–85). Others note that combining different classification principles simultaneously is possible (Bak 2012, p. 297; Kennedy and Schauder 1998, p. 113; Reed 2005, p. 113) and may enhance the acceptance and usability of the systems (Connelly 2007, p. 22).

Although the advent of functional classification in current organizations is recent, functional approach to records classification was advocated already decades ago by Schellenberg (1956). According to Schellenberg (1956, pp. 62–63), instead of subject or organizational structure, records should mainly be classified according to functions, as they constantly result from organizational functions. A three-level hierarchy of functions, activities and transactions was presented already in Schellenberg's model (Schellenberg 1956, pp. 54–55). There are several benefits here, one of them being that functional classification adds contextual information to records. It brings out the context of their creation (Shepherd and Yeo 2003, p. 74) and links individual records together with other records from the same activity (ISO 15489-1: 2001, s. 9.5.1). Context is an integral part of understanding the meaning of an individual record since the meaning of a record rests on its connections and dynamic relationship with other records (Lybeck et al. 2006, p. 15). By linking records together, their evidential value is also enhanced (Tough 2006, p. 17). When records are classified by functions, the business context is pretty much self-evident (Myburgh 2009, p. 4461). Because records are byproducts of actions, records can even be seen as naturally creating groups of actions (Schellenberg 1956, p. 53). By providing contextual linkages and process control, functional classification serves best the purposes of recordkeeping (Reed 2005, pp. 112–113). Previous studies and literature (Foscarini 2012; Orr 2005; Smith 2007, p. 54) show that records management professionals prefer functional classifications because they find it easier to manage records in the functional structure (Todd 2003, p. 3). In Foscarini (2012, p. 30), a belief in 'power of function' as such was also strong among records practitioners. Stability of organizational functions is also stated as a benefit of the functional approach (Smith 2007, p. 56; Tough 2006, p. 17), especially in comparison with classification based on organizational structure that is variable in nature. (Connelly 2007, p. 20; Todd 2003, p. 22). When the classification has a stable foundation, there is less need to modify it. Functional classification gives an understanding of the whole organization (Shepherd and Yeo 2003). According to Gunnlaugsdottir (2012, p. 125), a functional classification scheme could be stated to be "a map of the activities of an organization". It serves for retrieval, storage and for other records management processes like disposal scheduling (Todd 2003). In information retrieval, functional classification limits the range of records that are searched (Tough 2006, p. 17). In addition, functional classification has other advantages: it is flexible (Shepherd and Yeo 2003, p. 74), it enables appraisal of business functions (Todd 2003) and it is easy to define ownership of information (Connelly 2007, p. 20). Building a functional classification scheme may improve the effectiveness of the whole organization (Smith 2007, p. 55).

Management support has a crucial role in implementing functional classification (Gibbons and Shenton 2003, p. 154; Gunnlaugsdottir 2012, p. 125). After successful implementation, functional classification can serve records management well. In Gunnlaugsdottir (2012, p. 125) the functional classification scheme was considered an important tool for managing records when it was familiarized in the organization and there was training and support for using it..

Functional classification has also been an object of criticism (Bak 2012; Yeo 2012). The special nature of electronic records in contrast to paper records creates



the need to change the approach to records and enables multiple representations. Functional classification has been seen as arbitrary, and its alleged naturalness has been denied (Bak 2012; Yeo 2012). Competing ways of seeing records might be supported by expanding the definition of records classification and by item-level management (Bak 2012) as well as by relational models (Yeo 2012). The functional approach to records organization has several shortcomings. Some of the widely stated problems are conceptual confusion and usability issues. Functional terminology is vacillating, and different terms are used almost synonymously. Function, as a concept, is obscure (Foscarini 2012). Foscarini (2012) found that the meanings of functional concepts like “function”, “activity” and “transactions” were not clear to professionals. Clear definitions of concepts like “function” and “functional approach” were missing, and interpretation and use of the concepts varied. Nevertheless, organizations strove for the functional approach, which leads to confusion and inconsistency in applications (Foscarini 2012, p. 22). Definitions of functional terms vary from one author and standard to another. Concepts like “function”, “sub-function”, “activity”, “sub-activity”, “transaction”, “task” and “process” are all used in the literature, mainly without rigorous definitions. The number of elements in functional classification schemes, naming conventions and terminology are all manifold (Alberts et al. 2010; Orr 2005). Recently, however, Alberts et al. (2010) have striven for conceptual clarity.

Various types of functional classification systems have been constructed and implemented (e.g., Gibbons and Shenton 2003; Sabourin 2001; Xie 2007). Widespread implementation of the functional approach to records organization has, however, not led to standardized methodologies of implementation or shared understanding of function and functional hierarchies. Additionally, the role of functional classification varies within organizations (Foscarini 2006; Henttonen 2012). In the literature, discussion has focused mainly on DIRKS and BASCS, which are the two best known forms of functional classification (Alberts et al. 2010; Foscarini 2006). Less is known about other national or organizational variants of functional classification. Today organizations are often different and more complex than the one described in Schellenberg’s work. Functional classifications better suit organizations with simple and regular functions. They are also more suitable for bureaucratic organizations that are strictly regulated. (Smith 2007, p. 55). Functions may overlap, which is also problematic (Alberts et al. 2010; Williams 2006). Cultural factors and organizational and personal behavior may have an influence on the functional aspects as well (Foscarini 2012). Because of cultural differences in archives and records management, challenges in local environments would still remain even if there were a standard methodology for creation of functional classifications.

It is clear that there are usability issues, since understanding functional logic is not always easy. Connelly (2007, p. 21) sees the effectiveness of functional classifications as anecdotal. From a records management viewpoint, functional classifications are simple and easy to follow, but from users’ perspectives they are not intuitive and confusing. In effect, experts are more convinced about the benefits of functional classifications than are users. Functional classifications serve more records professionals’ purposes than the needs of records users or creators (Bak 2012, pp. 290–291; Orr 2005). Users often face problems with functional logic and

its applications, since, instead of functions, they usually think in terms of subjects (Calabria 2006). Typically end-users find abstract functions difficult to comprehend (Alberts et al. 2010, p. 368). There is also the difference between official procedures and how people actually conduct processes at work (Foscarini 2010, p. 391). In order to reduce user resistance to terminology used in the scheme, it may need to better resemble the users' needs (Tough 2006, p. 17). Individual users of ERMS normally use only a small part of the classification. Thus, also automated classification such as unit or user profiles could be created to facilitate access to ERMS (Henttonen and Kettunen 2011). Seitsonen (2010) discusses opportunities provided by semantic web 2.0 to functional classification in Finnish municipal organizations.

Despite the criticism of functional classifications and the stated user-unfriendliness of functional classification, the functional approach to records organization is still widely followed. Despite the conceptual confusion, usability problems and lack of methodology, records management professionals see the functional approach to classification as positive (Foscarini 2009; Orr 2005). Such a scheme that is familiar to users, can with conscientious implementation be regarded as an “invaluable tool” for records management (Gunnlaugsdottir 2012, pp. 126–127). Current endeavors, such as new methodological approaches (Alberts et al. 2010), user profiling (Henttonen and Kettunen 2011), more culture-specific approach to functional methodology (Foscarini 2012) or item-level thinking (Bak 2012) might all improve functional classification as an approach to records classification as well as its usability.

## Context of the study

In this section the context of the study, the specific Finnish organizational recordkeeping context, is outlined. There are three core elements that are closely related to functional classification in Finnish organizations' recordkeeping framework: AMS (a Finnish records management tool for life cycle management), registration and regulatory environment.

## Regulatory environment

Various laws regulate authorities' records in Finland, guaranteeing access to public information and openness of administration, as in all the other Nordic countries (Norberg 2003, p. 91). The National Archives Service of Finland plays an active directive role in records management, stipulated by law, unlike in some other countries. (Lybeck et al. 2006, p. 170). Public organizations are obliged to organize their records and archives management services. This can be achieved by various methods (Lybeck et al. 2006). Nevertheless, after the introduction of functional classification in Finland in the 1980s, functional classification has little by little established itself as the best method for records organization. Today it is recommended by the National Archives Service. For records with permanent value

that are preserved in electronic form only, functional classification is in practice mandatory.

As stated in Sundqvist (2009, pp. 206–207), legislation, regulations and control of the National Archives Service require an implementation of certain representational systems. Even recommendations without legal authority can be seen as almost mandatory to follow. Hence, because of the outside factors there is a need to implement representational systems that may otherwise never have been adopted for the organization's own needs.

### **The Finnish framework for recordkeeping and functional classification**

Management and organization of records differs in several ways depending on the cultural context and archival as well as records management principles and practices adhered to (Henttonen 2012). In Finnish public administration, records and archives management are closely intertwined. Archival aspects run through the whole process. Since the Archives Act of 1981, the whole record's life span from creation to destruction or preservation in an archive has been proactively planned even before the record itself came into existence (Kilkki 2004). Proactive management of records has growing importance for records in electronic form (Hofman 2005, p. 145; Reed 2005, p. 128). The proactive management of records also relates to archival appraisal: the National Archives Service of Finland selects records with continuing value to the society for permanent preservation, but in other respects, the appraisal is mainly based on the organizations' business functions' significance (Kilkki 2004).

In Finland, a records functional classification system is understood as a classification of an organization's functions. The Finnish National Archives Service defines functional classification as an hierarchical list of statutory and supportive functions of the organization (Sähke2 2008, p. 8). Hence, functions match the operational goals of the organization. In addition to statutory functions (e.g., social services), they include supportive functions (e.g., personnel administration) that sustain organizational activities. All organizational functions are listed in the scheme in a hierarchical relation in an enumerative, hierarchical scheme following classical theory where categories are created from general to specific (Taylor 2004, p. 302). In Finland, numerical notation is used for the functional classes.

### **AMS: A tool for records' life cycle management**

AMS is a Finnish records management tool for life cycle management (the term is an abbreviation of the Finnish word "arkistonmuodostussuunnitelma"). It is one of the most important tools in Finnish public sector recordkeeping (Arkistolaitos 2000) and has been obligatory in the Finnish public sector organizations since the 1981 Finnish archival legislation (Archives Act 831/1994). It covers the management of records' whole life span, describing and guiding records processing in organizations, including records capture, registry, access, publicity, secrecy, use, appraisal, disposal and preservation. The AMS may have several roles in organizations. Primarily it is supposed to serve organizational goals. However, when the AMS is

designed, appraisal to serve future research needs should also be taken into account (Lybeck et al. 2006, p. 80). Today the AMS is normally linked to an ERMS where it generates default metadata values for records (Lybeck et al. 2006, p. 72). It indicates the records created or received in the organization. It also works as a recordkeeping guideline for filing, registering and determining retention times of records and as a tool for implementing the principle of freedom of information in public administration (Arkistolaitos 2000). The role of the AMS as a retention schedule is required in the archival legislation and in practice this is often its primary use. AMS could act as a comprehensive tool in the organization's knowledge organization, but unfortunately it is often implemented only to fulfill the letter of the law and the goals are not achieved in reality (Valtonen and Henttonen 2010, p. 222).

Minimum demands for an AMS are stipulated by law (Archives Act 831/1994). According to the National Archives Service's recommendation (Arkistolaitos 2000), the structure of an AMS should be based on functions. Hence, creation of the AMS starts by charting the organization's functions and processes (Lybeck et al. 2006, p. 81). After charting the laws and regulations concerning the organization, designing of the AMS starts with analyzing functions and their sub-functions in an hierarchal structure (Arkistolaitos 2007). After changes in the organizational functions or practices, the AMS should be updated (Arkistolaitos 2000). Designing the AMS involves the whole organization. At its best, the process should be linked to other information systems or information management development processes (Arkistolaitos 2007).

Traditionally, records in Finnish public sector organizations were organized according to a so-called ABC classification scheme which is primarily based on the records' form ("Minutes", "Correspondence", etc.) and only secondarily on their content. The main series are identified with capital letters and lower levels with capital and lowercase letters. This scheme came to Finland from Sweden and has been used since the 1940s (Lybeck et al. 2006, p. 144). The purpose of ABC classification scheme was at first used only to organize records in archives. It was, however, later also used as a retention schedule and to classify all organizational records in the agencies. In the 1980s and in the beginning of the 1990s, there was a clear paradigmatic change in Finnish recordkeeping; the focus changed from records to functions. Today, functional classification schemes have mainly replaced ABC schemes in public sector organizations. A functions-based AMS gives an overview of the organization's functions, indicates the information the organization holds and the various functions to which it is related. Therefore, it is useful also in familiarizing new employees to their work (Arkistolaitos 2000).

The same grouping that is used in the AMS should be used in the registry system and in filing, thus making the systems in registration and filing clearer. The National Archives Service recommends that the same grouping is used in the registry as in the AMS functional classification, at least at the main level (Arkistolaitos 2000). Hence the functional classification scheme gives the structure for records during the active stage of the life cycle and it also provides the structure of archival records series, in so far as records with permanent value are generated within the functions. Although traditionally there have been three independent classification schemes in the Finnish

records management environment; the first in the records management plan (AMS), the second in the registry and the third in the archive, the same functional classification scheme serves all these purposes (Henttonen 2012, p. 2). Nevertheless, the structures of municipalities' AMSs differ. Seitsonen (2010, p. 25) points out that one-third of municipalities' AMSs are still based on the traditional ABC scheme.

The AMS may also be seen as a conceptual model for describing organizational functions. With a view to managing records' life span, it describes the hierarchical relationships of functions and the official procedures of organizational processes as well as the records typically produced in them. This conceptual model does not describe the real processes of the organization, the records produced in those processes nor the demands for records in conducting those processes (Kilkki 2009). Sundqvist (2009, p. 204) argues that there are several contradictions and tensions within archival representational systems. Representational systems simultaneously serve various purposes which create inherent tension within the system. Archival description should manage and control records, describe their context and work as a search tool at the same time. What is represented and how it represented is imposed on organizations from outside through textbooks and instructions (Sundqvist 2009, pp. 206–207). These same tensions may exist when it comes to functional classification schemes.

## Registration

In Finland the practice of registering records has long historical roots (Lybeck et al. 2006, p. 39). Stephens (1995, p. 1) describes essential features of registry systems that are also valid in Finland. A registry works as an index to records. It is used to control the records from the moment of their creation or receipt, before any processing takes place in the organization. Often one central registry office serves for the whole organization. In an electronic environment registration, practices are even more important. Registration ensures creation and capture of the record, and it connects the record to its function (Arkistolaitos 2011). In Finnish public sector organizations, registration is aimed at linking the records, actions taken in the processes and the decisions made. For example, it ensures legal protection and facilitates following procedures and records retrieval (Seppänen et al. 1990, pp. 35–36).

Today grouping in electronic registry systems is based on the same functional classification scheme as in the AMS. All records relating to the same process are registered under the same registration number, thereby linking the records to the functional context of the process (Kilkki 2004). This enables and facilitates later retrieval of the records. The focus in registration is on the individual records and records' processes in contrast to the AMS, where the focus is on groups of records like functions and record series (JHS 176, 2012).

## Methods

This chapter describes the methods that were used in the study. The objective is to find answers to the following questions:

- How is functional classification understood by recordkeeping professionals in Finnish public sector organizations?
- What purposes do recordkeeping professionals perceive functional classification to serve in Finnish public sector organizations?
- How do recordkeeping professionals justify the use of functional classification in Finnish public sector organizations?

In the study, recordkeeping professionals were interviewed in three case organizations that use functional classification. Three public sector organizations were selected for the study: one municipal organization (organization A), one university (organization B) and one governmental organization (organization C). Only public sector organizations were selected because they are subject to laws concerning records and archives management and the instructions of the National Archives Service. Recordkeeping systems in these organizations followed the typical Finnish proactive recordkeeping strategy which includes an AMS, a registry system and archival records series that all share the same functional classification scheme which formed the basic structure of the systems used. It was embedded in the AMSs and the registry systems and formed the filing structure for records.

Since archivists and records managers are not separate professional groups in Finland, employees in the organizations belonging to either of the groups in the study are called *recordkeeping professionals*, yet they are a diverse professional group, working under various titles, such as records management designers, registrars, records management assistants, information service secretaries, archivists, archival specialists and archival secretaries. Their duties vary from one organization to another and from the title alone it is not always possible to see what the professional duties might be. Qualitative interviews were used to explore understandings (Miller and Glassner 2004, p. 127) and to find answers to research questions. Only recordkeeping professionals were interviewed because the interviewees had to have experience of a functional classification and some knowledge of it before they could answer the questions submitted.

Data for the study were generated by interviewing 22 recordkeeping professionals operating at different organizational levels, as managers, designers and registrars or secretaries working in the three records creating case organizations. Thus all interviewees were presupposed to be more or less familiar with functional classification, depending on their work history in the organization. There were 8 interviewees in organization A, 3 in organization B and 11 in organization C. The interviews were conducted face to face, by videoconference and on the telephone from February to May 2013. The interviews were conducted as either one-on-one interviews or group interviews consisting of 2–3 interviewees at the same time. A copy of the interview themes was sent to interviewees beforehand. Questions were purposely left open-ended to gather the perceptions of the interviewees. To catch the overall picture of functional classification, the interviewees were permitted to speak freely from their own specific perspective.

Interviews were recorded and transcribed verbatim excluding murmurs, laughter and suchlike. The data were analyzed with qualitative data analysis software ATLAS.ti. The data analysis started with reading through the data several times. In

the first phase, the appropriate parts of the data were coded and categorized under the themes based on research questions stated: the concept of functional classification, the purposes served by functional classification and justifications for functional classification. In the next phase, detailed and more focused sub-codes were identified and added to every category. Finally, a three-level hierarchical list of codes sorted by numbers and letters was produced in parallel with the reading process. A coding system helps to understand what is in the data and to conceptualize and develop the codes further if needed (Frieze 2012, pp. 122–123, 141). After detailed coding, the data behind each code were examined one by one and in parallel with each other in the light of the research questions. Codes were used *inter alia* for clustering the data surrounding a specific research question. Clustering “sets the stage for drawing conclusions” (Miles and Huberman 1994, p. 57). A structured code list adds transparency and methodological rigor to the research process.

## Findings

In general, recordkeeping professionals did not perceive functional classification abstractly. They looked at functional classification from the perspective of its concrete manifestations in the AMS or the registry and the ways it was used in the organization. The perception was tied to the tasks the professional personally took care of in the organization (e.g., life cycle management, registration, filing), but in almost all cases (with some exceptions) recordkeeping professionals were aware of the other manifestations functional classification had in the organization. Functional classification was a familiar term for recordkeeping professionals. Nevertheless, they did not speak often about “functional classification” but used terms that referred to its concrete manifestations (registry, AMS) in which the classification was embedded. They used those terms partly in parallel and synonymously.

The recordkeeping professionals had various ideas about the purpose of functional classification. The purposes they mentioned most often were to organize records and matters in the registry systems in order to be able to find them when needed, to provide an overall picture of the organization, to guide organizational recordkeeping and to structure and to clarify the wholeness and employees’ own work. Functional classification was regarded as an essential framework for managing records and a situation in which there was no functional classification was seen as chaotic. At the same time, however, it seemed in part that most of all there was a perceived need for some structure to follow and the structure did not necessarily need to be functional.

C7: [It is needed] to keep [track of records], otherwise there would be an intolerable situation if we did not know where the records go and where to put them and where to find them. The records form a file, you can find the things in specific places. We do have to have a plan that we can follow ... And so it is the functional classification scheme that we follow.

Functional classification was perceived to help in understanding and clarifying the organization's aims and objectives in its entirety. Functional classification, as a representation of the organizations' functions, described why the organization existed and it also gave an overall picture of the organizations' operational environment. Functional classification in the AMS was also understood as a records management guideline, as directions for managing records. When records were classified according to functional classification, the selected functional class directed the processing of the record and its appraisal. It told about steps that should be taken in the process and how specific records should be handled.

C5: [...] when I learned how to register, among other things, I regarded our AMS as an Alphabet-book from which I could see how the order of things work in our organization. It is a powerful guide for our work here [in the registry office], at least.

Most of the recordkeeping professionals found the functional structure of classification basically logical and comprehensible. They thought that it was understandable especially in that they could see the real processes and their procedures in the classification. Understanding organizational structure or archival principles was not required as in some other classification methods. Hence, some of them thought that understanding the functional approach was achievable also for other employees in the organization. Functional classification was perceived as an important illustration of the organization's functions, and there was, therefore, a request for the classification to be used as a tool in introducing the organization to new employees.

There were differences in opinion concerning whom the functional classification was thought to serve. Functional classification in its various manifestations was perceived to serve in practice the needs of recordkeeping in the organizations and especially the needs of recordkeeping professionals in handling records. At the same time, however, functional classification in the AMS was considered important for the whole organization and thus it was thought to be desirable that everyone in the organization would be familiar with it.

The recordkeeping professionals partly used the same ideas—the recordkeeping requirements—to justify a functional classification system as those they used when they described the purposes of the system. The existence of the functional classification system was also justified by other issues like regulatory pressure and the prevalence of the method. Its flexibility and stability were also mentioned, albeit only rarely. The interviewees who were familiar with classification based on organizational structures thought that functions provide a stable foundation for classificatory structure. Nevertheless, changes in the organization were perceived as having some influence also on functional classifications, which were constantly in need of updating.

Typically, recordkeeping professionals were accustomed to functional classification and took it for granted. When they were asked about justifications or alternatives for functional classification, many respondents were slightly confused.



C6: Ehh, I haven't thought about that, I am sorry. I thought that your questions would be close to my work and I could answer them straightaway, but your questions are so difficult, like "what else could there be other than a functional classification?" Well, in my opinion, at least in records management, it is hard to think of any other alternative.

It was important for recordkeeping professionals to see the functional context of records. The context was made visible when records that were involved in the same activity or process were put together in the same functional class and given the same identifier in a registry or in an ERMS. These professionals felt that it was logical to link records to other records that belonged to the same process. This would create coherent wholes based on organizational functions and activities.

B1: [...] they are for the specific function, performing a task, for example filling a vacancy, the matter as a whole is there to look at. The whole matter is there to look at, the old-fashioned ABC system divides the records [into different series], they are not together.

Recordkeeping is strictly regulated in Finnish public sector organizations. This was shown in the recordkeeping professionals' perceptions. Although use of functional classification was not stipulated by law and it was only a recommendation from the National Archives Service, they felt that it was something they were required to do.

C7: It [functional classification] must be of a certain kind to be accepted, for example, for us to get permission for electronic retention. It must be of a certain kind, the way the National Archives Service wants it to be.

Some recordkeeping professionals advocated functional classification by referring to their own organizational needs. This was, however, not a common argument for using it.

A2: I see that it is our own requirement. It is not something that is imposed on us from outside. I see in my work that there is a need for it.

Prevalence of functional classification as a method for records organization also appeared as a justification for using it. By implementing functional classification, recordkeeping professionals showed that they were willing to follow the best professional practice. Additionally recordkeeping professionals themselves mostly perceived functional classification as a reasonable and logical method for records organization, for which there was no real alternative. Recordkeeping professionals were, however, annoyed at the imperfection of their functional classification schemes and they felt that the classifications needed updating. They also understood that designing and implementing a functional classification scheme was hard and laborious. Other classification methods (i.e., the traditional Finnish ABC scheme and the classification based on organizational structure) were identified and mentioned occasionally. When the other classification methods were compared with functional classification, they were in almost all cases considered unsuitable for contemporary records management practices, especially in an electronic environment.

Functional classification was partly perceived as if it was the one and only classification method available. It appeared to be a truism for records organization. Rather than justifying functional classification compared with other classification methods, it was often justified in contrast to no classification at all.

C8: When the records are assigned to a function it clearly makes the workings of the organization clearer. Without a functional classification a process would only have a number [in the registry] and nothing would group the processes together. Thus functions obviously make things clearer. And they are absolutely necessary in filing. You cannot file records with the registry number only.

When a recordkeeping professional had not gained experience of any other classification method and had no theoretical education in classification, the method was a *modus operandi*. There was no need to justify or question the method *per se*. Similarly, some recordkeeping professionals had adopted functional classification in their work as a self-evident fact that was difficult to question.

A7: As I already said, my own thinking is so shaped by the functional approach and the processes that it is hard to answer what [the classification] would be if not based on functions.

Recordkeeping professionals seemed to accept functional classification without opposition. It was perceived as the way things are to be done today. It was, however, not perceived as a final method that might not be replaced by some new method or system in the future.

B2: [...] I try to make it more purely functional because that is the current best practice. I don't know if it will be the best practice 10 years from now, will we still think that functional classification is good, but in the world of recordkeeping everything changes so slowly. When something new is developed, like: "hey, let's not follow the ABC scheme, let's do things in other way", we'll probably do it that way for the next 50 years. Then something new is invented.

## Discussion

The findings of the study show that recordkeeping professionals accept functional classification as the prevalent method for records organization in Finnish public sector organizations. They perceived functional classification as a logical and comprehensible approach to organize records in contemporary organizations. This accords with earlier observations (Foscarini 2012; Orr 2005; Smith 2007; Todd 2003) that showed that records management professionals prefer functional classification. The study also indicates recordkeeping professionals' concrete approach to functional classification. Recordkeeping professionals found it difficult to consider functional classification abstractly. They understood the classification mostly through their tasks and professional roles. Partly because of this, they did not share a common perception of functional classification or of the purposes it serves.

In short, the various purposes recordkeeping professionals perceived functional classification to serve were to organize records to facilitate the management and use of records, to represent the organizational environment logically and understandably and to guide records management. Their justifications for functional classification were its ability to link records to their functional context, the method being understandable and easy to follow, regulatory pressure and prevalence of the method. Flexibility and stability of the method were also mentioned, although rarely. Personal professional needs and the pressure from external directions as well as professional expectations came up as other explanations for the existence and use of functional classification, which was perceived as important for the whole organization, and its more extensive use in the organization was expected. Nevertheless, the needs of the organization were rarely mentioned when explaining the existence of functional classification. Functional classification presents the overall picture of the organization and its functions. This was perceived as a widely valued attribute of functional classification. The same attribute was acknowledged in Orr (2005) and Gunnlaugsdottir (2012).

In this study functional classification was significant for recordkeeping professionals, since it gave an overall picture of the organization and contextual information about records and records processes, neither of which the traditional Finnish ABC classification scheme could provide. Recordkeeping professionals valued clarity of guidance in managing and using large amounts of organizational records. However, that there was a functional structure did not always seem essential: another kind of structure might have served them as well, although they generally believed that it would be hard to manage the organizational records without a functional classification. Their awareness of other kinds of classifications was generally low. Also prior studies (Foscarini 2009; Orr 2005) have noted the consensus among records professionals that functional classification is suitable and even the best option for records organization. It cannot, however, be established in the study that recordkeeping professionals perceived recordkeeping tools as relevant precisely because the tools were based on functions.

Today, in Finland, functional classification scheme structure is normally integrated with an organization's registry system and other ERMSs; therefore, functional classification forms an irreplaceable part of the system. Technically the user is forced by the system to select a functional group to be able to proceed. This may partly explain why recordkeeping professionals found functional classification so important; without it, registrars are not able to conduct their work in a practical way in the registry system. Nevertheless, the study does not show that the classification needs to be functional or purely functional. Functional classification as a method for records organization has been so generally accepted in Finnish organizational recordkeeping that other options are not even seen. Linking records to functional context facilitates management of records and recordkeeping professionals' own understanding of organizational workings. As Orr (2005) states, functional classifications are implemented because they are seen as the best practice by professionals. In Foscarini (2012), a functional approach to records classification was perceived as a must-have issue. There are similarities with those findings in this study.

The low level of abstraction might be explained both by educational factors and by Finnish recordkeeping literature. The same factors might also explain why

recordkeeping professionals did not see alternatives for functional classification. Only a few of the interviewees had reached the highest level of education in records management or archival studies. Lybeck et al. (2006) is the only Finnish textbook in the subject area of archives and records management published to date in the twenty-first century. Other alternatives for functional classification than the traditional ABC scheme are practically ignored by Lybeck.

The National Archives Service advocates the functional approach to records classification in Finland in its regulations and recommendations, and the method seems to be accepted by the organizations without criticism. In line with Sundqvist's (2009, pp. 206–207) thoughts about the implementation of representational systems, functional classification in Finnish organizations seems partly to be based on exogenous factors and not on the conscious need of the organization itself. The notion of a function is, however, still unclear (Foscarini 2012). This was not shown in the study mainly because the professionals had accepted functional approach without wider criticism and because they approached the functional method from its concrete manifestations. The study did not include analysis of the functional classifications of the case organizations. Therefore, the study does not prove that there actually was a functional structure in the records systems of the case organizations. For instance, organizational structure and business functions might be intertwined in them as Foscarini suggests (2009, p. 30).

Terminological heterogeneity in the literature of functional classification is high (Alberts et al. 2010; Orr 2005). In this study functional classification itself was labeled by its various concrete manifestations and in that way the terminology was heterogeneous. In Finnish recordkeeping practice, the professionals use parts of the same functional classification scheme structure in designing an AMS, in registration and in filing. Recordkeeping professionals were familiar with the term “functional classification”, but they also used more concrete terms. They used terminology that was familiar to the professional group in the specific context of use. However, it is assumed that in future end-users will increasingly actively participate in their recordkeeping processes in electronic form. Probably they are not familiar with all the manifestations of functional classification. Consequently, varied and partly parallel naming conventions of functional classification may cause difficulties.

A limitation of the study is that only recordkeeping professionals in public sector organizations were interviewed. In these organizations, regulatory impact was high and administrative procedures were strict. As pointed out, the regulatory environment influences Finnish recordkeeping practices. Recordkeeping professionals' room for choice under the guidance of the National Archives Service is limited, but in organizations outside its control perhaps other types of classifications are also acknowledged.

## Conclusion

The aim of this study was to gain a better understanding of how recordkeeping professionals understand functional classification and the purposes it serves. Additionally, professionals' justifications for applying the functional approach to records organization were identified.

The results of the study contribute to the knowledge of functional classification as the predominant approach to records organization. These findings also have important implications for understanding the Finnish recordkeeping culture in public sector organizations and the various manifestations of functional classification in the organizations. They may also have wider implications in understanding the roles a functional classification can play in an organization. Nevertheless, more research on this topic needs to be undertaken. For instance, more research is needed on various user groups and uses of functional classification in organizations.

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## References

- Alberts I, Schellinck J, Eby C, Marleau Y (2010) Bridging functions and processes for records management. *Can J Inf Libr Sci* 34(4):365–390
- Archives act 23.9.1994/831
- Arkistolaitos (2000) Arkistolaitoksen suositus arkistonmuodostussuunnitelman laadinnan, käytön ja ylläpidon periaatteiksi. [Recommendation from the Finnish National Archives Service for designing, using and maintaining AMS]. <http://www.arkisto.fi/fi/normit/liitteet/arkistolaitoksen-suositus-arkistonmuodostussuunnitelman-periaatteiksi/>. Accessed 15 Dec 2014
- Arkistolaitos (2007) Arkistonmuodostussuunnitelma AMS. <http://www.ams-opas.fi/>. Accessed 15 Dec 2014
- Arkistolaitos (2011) Kunnallisen asiakirjahallinnon opas. [Recordkeeping guidelines for municipalities]. [http://wiki.narc.fi/arkistowiki/index.php/Kunnallisen\\_asiakirjahallinnon\\_opas](http://wiki.narc.fi/arkistowiki/index.php/Kunnallisen_asiakirjahallinnon_opas). Accessed 15 Dec 2014
- Bak G (2012) Continuous classification: capturing dynamic relationships among information resources. *Arch Sci* 12(3):287–318. doi:10.1007/s10502-012-9171-8
- Calabria T (2006) Evaluating Caloundra City Council's EDMS classification case study (2004). Step Two Designs Pty Ltd
- Campbell E (1941) Functional classification of archival material. *Libr Q* 11:431–441
- Connelly J (2007) Functional taxonomies. Myth or magic? *IQ* 27(4):18–22
- Foscarini F (2006) Records classification and functions: an archival perspective. *Knowl Org* 33(4):188–198
- Foscarini F (2009) Function-based records classification systems. An exploratory study of records management practices in central banks. Ph.D. Thesis, University of British Columbia
- Foscarini F (2010) Understanding the context of records creation and use: “hard” versus “soft” approaches to records management. *Arch Sci* 10(4):389–407. doi:10.1007/s10502-010-9132-z
- Foscarini F (2012) Understanding functions: an organizational culture perspective. *Rec Manag J* 22(1):20–36
- Friese S (2012) Qualitative data analysis with ATLAS.ti. Sage, Los Angeles
- Gibbons P, Shenton C (2003) Implementing a records management strategy for the UK parliament: the experience of using keyword AAA. *J Soc Arch* 24(2):141–157. doi:10.1080/0037981032000127016
- Gunnlaugsdóttir J (2012) Functional classification scheme for records—FCS: a way to chart documented knowledge in organizations. *Rec Manag J* 22(2):116–129
- Henttonen P (2012) Diversity of knowledge organization in records and archives management. In: Neegameghan A, Raghavan KS (eds) Categories, context and relations in knowledge organization: proceedings of the 12th international ISKO conference, 6–9 August 2012, Mysore, India. Ergon, Würzburg, pp 277–283
- Henttonen P, Kettunen K (2011) Functional classification of records and organisational structure. *Rec Manag J* 21(2):86–103. doi:10.1108/09565691111152035
- Hofman H (2005) The archive. In: McKemmish S, Piggott M, Reed B, Upward F (eds) Archives: recordkeeping in society. Centre for Information studies, Wagga Wagga, pp 131–158
- International Standards Organization (2001) ISO 15489: Information and documentation - records management. Part 1: General
- JHS 176 (2012) Sähköisten asiakirjallisten tietojen käsittely, hallinta ja säilyttäminen [Management and preservation of electronic records]. Julkisen hallinnon tietohallinnon neuvottelukunta JUHTA

- Kennedy J, Schauder C (1998) Records management: a guide to corporate recordkeeping, 2nd edn. Longman, South Melbourne
- Kilki J (2004) Bearmania. Frosting Finnish archival practice with imported archival theory. *Comma* 1:43–53
- Kilki J (2009) Tehtäväluokitus meillä ja muualla [Functional classification here and elsewhere]. *Akti* 1:20–21
- Lybeck J et al (2006) Arkistot yhteiskunnan toimiva muisti. Asiakirjahallon ja arkistotoimen oppikirja. [Archives, memory of society. Recordkeeping textbook]. Arkistolaitos, Helsinki
- Miles M, Huberman A (1994) Qualitative data analysis: an expanded sourcebook, 2nd edn. Sage, Thousand Oaks
- Miller J, Glassner B (2004) The “inside” and the “outside”. In: Silverman D (ed) Qualitative research. Theory, method and practice, 2nd edn. Sage, London, pp 125–139
- Myburgh S (2009) Records organization and access. In: Bates M, Maack M (eds) Encyclopedia of library and information sciences, 3rd edn, Taylor & Francis, pp 4460–4464. doi:10.1081/E-ELIS3-120044299
- Norberg E (2003) A Nordic archival tradition. *Arch Sci* 3(2):85–95
- Orr S (2005) Functions based classification of records: is it functional?. Northumbria University, Newcastle
- Reed B (2005) Records. In: McKemmish S, Piggott M, Reed B, Upward F (eds) Archives: recordkeeping in society. Centre for Information studies, Wagga Wagga, pp 102–130
- Sabourin P (2001) Constructing a function-based records classification system: business activity structure classification system. *Archivaria* 51:137–154
- Sähke2: Sähköisten asiakirjallisten tietojen käsittely, hallinta ja säilyttäminen (2008) [Processing, management and preservation of electronic records and information]. Arkistolaitos [http://www.arkisto.fi/uploads/normit/valtionhallinto/maaraykset/jaohjeet/normiteksti\\_suomi.pdf](http://www.arkisto.fi/uploads/normit/valtionhallinto/maaraykset/jaohjeet/normiteksti_suomi.pdf) Accessed 15 Dec 2014
- Schellenberg T (1956) Modern archives: principles and techniques. University of Chicago Press, Chicago
- Seitonen K (2010) Kuntien yhteinen tehtäväluokitus ja semanttinen web. [Common functional classification for municipalities and semantic web]. University of Tampere
- Seppänen V, Oittinen R, Gröhn E (1990) Arkistointi ja kirjaaminen kunnallishallinnossa. [Filing and registration in local government], 2nd edn. VAPK-kustannus, Helsinki
- Shepherd E, Yeo G (2003) Managing records: a handbook of principles and practice. Facet, London
- Smith K (2007) Public sector records management: a practical guide. Ashgate, Aldershot
- Stephens D (1995) The registry : the world’s most predominant recordkeeping system. *Rec Manag Q* 29(1):64–66
- Sundqvist A (2009) Search processes, user behaviour and archival representational systems. Mid Sweden University Doctoral Thesis 72. ISBN 978-91-86073-39-8
- Taylor A (2004) The organization of information, 2nd edn. Libraries Unlimited, Westport
- Todd M (2003) Business classification scheme design. The National Archives, London
- Tough A (2006) Records and the transition to the digital. In: Alistair T, Michael M (eds) Recordkeeping in a hybrid environment. Managing the creation, use, preservation and disposal of unpublished information objects in context. Chandos, Oxford, pp 1–25
- Valtonen M, Henttonen P (2010) Asiakirjatiedon hallinta. [Managing records in organizations]. In: Serola S (ed.) Ote informaatiosta; Johdatus informaatiotutkimukseen ja interaktiiviseen mediaan. [Introduction to information studies and interactive media]. BTJ Kustannus, Helsinki, pp 211–243
- Williams C (2006) Managing archives. Foundations, principles and practice. Chandos, Oxford
- Xie L (2007) Function-based record classification system: a comparative study. [http://www.armaedfoundation.org/pdfs/Sherry\\_Xie\\_Study.pdf](http://www.armaedfoundation.org/pdfs/Sherry_Xie_Study.pdf). Accessed 15 Dec 2014
- Yeo G (2012) Bringing things together: aggregate records in a digital age. *Archivaria* 74:43–91

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# Functional classification

## Record-keeping professionals' difficulties and their handling in maintenance and use of FC in Finnish organisations

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### Abstract

**Purpose** – The purpose of this paper was to uncover the various difficulties that record-keeping professionals face when they maintain and use functional classification (FC) in Finnish public-sector organisations. An additional aim was to find out how they handle those difficulties in the course of their work.

**Design/methodology/approach** – In all, 22 record-keeping professionals, at three Finnish public-sector organisations, were interviewed. The data generated were then analysed with qualitative methods.

**Findings** – The study identified several difficulties that record-keeping professionals encounter in maintaining and using FC in various ways. In the main, however, the difficulties were not perceived as substantial. The participants had several methods of handling the difficulties in carrying out their work. The study also pointed to a clash between maintenance of FC systems and needs in other contexts of their use.

**Research limitations/implications** – The difficulties faced and the means of handling them were evaluated only from interviews with record-keeping professionals at three Finnish public-sector organisations. Observation of real-world situations or performance of usability tests might have highlighted different difficulties or even revealed unidentified issues.

**Practical implications** – Concrete improvements could be performed in organisations for better use of FC. The difficulties identified could be addressed also in FC design and in user training. The results of the study are of relevance for future research into FC's use.

**Originality/value** – The study highlights difficulties faced in maintaining and using FC systems. Identification of the various perceptions linked to maintenance and concrete use could be of importance in implementation of FC in organisations.

**Keywords** Finland, Functional classification, Public-sector organisations, Record-keeping professionals

**Paper type** Research paper

### Introduction

Today, functional classification (FC) is the predominant method in records organisation, and it is used in numerous organisations' records management, internationally. Records are generated as byproducts of actions, and they are evidence of those activities. FC



links them to the context of their creation (Shepherd and Yeo, 2003, pp. 73-74). FC is the preferred method among record-keeping professionals (Orr, 2005; Smith, 2007, p. 54), and from a records-management perspective, it is perceived as “simple and easy to follow” (Connelly, 2007, p. 21). Previous studies have, however, uncovered difficulties with the method. Problems with usability have been noted in both Finnish (Henttonen and Kettunen, 2011; Seitsonen, 2010) and international (Alberts *et al.*, 2010; Calabria, 2006; Gunnlaugsdottir, 2012) studies. Earlier studies of the use of FC have focused on testing its usability in retrieval or filing of documents (Calabria, 2006), the extent of FC’s use in organisations (Gunnlaugsdottir, 2012) and on understanding of the “function” concept and function-related terminology (Foscarini, 2012, 2009; Orr, 2005). These studies reveal practitioners’ conceptual confusion and lack of models for analysing functions and creating the relevant schemes (Foscarini, 2009; Orr, 2005; Alberts *et al.*, 2010), their use of other methods instead (Gunnlaugsdottir, 2012) and difficulties in selecting the appropriate class in the classification scheme (Calabria, 2006). A few suggestions have been offered to improve usability: FC systems designed to be more culture-specific (Foscarini, 2012), user profiles (Henttonen and Kettunen, 2011) and item-level classification (Bak, 2012).

Function-based classification is used in diverse record-keeping cultures and in multiple contexts of application accordingly. The variety of difficulties faced in the various contexts is unknown. The aim of the study described here was to describe what was perceived as difficult in the use of FC in Finnish public-sector organisations in its various contexts of use. The study focused on difficulties faced in maintaining FC systems and in their three contexts of use: at the point of registration, in records retrieval and in filing of records. The issues identified are referred to as “difficulties”. To proceed, record-keeping professionals need some way of handling these. Consequently, the study was undertaken to highlight the difficulties in maintaining and using FC in various contexts in Finnish public-sector organisations. Additionally, attempts were made to ascertain what methods record-keeping professionals use to handle those difficulties. A core objective is to inspire others to research designs that increase awareness and promote better understanding of FC in various record-keeping cultures.

### Literature review

FC is a widely used and accepted method for records’ organisation. Records result from functions, and classification based on functions connects them to the functions and activities that generated them (Shepherd and Yeo, 2003, pp. 73-74). In an electronic environment, it links records to their context, which might not otherwise be obvious to subsequent users. A function-based structure of classification helps people understand organisations’ business activities better and affords transparency of those activities (Park and Neal, 2012). One feature for which it is valued is its status as a stable foundation for records classification (Smith, 2007, p. 56; Tough, 2006, p. 17) relative to other methods, such as classification based on organisational structure or records’ contents (Smith, 2007, pp. 54-55). It is also beneficial for its application in appraisal (Smith, 2007, p. 56).

Several studies describe processes for implementation of FC systems and the practical efforts involved (Smyth, 2005; Williams, 2005; Gregory, 2005; Bedford and Morelli, 2006). Deployment of an electronic records management system (ERMS) using FC is a huge cultural shift for employees, one in which management support has a



crucial role (Gibbons and Shenton, 2003; Gregory, 2005; Gunnlaugsdottir, 2012). Co-operation with the intended users is vital in the design of the classification scheme (Gunnlaugsdottir, 2012). Similarly, users' participation in the updating of the schemes used is recommended (Mas *et al.*, 2011).

Its widespread use, notwithstanding the method, is not unambiguous. Previous studies show difficulties especially in understanding the function concepts and in following the function-based logic (Foscarini, 2012; Calabria, 2006; Orr, 2005). FC systems differ, as does their role in organisations (Henttonen, 2012). However, various prior studies point to similarities among the difficulties faced in use of a function-based method for records organisation. For instance, FC serves records professionals' purposes better than it does the needs of records' users or creators (Bak, 2012; Orr, 2005). While record-keeping professionals prefer a function-based approach to records' organisation (Orr, 2005; Smith, 2007, p. 54), end-users in particular encounter difficulties with abstract functions and function-based logic (Foscarini, 2009; Alberts *et al.*, 2010; Orr, 2005; Todd, 2003; Tough, 2006). Users do not find functions intuitive; instead, they usually think in terms of subjects (Calabria, 2006).

User difficulties identified by Calabria (2006) involve finding the right top-level function and distinguishing various functions from one another. It is noteworthy that professionals did not produce better results than other users. In Gunnlaugsdottir's research (2012), employees did not always know where to classify a record and they felt confusion about how to choose the appropriate class from among several suitable-seeming classes. Also highlighted was that the terminology used in the scheme may need to be revised to suit the users' needs better (Tough, 2006, p. 17). In addition, official procedures and people's actual work processes do not always meet (Foscarini, 2010, p. 391). Furthermore, the number or name of the FC class is rarely used in search parameters or in retrieval of records in ERMS environments (Gunnlaugsdottir, 2008). In addition, organisational functions cut across business processes' boundaries, and usability issues (Connelly, 2007) and information silos are created (Alberts *et al.*, 2010).

Use of FC in organisations can be facilitated by certain measures. Participation in the development of the scheme was appreciated by the intended users in Gunnlaugsdottir's work (2012). Indeed, after familiarisation, training and support in use of the scheme, FC was found to be an important tool for managing records (Gunnlaugsdottir, 2012).

Previous results can provide guidance, but the environment around us is in constant change. These changes necessitate attention to the ways in which we organise information. Recently, the function-based method has come under increasing fire, and new approaches to consider, especially for electronic materials, have been suggested (Bak, 2012; Yeo, 2012). Bailey (2009, pp. 92-93) criticises the way electronic records are handled as showing no difference from how traditional paper records are dealt with apart from the prefix "electronic". Also, the volume of today's records provides impetus for new ways of managing them. Collaboration with other professions, especially in the technology field, is needed for the whole archival profession (Currall and Moss, 2008). The advantages of technology and automated records management should be exploited (Bailey, 2009). Also, joint work with human-computer-interaction professionals may be a useful starting point for meeting the needs of users in records management (Bailey and Vidyarathi, 2010).

### FC methods in Finnish record-keeping practices

In Finland, record-keeping in the public sector is strongly regulated. Public-sector organisations are obliged to arrange their records and archives management in one way or another (Lybeck, 2006, p. 91). In practice, they follow the recommendations and guidelines issued by the National Archives Service of Finland. These guidelines are widely applied even when doing so is not required by law (Kilkki, 2004). Records' FC reached Finland in the 1980s and has since then gradually established a position as the generally recommended method of organisation, and today it is advocated by the National Archives Service. Before systems of FC, records' organisation typically followed a so-called ABC classification scheme, primarily based on the form of the records (e.g. "minutes" or "incoming letters"). Classification systems based on organisations' structure have been less widespread in the Finnish public sector.

There are certain features specific to Finnish record-keeping practices: proactive management of records, partially via use of a records management plan called an AMS (from the Finnish word "arkistonmuodostussuunnitelma"), and registry systems. Those are briefly presented next.

In Finnish organisations, records and archives management are closely intertwined. The life of a record is proactively planned out from creation to destruction or to continuing preservation in an archive (Kilkki, 2004). For public-sector organisations in Finland, the AMS is an obligatory tool for records' life-cycle management. An AMS is at the same time a records management and filing plan and a manual that describes and dictates records' processing and retention periods in the organisation. Today, the AMS is usually rooted in the organisation's FC system. It is also linked to an ERMS, to generate the default metadata values for records (Lybeck, 2006, p. 72). Finally, Finland has a registration tradition with origins in Swedish and German principles (Lybeck, 2006, p. 39). Registration follows the principle of transparency and the citizens' rights to access information. Via registration, records related to the same matter are linked to the functional context of the process (Kilkki, 2004). Record-keeping professionals take care of registration practices. End-users' role in FC use usually remains minor.

In Finnish organisations, FC is used in various contexts: the same FC scheme provides the structure for the AMS, for the registry system and additionally for sets of archival records insofar as records with value for continuing preservation are generated in the relevant functions. Accordingly, record-keeping professionals use FC for several purposes. They apply it especially when maintaining AMSs, in registration, and when filing records in the creating organisation. In addition, they do so when searching for a record in an ERMS or retrieving paper records from archives. Records with continuing value to society are transferred to the custody of the National Archives Service. Typically, FC in Finnish record-keeping uses hierarchical and enumerative classification. The lowest level of the hierarchy is that of record types. Hence, record types are considered an obvious part of FC systems for this study.

### Methods

The aim of the study reported upon here was to find answers to the following research questions:

- RQ1.* What difficulties (if any) do record-keeping professionals face when maintaining and using FC in its various contexts of use in Finnish public-sector organisations?

*RQ2.* What kinds of methods do record-keeping professionals apply to handle the difficulties they face when maintaining and using the FC system?

In Finnish organisations, records managers and archivists belong to the same group of professionals. Accordingly, this paper uses the term “record-keeping professional” to refer to this relatively broad group, which encompasses various duties and titles, from record-keeping designers and registrars to archival specialists. It is worth noting that the title alone does not always indicate the duties of the relevant professional in the organisation; these persons may perform various tasks, and the contexts of their FC use within the organisations are diverse.

Interviews enable delving into “areas of reality that would otherwise remain inaccessible”, such as individuals’ subjective experiences (Peräkylä and Ruusuvuori, 2013, p. 277). As the study was intended to identify the difficulties in FC as perceived by record-keeping professionals, interviews were used to gather the research data. To identify difficulties in various contexts of use, 22 record-keeping professionals, performing various duties in the selected case organisations, were interviewed. Only record-keeping professionals were interviewed; however, this did not exclude those classifying records: records professionals play a role in that process via the practice of registration of records in a registry office. They are also the primary users of classification schemes. It remains unclear whether and to what extent FC is utilised by end-users in Finnish organisations.

The organisations where interviews were conducted (referred to as A, B and C) were Finnish public-sector organisations that stated that they use FC methods in their records organisation. At all three, the interviews were conducted between February and May 2013. The questions were open-ended, to allow the interviewees to express their perceptions on the issues freely. Three media were used for the interviews: face-to-face interviews, computer-based conferencing and interviews by telephone. Some interviews were conducted as personal interviews, others with groups of two to three interviewees at a time.

In the data-handling and coding process, the procedures presented by Savin-Baden and Major (2013, pp. 420-433) were selectively followed. First, the data were characterised. The interviews were recorded and transcribed verbatim. Verbal tics and murmuring were, however, generally excluded from the transcripts. Second, the author immersed herself in the data by reading and listening to the material several times. The material was divided into segments, and the resulting chunks were denoted in the qualitative data analysis software ATLAS.ti. Third step was coding of the data. The codes were used to categorise the text “to establish a framework of thematic ideas about it” (Gibbs, 2007, p. 38).

On the basis of the research questions of the study, difficulties were then identified from the data. After that, the “handling methods” – i.e. activities and strategies to address the difficulties – were identified. The difficulties and their associated handling methods are elucidated well by graphical illustrations produced by ATLAS.ti, which are reproduced in Figures 1-5 and exemplified via loose translations of excerpts from the interviews.

## Findings

The findings of the study are presented in line with the contexts in which the difficulties were identified. First, issues in maintaining the FC systems or AMSs are considered.

Second, the focus is moved to difficulties faced in the registration phase. Third, difficulties with retrieval of records are discussed. Finally, the issues in filing are outlined. Ways of handling the respective difficulties are presented after each set of difficulties is described.

In general, the record-keeping professionals faced various difficulties when maintaining or using FC systems. The degree of difficulty encountered varied. The problems were, however, only occasionally felt to be largely disruptive. Also, while quite a few difficulties were encountered in all, over a broad spectrum, the number of difficulties faced by any individual record-keeping professional was quite low, though only one of the interviewees could not identify any difficulties in solo use. It should be noted that some of the difficulties that record-keeping professionals faced with FC might have been faced with any other classification method just as much.

For the most part, the record-keeping professionals seemed to have accepted FC and got on quite well when using it. Although they faced some difficulties, they knew how to proceed. In spite of the difficulties, record-keeping professionals had a primarily positive attitude towards FC. This was evident especially from the perceptions of interviewees who worked in positions from which they had an opportunity to influence what the scheme looked like:

*HA5:* I can say that I am satisfied [with the FC]. Of course, it takes a certain kind of attitude. I like it very much, and, I realise it is kind of a weakness, but, of course, because of [my] education, it is standard practice. So you cannot always put yourself in the position of the people who grumble a little about why it is so hard sometimes [for them].

The participating professionals used FC in various contexts, which depended on their duties in the organisation. There were various ways of handling the difficulties faced. These methods were developed mainly by the professionals themselves and were mostly practical in nature. Some methods (e.g. a more illustrative interface) were organisation-wide solutions to assist in dealing with the scheme.

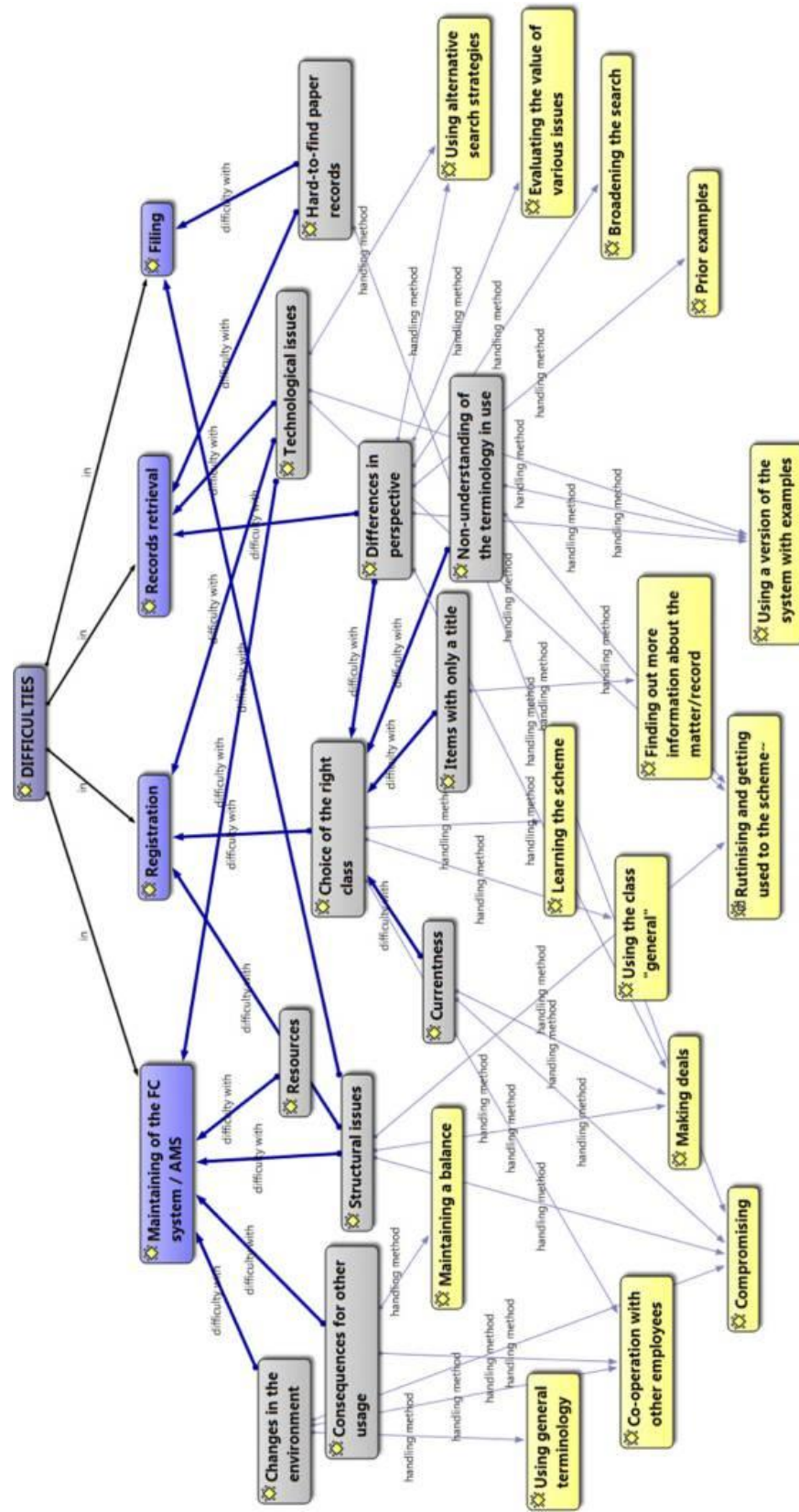
Several of the same difficulties were identified in multiple contexts of use. Similarly, the same methods were applied to handle several difficulties.

A summary of the difficulties identified and the associated handling methods is provided in [Figure 1](#).

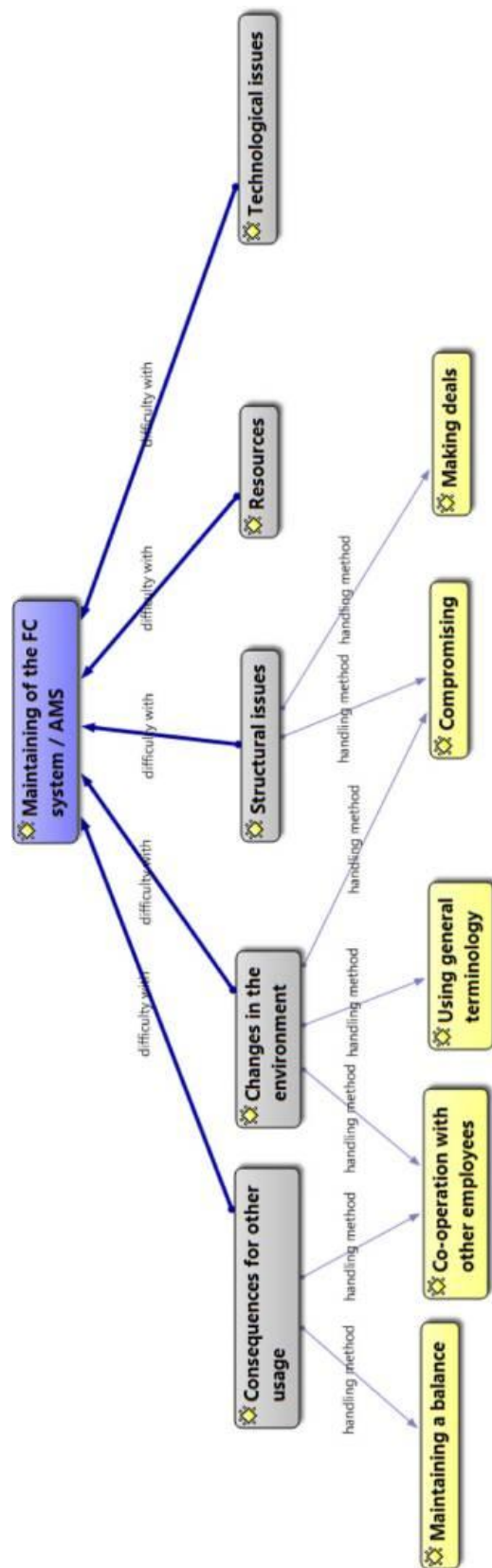
#### *Maintaining the FC system*

In the case organisations, maintaining and updating the FC system or AMS was mainly the responsibility of employees at higher levels in the organisational hierarchy. Co-operation with other employees in the organisation was still necessary in this, however. Also, registrars were able to participate in improving the FC and were allowed to suggest upgrades when needs were detected, at least in theory, although in practice they often felt that their voice was not heard. In one of the organisations, a separate unit for data administration was responsible for updating the scheme. None of the interviewees worked in that unit, although some record-keeping professionals in other units were designated as contact persons for them.

Several issues had an influence on maintenance of the scheme. Two main difficulties were identified: a constantly changing environment and structural issues of the FC system. Additionally, other difficulties were encountered in updating the scheme. The difficulties faced when maintaining or updating the FC systems or AMSs, along with the methods used to handle them, are illustrated in [Figure 2](#).



**Figure 1.**  
Summary of the difficulties identified and methods of handling them



**Figure 2.**  
Difficulties in  
maintaining FC  
systems/AMSs and  
ways of handling  
them

None of the interviewees perceived their FC system to be comprehensive; constant updating was deemed necessary. Record-keeping professionals saw changes in the organisations as constant. Bigger changes in organisational structures (such as organisational mergers) and changes in legislation were pointed to as having an influence on the organisations' functions. However, changes in operations processes were the most common. Participants concluded that it was not even possible to keep the FC scheme perfectly up to date. Minor changes, such as adding new record types, were, however, made constantly. Lack of resources rendered it more difficult to make those changes:

*HA5:* Although [the FC system] is function-based, at the lowest record-type level, however, one still tries to take the easy way out: everything that has something to do with [function] decision making is [understood as] "an attachment" to a decision. In a way, I would like to get rid of this. But you know that it takes a terrible amount of work, so I must think about how we could do it.

Issues were faced mainly with lower levels in the scheme. There was a clash between the perceptions of the professionals who updated the scheme and those of the registrars who wanted the scheme to be up-to-date, to facilitate registration. The record-keeping professionals responsible for updates were aware of the influence that the changes would have on other ends served by the FC, such as records' retrieval and filing. Maintaining the FC system's stability was perceived as important. Balance between its usability and its updating was not perceived as easy to maintain:

*HA7:* It is, naturally, nice if you can easily find [in the FC system] exactly what you need at the moment, but it creates difficulties for the maintenance [of the scheme]. If we separate maintenance and use, [it is clear that] for maintenance you want as few distinct retention times as possible. So, we try to keep it as clear as possible and the structure simple. Because that is how you can manage the whole better.

FC systems' structure posed difficulties also when attempts were made to update the scheme. In one organisation, the numbering in the scheme had originally left no room for insertions at a certain function level in the scheme. In another organisation, difficulties arose because the FC was based on a shared scheme that covered functions and activities common among public-sector organisations while the case organisation also provided services collaboratively with enterprises, along with communities and other local authorities. Its activities did not fully follow the structure of the common scheme, and processes extended beyond the boundaries of the functions envisioned. Accordingly, these activities did not always fit into the scheme. In one organisation, technological issues, related to features of the systems used, were also mentioned in this context.

There were various ways of handling changes in the environment. In one organisation, the terminology used at the lower levels of the FC system (for record types) was made as general as possible, to avoid constant need for changes. Co-operation with other employees was necessary, to enable awareness of the changes in the processes. With regard to structural issues, compromises and making "deals" on ways to handle the difficulties were necessary.

#### *Using FC at the point of registration*

Those record-keeping professionals handling registration duties were quite used to the registry system and its FC. The more familiar the professionals were with the substance

of the FC system, the more easily they were able to choose the appropriate class from the FC scheme for the record or matter in question. Getting used to the system, to the FC system's substance, and to the records that were produced in the unit or the organisation as a whole was essential to ability to use the system competently.

Nonetheless, when these record-keeping professionals were asked about difficulties with FC, various issues were identified. Difficulties faced at the point of registration and how they were handled are elucidated in Figure 3.

Clearly the biggest difficulty at the point of registration lay in choosing the appropriate class for the record or matter. Various factors rendered this difficult: the FC system was not up to date (there was no suitable class to use), the terminology used in the scheme was somewhat confusing (e.g. using overly abstract terms), or the record in question dealt with several issues at the same time. In this case, the record could be viewed from various perspectives but the professional had to choose only one class to use. Also, items with only title were cited for this difficulty.

Other difficulties in the context of registration were structural issues with the scheme, specifically the large quantity of numeric identifiers and hierarchy levels (having many numbers caused confusion); there being a large number of matters to handle (there were many elements to know and remember) and technological issues (e.g. delays in the system). After the recent structural consolidation, one of the case organisations had several AMSs and several electronic systems used across the various organisational units. One of the electronic systems could not even cope with the quantity of numeric identifiers present in the FC system. Therefore, the same numbering could not be used in FC with that system. Additionally, the number of levels in those classification hierarchies varied.

At times, FC caused obvious frustration for the professionals:

*HC4:* Especially when it comes to administrative functions, there are monsters [in the classification] and the boundaries [of functions] are not clear. Sometimes there are cases that you could put in any of two or even three classes [...]. When you look [at a listing of contents], you can see all sorts [of choices]. In a hurry, you just put it somewhere. In my opinion, three levels in the [FC] hierarchy is the maximum. [...]. The more complex the chain [in the hierarchy] is, the more there is room for errors.

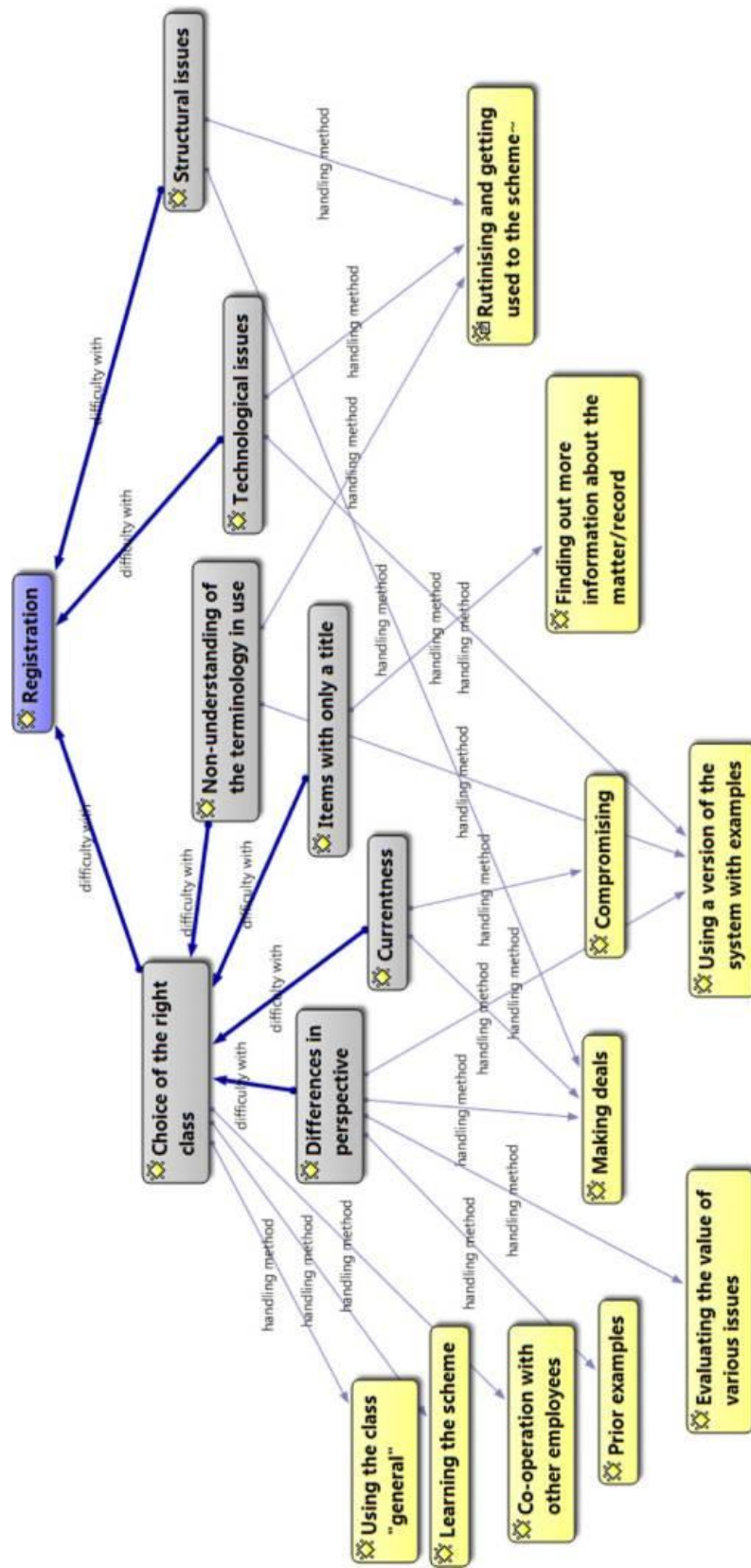
The record-keeping professionals used several handling methods when choosing the appropriate class for a matter or for an individual record. These included applying their own judgement in the situation at hand, considering the matter in collaboration with colleagues and using wider organisational guidelines.

For a beginner or someone getting to know a new subject area or using the system only rarely, it was harder to use. The FC systems were seen as being quite easy to use once the FC structure, the substance of the system and the records to be organised were familiar.

Some of the organisations had created an alternative interface to the FC system, a version in which the terminology was illustrated with concrete examples of records belonging to a certain class. This was viewed as very helpful, especially when the FC terms were so abstract that they were hard to understand, as in “delegating preparation for a decision” or “other planning”.

Record-keeping professionals used various handling methods when a record involved several issues simultaneously so could be placed in any of several function classes. When available, the above-mentioned explanatory FC system version was used for





**Figure 3.**  
Difficulties at the point of registration and ways of handling them

guidance in choosing the most appropriate class. Some evaluated the value of using each possible option as individuals, or they together agreed on which was the best class for the record or looked up an example from among records that had already been classified. Also, when the FC system was not up-to-date, record-keeping professionals had to reach agreement on which class to choose.

Individual record-keeping professionals cited various other methods of handling choice of the most appropriate class. Sometimes they asked for help from a specialist in the relevant organisation who was involved in the process to which the record belonged. In one of the organisations, it was possible to create a new class flexibly when no existing class proved suitable. One organisation's FC had general classes for everything that did not fit a more specific class. Another option was to learn the scheme actively: to train oneself in what a certain class includes.

In the organisation, mentioned above, where several systems were in use after the recent restructuring, some of the professionals used only one of the systems while others had to use several. Naturally, this was perceived as difficult. The technological issues were not easily solved by the professionals themselves in any contexts of FC use. In one organisation, a new ERMS was expected; in another, updating the current system was seen as a helpful and necessary option.

#### *FC used for records retrieval*

The FC designation was rarely the only element used in searches for records or matters in an electronic system. Whether the FC information was used at all for retrieval was clearly dependent on the technological features (e.g. search features and general usability) of the system at hand.

The target of the search too had an influence on whether the FC information was used. Statistics or other broad information was searched for by FC designation, but for an individual electronic record, other search elements, such as registry number, the name of the sender or receiver or the date, were used instead. Sometimes FC was used as an additional search element, for limiting of the search results.

As might any other classification just as much, FC had consequences for records retrieval. Difficulties faced in records retrieval and their handling methods are illustrated in [Figure 4](#).

Three difficulties were identified in this context of use: user-to-user differences in perspective in choice of the class for a record, technological issues, and difficulties in finding paper records were mentioned. As was noted above in the context of registration, sometimes more than one functional class might be appropriate for a record. People differ in the logic they apply, so when the professionals searched for a record they sometimes needed to try several function classes before finding it. The handling methods used were use of other search terms and broadening the search. Therefore, FC designation was not preferred as a search element. Normally, it was not even used as a search element in the affected systems.

Getting used to FC and the system in use aided record-keeping professionals also in searching for records:

*HCI:* The terms that are used in retrieval depend also on what is being searched for. I also would say that you learn in my work how to search in any given situation – how complex the search will be and how to make the search. For example [...] you can use the name of a municipality as a search parameter or, if I know the person who is responsible for the matter,

I can use it as a search criterion. So you can put many things into the search, but if it is very general, I may use just the name of the series and see what comes out and whether there is a hit or not.

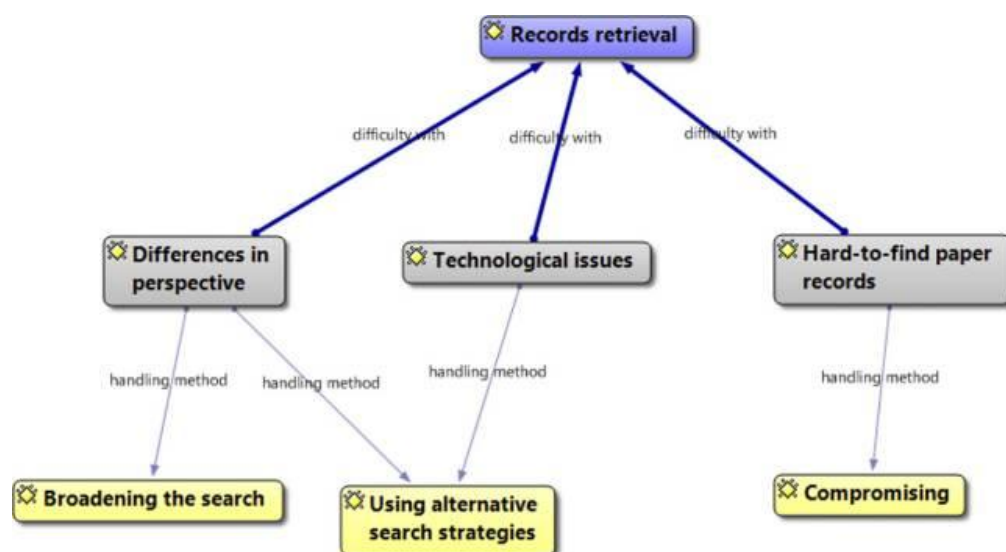
In the retrieval context, FC was important mainly for finding traditional paper records in the organisations' own archives. It was generally the only option for finding the physical records. Most of the record-keeping professionals perceived paper records organised via FC to be quite easily retrievable. There was, however, one strongly dissenting view: one of the interviewees said that FC was not suitable for filing paper records, as retrieval became very hard. That subject's organisation had partly abandoned FC when filing paper records, for the sake of their better retrieval.

#### *FC used for filing records*

Filing records on the basis of FC was rarely mentioned in the interviews. Difficulties in finding paper records and structural issues of FC were cited. As noted just above with regards to FC's use in records retrieval, one case organisation did not fully adhere to FC in filing of paper records, for ease of retrieval. They had made a compromise and used the old system in part. In another organisation, the diversity and large number of matters, codes and hierarchy levels in the FC system were seen as tricky. The level in the FC hierarchy at which paper records were filed varied. Filing in upper levels of the FC hierarchy was perceived as more practical. Some professionals found it difficult to file paper records when they had to use deeper levels in the hierarchy. Some of them were concerned about mistyping the numbers. No actual methods for handling the structural difficulties were mentioned:

*HC9:* In principle, [the FC system] is quite clear for [at least the level of] the highest-level classes. But we often use four levels, which makes the numeric identifier complex. It is easy to make an error, for example, in filing of paper documents [...]. This is especially hard in administrative affairs, where you play with combinations of zeroes, ones, and twos.

Difficulties in filing of records and the handling method, actually a workaround, are presented in [Figure 5](#).



**Figure 4.**  
Difficulties in records retrieval and some methods of handling them

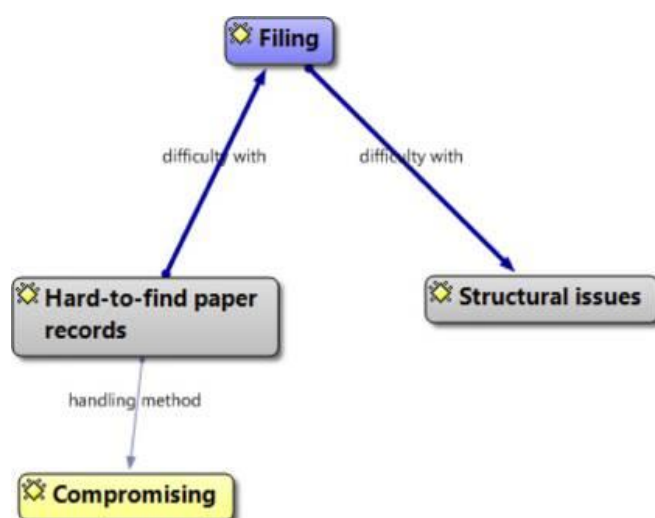
## Discussion

The study was designed to identify the difficulties that record-keeping professionals face when maintaining and using FC in Finnish public-sector organisations. An additional aim was to ascertain what methods were used to handle these.

The study showed several difficulties in maintaining and using FC in various contexts. In summary, at least some difficulties were identified in every context of FC's use. The results indicate that record-keeping professionals encounter more difficulties with FC in the beginning of the records' life span. The variety of difficulties identified in the interviews in the context of maintaining FC systems/AMSs and in registration is greater than that in records retrieval or, especially, in filing. This is clearly visible from Figure 1. Difficulties in filing records on the basis of FC were mentioned only a few times. This might be explained by the Finnish record-keeping culture, wherein proactive management of records and a central registry play an important role. In other record-keeping cultures, one may expect to identify other difficulties or different emphasis on various obstacles.

The study showed diverse ways of handling the difficulties. These include individual-level decision making, co-operation with colleagues to find answers and use of organisational guidelines. The study revealed the variety of difficulties faced and various ways to handle them. It did not, however, show the relative significance of the issues encountered. Some of the difficulties were mentioned only once in the interviews, while others were more widely perceived as problematic.

The findings suggest that there are conflicting interests or needs between the professionals responsible for maintaining the scheme and those working in registry offices. For the registry personnel, rapid updating in lower FC levels is important if one is to be effective in choosing an appropriate class for records and the associated matters. From the point of view of the personnel working to maintain AMSs and update the schemes, however, any changes in the scheme must be carefully considered, as FC changes have consequences for the records' entire life span. Also, lack of resources hindered making some changes rapidly. Some of the professionals with registry duties seemed not to be aware of the difficulties encountered by the professionals involved in designing and updating the scheme. They showed some frustration with the scheme:



**Figure 5.**  
Difficulties with  
filing and the  
handling method  
used

with its structure and the slow updates. To some extent, they also showed interest in being able to participate more in the updating and felt frustrated by not being heard, as they felt that they had the greatest practical experience of the scheme.

One of FC's oft-stated advantages is its stable nature (Smith, 2007; Tough, 2006). Although lack of stability indeed did not cause difficulties at the main function levels, the study brought out the difficulties that record-keeping professionals face at lower levels, which are affected by constantly changing operation processes. End-users were not studied, but it is likely that need for updating at lower levels in the classification scheme influences their perceptions of FC's usability.

In the study, FC was perceived as an important records management tool, and it clearly plays a central role in record-keeping professionals' tasks. The findings from the study indicate the importance of familiarisation with the FC system for its effective use. While most of the difficulties identified in the professionals' FC use may not be large, they are noteworthy. If use is not smooth, it cannot be efficient. The study highlights that organisations' needs and record-keeping professionals' needs do not seem to mesh fully in daily work. Structural problems with the FC systems were cited in several contexts of use. However, the case organisations' FC systems were not analysed; it is possible that in reality, they were less purely function-based than most of the interviewees saw them as being. Similarly, the concepts in the schemes, the terminology used and the level of abstraction might benefit from changes. Many of the difficulties mentioned in the context of registration might actually disappear upon clarification of the concepts in the classification system.

The difficulties identified in the study may go some way to uncovering the issues faced also by end-users in Finnish public-sector organisations. End-users are likely to lack knowledge of, and interest in, FC and processes related to organisations' records. Therefore, even if the record-keeping professionals and end-users share the same difficulties, their influence on end-users and their tasks might be more significant. Further research should address the role of end users and how they use FC systems in Finnish public-sector organisations.

The study was limited in using only interviews as a data source. Use and observation of FC in a test environment might have shown different issues and different handling methods.

### Conclusions

The study identified several FC use and maintenance difficulties faced by record-keeping professionals in Finnish public-sector organisations. Additionally, various methods of handling the difficulties were presented.

The study contributes to the knowledge of using FC in records organisation. The findings have important implications for recognising the pitfalls when FC is applied in various contexts. Contradictory needs in maintaining and using FC systems and various ways of dealing with the difficulties should be acknowledged both in educating record-keeping professionals and in training them to use FC. Results from the study can also inform the development of better classification systems and the methods for their design.

Difficulties related to structural issues and several conceptual difficulties of FC that record-keeping professionals identified indicate the need for more studies in this subject

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area. A detailed structural analysis of FC systems as used in Finnish public-sector organisations is recommended.

## References

- Alberts, I., Schellinck, J., Eby, C. and Marleau, Y. (2010), "Bridging functions and processes for records management", *The Canadian Journal of Information and Library Science*, Vol. 34 No. 4, pp. 365-390.
- Bailey, S. (2009), "Forget electronic records management, it's automated records management that we desperately need", *Records Management Journal*, Vol. 19 No. 2, pp. 91-97.
- Bailey, S. and Vidyarthi, J. (2010), "Human-computer interaction: the missing piece of the records management puzzle?", *Records Management Journal*, Vol. 20 No. 3, pp. 279-290.
- Bak, G. (2012), "Continuous classification: capturing dynamic relationships among information resources", *Archival Science*, Vol. 12 No. 3, pp. 287-318.
- Bedford, D. and Morelli, J. (2006), "Introducing information management into the workplace. A case study in the implementation of business classification file plans from the sector skills development agency", *Records Management Journal*, Vol. 16 No. 3, pp. 169-175.
- Calabria, T. (2006), *Case study (2004): Evaluating Caloundra City Council's EDMS Classification*, Step Two Designs Pty, available at: [www.steptwo.com.au/files/kmc\\_caloundracouncil.pdf](http://www.steptwo.com.au/files/kmc_caloundracouncil.pdf) (accessed 20 October 2014).
- Connelly, J. (2007), "Functional taxonomies. Myth or magic?", *The Informal Quarterly*, Vol. 27 No. 4, pp. 18-22.
- Currall, J. and Moss, M. (2008), "We are archivists, but are we OK?", *Records Management Journal*, Vol. 18 No. 1, pp. 69-91.
- Foscarini, F. (2009), "Function-based records classification systems. An exploratory study of records management practices in central banks", PhD thesis, University of British Columbia, Vancouver.
- Foscarini, F. (2010), "Understanding the context of records creation and use: 'hard' versus 'soft' approaches to records management", *Archival Science*, Vol. 10 No. 4, pp. 389-407.
- Foscarini, F. (2012), "Understanding functions: an organizational culture perspective", *Records Management Journal*, Vol. 22 No. 1, pp. 20-36.
- Gibbons, P. and Shenton, C. (2003), "Implementing a records management strategy for the UK parliament: the experience of using keyword AAA", *Journal of the Society of Archivists*, Vol. 24 No. 2, pp. 141-157.
- Gibbs, G. (2007), *Analyzing Qualitative Data*, Sage, Los Angeles, CA.
- Gregory, K. (2005), "Implementing an electronic records management system: a public sector case study", *Records Management Journal*, Vol. 15 No. 2, pp. 80-85.
- Gunlaugsdottir, J. (2008), "Registering and searching for records in electronic records management systems", *International Journal of Information Management*, Vol. 28 No. 4, pp. 293-304.
- Gunlaugsdottir, J. (2012), "Functional classification scheme for records – FCS: a way to chart documented knowledge in organizations", *Records Management Journal*, Vol. 22 No. 2, pp. 116-129.
- Henttonen, P. (2012), "Diversity of knowledge organization in records and archives management", in Neegameghan, A. and Raghavan, K.S. (Eds), *Proceedings of the 12th International ISKO Conference, Mysore, 6-9 August*, Ergon, Würzburg, pp. 277-283.

- Henttonen, P. and Kettunen, K. (2011), "Functional classification of records and organisational structure", *Records Management Journal*, Vol. 21 No. 2, pp. 86-103.
- Kilkki, J. (2004), "Bearmania. Frosting Finnish archival practice with imported archival theory", *Comma*, No. 1, pp. 43-53.
- Lybeck, J. (2006), "Arkistot yhteiskunnan toimiva muisti. Asiakirjahallinnon ja arkistotoimen oppikirja", Arkistolaitos, Helsinki, available at: [www.arkisto.fi/uploads/Palvelut/Julkaisut/asiakirjahallinnon\\_oppikirja.pdf](http://www.arkisto.fi/uploads/Palvelut/Julkaisut/asiakirjahallinnon_oppikirja.pdf) (accessed 20 October 2014).
- Mas, S., Maurel, D. and Alberts, I. (2011), "Applying faceted classification to the personal organization of electronic records: insights into the user experience", *Archivaria*, Vol. 72, pp. 29-59.
- Orr, S.A. (2005), "Functions based classification of records: is it functional?", Master's thesis, Northumbria University, Newcastle upon Tyne.
- Park, S. and Neal, D.R. (2012), "A new wave of government information management: the development of a function-based classification structure in a Canadian government organization", *Journal of Library Metadata*, Vol. 12 No. 1, pp. 23-38.
- Peräkylä, A. and Ruusuvaori, J. (2013), "Analyzing talk and text", in Denzin, N.K. and Lincoln, Y.S. (Eds), *Collecting and Interpreting Qualitative Materials*, 4th ed., Sage Publications, Los Angeles, CA, pp. 277-307.
- Savin-Baden, M. and Major, C.H. (2013), *Qualitative Research. The Essential Guide to Theory and Practice*, Routledge, London, New York, NY.
- Seitonen, K. (2010), *Kuntien yhteinen tehtävähukitus ja semanttinen web*, University of Tampere, Tampere.
- Shepherd, E. and Yeo, G. (2003), *Managing Records: A Handbook of Principles and Practice*, Facet, London.
- Smith, K. (2007), *Public Sector Records Management: A Practical Guide*, Ashgate, Aldershot.
- Smyth, Z.A. (2005), "Adopting a functional classification of business processes in Northern Ireland", *Journal of the Society of Archivists*, Vol. 26 No. 2, pp. 233-242.
- Todd, M. (2003), *Business Classification Scheme Design*, The National Archives, Kew.
- Tough, A. (2006), "Records and the transition to the digital", in Tough, A. and Moss, M. (Eds), *Record Keeping in a Hybrid Environment. Managing the Creation, Use, Preservation and Disposal of Unpublished Information Objects in Context*, Chandos, Oxford, pp. 1-25.
- Williams, D.J. (2005), "EDRM implementation at the national weights and measures laboratory", *Records Management Journal*, Vol. 15 No. 3, pp. 158-166.
- Yeo, G. (2012), "Bringing things together: aggregate records in a digital age", *Archivaria*, Vol. 74, pp. 43-91.

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## eRemembrance or eOblivion? International Conference on Society's Memory Functions in the Digital World, University of Tampere, Finland, Tampere 23-24 November, 2015

### Record-keeping professionals' perceptions of users and use of functional classification systems in the Finnish public sector

[Saara Packalén](#)

#### Abstract

**Introduction.** The paper focuses on the functional classification systems for records in the Finnish public sector, as perceived by record-keeping professionals. It presents a study aimed at creating better understanding of the various users and uses of functional classification systems by identifying record-keeping professionals' perceptions of who the users are and how they use classifications. In addition, the study is intended to stimulate thought and research on use of functional classification systems in various record-keeping cultures.

**Method.** Interviews were conducted with 22 record-keeping professionals, at three Finnish public-sector organisations.

**Analysis** The data were analysed through qualitative methods, with the software ATLAS.ti used in the data-handling and coding process.

**Results.** The main finding was that, in addition to themselves, the record-keeping professionals saw various other users of functional classification systems. However, the latter were perceived as using them to a lesser extent. The interviewees perceived functional classification systems as, in part, underused in their organisations. Negative user attitudes toward functional classification systems were reported.

**Conclusions.** The findings indicate that there is a contradiction between the benefits sought by the record-keeping practices in organisations and the tools developed for records organisation, which apparently do not meet users' needs.

CHANGE FONT



## Introduction

The amount of information created in the course of organisations' business activities is constantly growing. Management of that information, whether it is in the form of traditional paper records or maintained electronically in document- or record-management systems, requires powerful organisation methods. Records management is concerned with the records necessary in business and their identification, capture, storage, retrieval and destruction ([Rowley and Hartley, 2008, 283](#)). It is the records managers who are responsible for it; however, it is an important part of almost every employee's work today ([Shepherd and Yeo, 2003, 1](#)). Records are organised for purposes of facilitating their later use. Today, the records created and accumulated in the course of business activities are often organised in line with the organisation's functions. Functional classification connects records to their functional context ([Shepherd and Yeo, 2003, 74](#)). It is an internationally accepted and widely used method in records' organisation. However, applications and uses of functional classification systems differ between record-keeping cultures ([Kilkki, 2009](#)). In Finland, function-based schemes constitute the predominant approach to records' organisation and functional classification systems are an integral part of public-sector record-keeping ([Packalén and Henttonen, 2015](#)).

In a trend that is only going to continue, organisations' employees are increasingly involved in creating and managing records, participating in electronic records' processing and adopting computerised administrative routines. Xie ([2007](#)) characterises this as a new phenomenon in records management, 'shared RM [records management] responsibility'. Convery ([2011, 199–200](#)) describes the engagement with a user who is not a passive participant as a paradigm shift in the digital world.

Recently, there has been a growing interest in the study of functional classification. Researchers have noted conceptual ambiguity in the definitions of functions ([Alberts, Schellinck, Eby and Marleau, 2010](#); [Foscarini, 2012](#)) and problems with usability ([Calabria, 2006](#)). Various difficulties in maintenance and use of functional classification systems among record-keeping professionals have been acknowledged in the Finnish context also ([Packalén, 2015](#)).

Internationally, terminological and usability issues have received some attention in the context of creating functional classifications ([Gunnlaugsdóttir, 2012](#); [Myburgh, 2009](#); [Todd, 2003](#)). In Finland, the focus in planning of functional classification schemes has been on meeting the needs of the organisation and demands entailed by preservation of cultural heritage. Traditionally, record-keeping professionals operate the record-keeping processes from a central registry office. They are the ones responsible for classifying records. Other users, such as clerical staff, have received considerably less attention. Changes in practices applied in digital records' management by computerised administrative routines have led to a situation wherein the distribution of work related to records is blurred. The role of individual employees in management of the digital records they deal with is constantly growing. Today, there is no commonality in the extent of users' contribution to record-processing across various organisations. It is not even known who the users of functional classification systems in the Finnish public sector are, let alone how they use these systems.

Hence, the study described in this paper was motivated by the lack of clarity as to the various users of functional classification systems in the Finnish public sector. To facilitate wise use of functional classification in organisation of records, one first should identify the users and their various potential contributions to the use. On account of record-keeping professionals' essential role in record-keeping practices in Finland's public sector, the study took their knowledge and perceptions as its starting point.

This paper reports the results of a study that focused on users and uses of functional classification systems in the Finnish public sector. The study was conducted from the record-keeping professionals' perspective.

## Literature review

Records management is a 'field of management responsible for the efficient and systematic control of the creation, receipt, maintenance, use and disposition of records' ([ISO 15489-1, 2001, definition 3.16](#)). Providing several benefits to the organisation, records management covers the practice of anyone in the organisation who creates and/or uses records in conducting business ([ISO 15489-1, 2001, 1, 4](#)). In modern organisations, most of the employees are concerned with the creation, use and maintenance of records ([Kennedy and Shauder, 1998, 1](#)).

Function-based methods in the organisation of records have become more popular from the 1980s onward with the increasing volume of records created in the course of business activities and use of electronic record-management systems. They represent a method that today is widely used and accepted internationally; however, the essence of the approach is not new. Schellenberg (1956) presented his functional model back in the 1950s. Now, several decades later, the function-based approach predominates in records organisation, overshadowing classification based on subject/theme, the organisation's structure, hybrid approaches (Smith, 2007, 54–55) and record types. Also record-keeping professionals prefer functional classification (Orr, 2005; Packalén and Henttonen, 2015; Smith, 2007, 54).

There are several benefits to function-based records organisation. Records are created in the course of the actions of which they are evidences. Functional classification adds contextual information about records' creation and ties individual records together with other records from the activity in question. Context is an integral part of understanding the meaning of an individual record (Shepherd and Yeo 2003, 72–74). In the digital environment, intellectual control over records, exercised by classification, clearly is necessary (Foscarini, 2009, 63). The stability of organisations' functions, especially relative to more fluid organisational structures, is cited as another benefit for records' function-based organisation (Smith, 2007, 55–56; Connelly, 2007). In addition, functional classification gives understanding of the whole organisation (Shepherd and Yeo 2003, 74; Gunnlaugsdóttir, 2012).

There has been growing awareness of a need for conceptual clarification and of various usability issues faced with function-based applications (Alberts et al., 2010; Calabria, 2006; Singh, Klobas and Anderson, 2007). Several functional-classification-related concepts that are open to interpretation are used in the literature, often without proper definitions (Alberts et al., 2010; Foscarini, 2012). Recently, clarification has been sought for function-oriented concepts (Alberts et al., 2010) and classification in the field of information management (Mokhtar and Yusof, 2015). In addition to benefiting daily operational activities, records classification adds other value – for example, with respect to strategic management and longevity of the business. It also must meet requirements stemming from laws and mandates. Records have to maintain trustworthiness from the very beginning of their life through to the preservation phase by authenticity, integrity and reliability (Mokhtar and Yusof, 2015).

Recent studies have increasingly acknowledged the use and usability issues of functional classification systems in a mainly electronic environment (Calabria, 2006; Gunnlaugsdóttir, 2012; Packalén, 2015). Record-keeping professionals face various difficulties with functional classification systems (Packalén, 2015). Also, previous studies (Calabria, 2006; Gunnlaugsdóttir, 2012) show that end users find functional classification systems particularly unintuitive and confusing. Therefore, the classification systems may not even have been used (Gunnlaugsdóttir, 2012). End users find it difficult to connect their practical work processes to wider organisational functions. In this sense, the function framework is partly hidden from the end users' view (Foscarini, 2012). Xie (2007) stresses that individual users' needs should be taken into account as an element in the design of classification systems that is separate from general user inputs and user profiles.

People do not see a personal return on their efforts in records management, and, according to Sanders (1998), there is always a way to get out of doing the things one does not want to do. Therefore, it is worth remembering that self-interest is a better motivator than any benefit for the organisation (Sanders, 1998). A positive approach of customising records management such that it is something primarily to benefit the users is suggested as a route to success. Mas, Maurel and Alberts (2011) studied records' organisation in an electronic environment where faceted classification was applied. To overcome the lack of motivation that plagues document classification in organisations, they encouraged the user to become a partner with the records manager in updating and construction of the classification schemes. Users' training should include explanation of the functional structure behind the classification scheme chosen (Singh et al., 2007). Also, information-related skills and digital literacy of employees in the organisations are of great importance (Oliver and Foscarini, 2014, 92).

Users of records in administrative settings have been studied also by Sundqvist (2009). She discussed the use of functional classification in search keys in queries for records. Classification codes are not normally used as search parameters (Singh et al., 2007; Sundqvist, 2009, 115), and Sundqvist (2009, 24) also found that novices did not have the experience needed in using artefactual intermediaries and computerised systems. Computer systems' usability is another important element in taking the users into account. The concept of

organisational usability, presented by Elliot and Kling ([1994](#)), refers to effective integration of a computer system into the work practices of the organisation's workers.

According to ISO 9241-11, usability is 'the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use'. The user, the user's task, the equipment and the environment are all parts of the context of use ([ISO 9241-11, definition 3.1, 3.5](#)). In the main, records-classification systems are used at the stages of filing records and retrieving them from the record-keeping system; however, the role of functional classifications in organisations varies ([Henttonen, 2012](#)). Henttonen ([2015, 211](#)) describes two phases of records organisation, each with two groups of users: in an organisational setting, the users are records professionals and other workers. In archival settings, in addition to the record-keeping professionals, the users include researchers. In the active phase in records' life, the division of responsibilities within the organisation has a fundamental influence on how work is distributed between the records professionals and other employees. In Finland, where record-keeping professionals in central registry office form the main group of users of records systems, usability issues did not gain significant attention ([Henttonen, 2015, 212](#)) until recently ([Packalén, 2015](#)): the role of users in records organisation is not known. In other countries, more attention has been paid to users and the importance of their familiarisation with the terminology used in functional classification schemes ([Gunnlaugsdóttir, 2012](#); [Myburgh, 2009](#); [Todd, 2003](#)).

## The Finnish context of use

Functional records organisation reached Finland in the 1980s. Since then, the method has entered widespread use and gained a position as the generally recommended approach to records organisation in the public sector. For instance, it is recommended by the National Archives Service.

In Finland, record-keeping in public-sector organisations typically follows a proactive strategy. Public-sector record-keeping is strictly regulated and must follow a specific record-keeping plan that is mandated by law ([Archival Act, 23.9.1994/831](#)). Although authorities are not obliged to use functional classification – after all, it is only a recommendation by the National Archives Service – it is widely accepted, and, in fact, record-keeping professionals perceive it as a self-evident part of organisations' record keeping ([Packalén and Henttonen, 2015](#)). A given entity's record-keeping plan, registry system, other administrative systems for records' control and sets of archival records all share parts of the same functional classification scheme. Hence, functional classification forms the basic structure of the core systems used.

Documents created or received by the organisation in question are classified and registered. Registers are used in listing receipts' and records' movements in the course of their active use ([Henttonen, 2012](#)). The role of registrars as presented in a Swedish study by Kallberg ([2013](#)) applies in the context of the Finnish public sector as well. Registrars are responsible for capturing records in the early phase of records management, when the records are created. Registration takes place as the first part of an administrative process. After that process is complete, the file is closed and constitutes records of the process, as presented by Sundqvist ([2009, 78](#)).

Because of the registration practice, record-keeping professionals in the Finnish public sector have an essential role in records' organisation. This may be partial explanation of why the user perspective on records organisation has not garnered the attention it has elsewhere ([Henttonen, 2015, 212](#)).

## Methods

The study was designed to create better understanding of users and use of functional classification systems, with the aim of ascertaining what kinds of users and use record keeping professionals perceive functional classifications as having in the Finnish public sector.

These research questions are addressed:

1. What kinds of users do record-keeping professionals perceive functional classification systems to have in Finnish public-sector organisations?

## 2. What perception do record-keeping professionals have of the use of functional classification systems in Finnish public-sector organisations?

The data used for this study come from semi-structured interviews of 22 record-keeping professionals performing various record-keeping duties in three separate Finnish public-sector organisations: a municipal organisation (A), university (B) and government agency (C). I conducted the interviews between February and May 2013, using three media: face-to-face interviews, computer based conferencing and interviews by telephone. I conducted some of the interviews as personal interviews, the others with groups of two to three interviewees at a time.

In Finland, records managers and archivists are understood as one group of workers with duties in archives' and/or records' management. In the context of the study, this group is referred to as *record-keeping professionals*. Record-keeping professionals perform various duties and have various assigned roles, such as records manager, registrar or archival secretary.

In the Finnish public sector, the registration practice entails record-keeping professionals being the primary users of functional classification systems. The study was designed to identify their other groups of users. For the purposes of the study, a user is defined as an employee in the organisation who, in conducting his or her work, uses the functional classification scheme or the systems wherein it is embedded.

I analysed the data with qualitative methods. I recorded the interviews and transcribed them verbatim, excluding verbal tics. Then, I immersed myself in the data by reading and listening to the material. I coded the data to categorise elements from the transcripts. The analytical strategy for the study was supported by my use of qualitative data analysis software, ATLAS.ti. In organising the data, I used software to implement a code-and-retrieve strategy ([Coffey and Atkinson, 1996, 170](#)). I marked interview segments by attaching codes to the segments, to make the data searchable. Segments identified by the same code can be retrieved and collected readily. Beyond coding and categorising the data, the process of generating and using ideas and of generalising involved analysis informed by writing analytic memos and creating lists of various users and uses of functional classification. I considered the data through a researcher's eyes in terms of research questions 1 and 2, presented above. In this paper, record-keeping professionals' perceptions are exemplified by loose translation of excerpts from the interviews. The notation for the excerpts uses the letter A, B or C (denoting the organisation) and a number that, in combination with the letter, uniquely identifies the interviewee.

## Findings

The record-keeping professionals perceived functional classification mainly as a record keeping tool used primarily by record-keeping professionals themselves. They were responsible for maintenance of the functional classification scheme and its applications. They also had responsibility for guiding others in using the functional classification systems. However, most interviewees indicated that the classification scheme in one or another of its embodiments in the organisation was supposed to be used by all employees who created or handled records in their work. The record-keeping professionals were aware, though, that the electronic records management systems were not always used to the fullest extent possible. The level of use varied between the organisations studied and even between units within them. Poor usability of electronic document- or record-management systems, other technological features and users' personal attitudes were mentioned as perceived reasons for non-use of functional classification systems.

B2: It [the electronic records-management system] is underused right now. In some units, it is used well, and in some other units it is used very little. Whether it is used or not depends on the persons working in the unit.

In addition to record-keeping professionals themselves, several other users of functional classification systems in each of the organisations were mentioned. Also, all employees participating in administration and decision procedures or in handling of matters were identified as users of these systems. In their duties, these employees created or handled records mostly in some electronic document- or record-management system. They worked as officials, specialists, administrative managers, secretaries or other clerical personnel. All of them had local responsibilities for records or needed to use the electronic system to accomplish their work tasks in handling of certain matters.

C10: I think it is mostly us, people who work here in the registry office. I mean record-keeping professionals as a whole. And, well, the secretaries use it at the point of registration of outgoing mails. But they don't really need to know the classification, since we are the ones who select the functional class. We give them a number, and they just use the number at the point of registration.

Many of the professionals expressed a hope that other employees would be more aware of the organisation's functional classification scheme and the record-keeping plan. However, some interviewees stated that other employees do not need to know the classification system that well, stating that they had other, more important duties to take care of. Some of the professionals interviewed were of the opinion that functional classification should be abstracted from users' view in the electronic system as much as possible – for example, by way of automating the records' grouping.

C1: Well, I think it would be desirable that it would be used more widely. But, then again, we come to that point of what the added value is to the work of some employee from knowing the classification. I'm not sure...

The record-keeping professionals differed somewhat in their views on how much users should use functional classification for classificatory purposes and even whether they should do so at all. Many interviewees wanted to encourage users to file records themselves, while others expressed concern about the filing errors that could result from this. Concerned record-keeping professionals did not fully trust in users' abilities to handle a complicated classification system themselves without strict guidance. Some of the professionals offered the opinion that it was better that only record-keeping professionals use the classification structure in selecting the function class, to ensure that the right class is always selected. Also, some expressed the view that other users appreciate clear guidance in when to use a certain class or record type and which is the right one to choose in an electronic system.

Describing another context of functional classifications' use, some of the record-keeping professionals stated that every employee in the organisation had an opportunity to browse the record-keeping plan, which covered the functional classification scheme. The plan may have been presented on the corporate intranet or in traditional paper form. However, the record-keeping professionals seldom mentioned browsing the record-keeping plan as a use of the scheme by other employees. Some interviewees stated that users were not interested in browsing the functional classification scheme or navigating the tree-view folder structure to seek information.

B3: I think, nobody wants to browse this [scheme]. They want that there would be a list of records to put in class XXX and those for XXB, that someone would tell them where to file the records.

In most cases, record-keeping professionals in the registry office were selecting the right function class for new matters to be handled. Using the functional classification system after this selection is made was not perceived as demanding: after the right class had been selected, users were obliged only to select the record type for the record they were adding to the electronic system when handling a certain matter. Most interviewees thought that the users had to use only a few function groups and therefore knew them well. Because of this, the record-keeping professionals indicated, it is not hard for users to select the right record type from the list in the system. There were differences between the case organisations in how strictly the users were guided in use of the functional classification system. In general, the interviewees perceived users as able to use the functional classification scheme at the level necessary for conducting their duties.

A2: We use the same grouping in registration practices. The thing is that when there is a matter and its records, there are only a couple of options you can choose from when you add an attachment to the record in a specific group.

In principle, the record-keeping professionals were of the opinion that every user of an electronic document- or record-management system should be capable of using the system him- or herself. However, they knew that, in reality, secretaries sometimes had to operate the system on behalf of employees who did not want to do so or could not use it by themselves.

B3: The person who creates a record may give it to someone else to enter in the electronic system and classify.

The record-keeping professionals were aware that not all users followed the instructions on use of the electronic systems for filing documents. They perceived it as difficult to find a way to supervise the use. One of the organisations was about to start monitoring the system's use to ensure correct filing.

A3: For example, we have described in the record-keeping plan that some records should be filed in the electronic document management system. But if the user does not follow the instructions but keeps the records somewhere on his hard disk or somewhere else, we won't be informed. They don't have problems in using the system. They don't feel their records are missing or have problems like that. So they won't tell us. So, how could we know it? But when we start monitoring the use, from now on we can also fine-tune our own course of action if needed.

Some record-keeping professionals reported negative attitudes of users towards using the organisation's functional classification system. Some users had reported that they did not want to use or even learn to use the classification structure, which they viewed as complicated. Some users were perceived as thinking that it was the job of secretaries or a registry office to use the electronic record systems and to classify records.

C10: Here it just has not succeeded. People think that it is not their job – for example, the job of specialists. They don't want to do a job they think is for secretaries, and they just didn't take it up.

Many of the interviewees reported a perception that users did not understand the function arrangement in the classification scheme. They also noted that users might not even have been thinking about function-based classification when handling the records. The registration number was just a number they needed for handling the records and conducting their work. Also, when specifying a record type or when searching for a record in a system, users might not even have realised that they were using a functional classification scheme that was in the background, embedded in the system.

A1: [When they are selecting a record type] I am sure they don't think that they are using functional classification [...] it's just something that is needed for going ahead.

## Discussion

The study provided insight into Finnish public-sector record-keeping professionals' perceptions of functional classification systems' various users and the systems' uses.

The study generated description of the use of functional classification systems from the perspective of record-keeping professionals. They were responsible for the use and for user guidance; however, the findings illustrate that functional classification is seen not only as a record-keeping tool for records professionals but as for all employees who handle records in their work. The informants interviewed for the study worked at three separate Finnish public-sector organisations utilising various record-keeping systems. There were some differences between organisations as to users, the level of use, and the systems in use, but some patterns could be observed in salient characteristics.

The first research question was aimed at finding out what kinds of users record keeping professionals perceive functional classification systems to have in the Finnish public sector. The findings show that record-keeping professionals were the main users of each scheme and of all systems in which the classification scheme was embedded. The ambition of shared records-management responsibility, presented by Xie (2007), could be observed from the interviews. However, it seemed far from the reality of the case organisations' current record-keeping. The other users utilised the relevant functional classification scheme to a lesser extent and only parts of it. Use varied from one organisation to another by unit, duties, and personal attitudes toward record-keeping. Overall, functional classification systems were used by all employees who handled records in their work. However, total rejection was reported too. This is in line with Gunnlaugsdóttir's (2012) study, which found non-use of the systems when they are not perceived as usable. Users might also lack motivation (Mas et al., 2011) and a personal reason to use the system (Sanders, 1998).

With the second research question, I sought to find out how the record-keeping professionals saw the use of functional classification systems in Finland's public sector. The findings indicate that the functional classification systems were underused in part. The registration tradition and centralised registry practices might have an influence on the amount of attention paid to the users of functional classification schemes (Henttonen, 2015). A tradition of user participation in records organisation is largely absent from the Finnish public sector. Registry offices have been responsible for tracking records.

On one hand, the record-keeping professionals hoped for users' greater familiarity with record-keeping plans and the functional classification scheme. This is consistent with Convery's (2011) view of a non-passive user. On the other hand, they perceived the function-based structure as hard to use and hoped for automated classification of records. As earlier studies (Calabria, 2006; Gunnlaugsdóttir, 2012; Singh et al., 2007) show, the function-based structure of the classification framework is not self-evident to users. Users were perceived as sometimes not even being aware of the classification embedded in the system. In a previous study, even professionals saw functional classification in concrete terms, not as an abstraction (Packalén and Henttonen, 2015).

Recently, users' responsibility for processing records in their area of work have increased. Hence, users should be capable of managing these records and of using the systems for records' organisation. However, the methods of organising the records do not seem to meet the users' needs.

One limitation to the study is that the record-keeping professionals' perceptions of the use of functional classification systems could not be clearly separated from their perceptions of how users used the electronic record-management systems in general. Where users were viewed as having difficulties in using the functional classification scheme of an electronic document- or record-management system, I was unable to ascertain whether the problem might have been in the users' understanding of the classification scheme and in difficulties with use of its structure or instead in the computer systems' usability. In addition, users apart from record-keeping professionals of functional classification systems were not interviewed. The paper has, however, met the objective of identifying various users and the extent of use of functional classification systems in Finnish public-sector organisations from the record-keeping professionals' perspective.

## Conclusion

The study extends understanding of functional classification systems' use in records management. I succeeded in determining the various users and exploring their use of functional classification systems. Accordingly, the study provides new knowledge of the users and use of functional classification systems in the Finnish public sector.

The findings highlight a gulf between, on one hand, the aims of efficient records management in providing benefits to the organisation and its employees and, on the other, the methods developed for records organisation, which do not properly speak to the users' needs. More attention should be paid to users of functional classification systems, record-keeping professionals' various and partly contradictory expectations with regard to users, and the contribution of both groups to the use of functional classification systems.

In addition, more research focusing directly on users' experiences in use of functional classification systems is needed. For example, shadowing users as they carry out their work with records' processing could be a fruitful approach for a wider study.

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## References

- Alberts, I., Schellinck, J., Eby, C. & Marleau, Y. (2010). Bridging functions and processes for records management. *The Canadian Journal of Information and Library Science*, 34(4), 365–390.
- Calabria, T. (2006). *Case study (2004): evaluating Caloundra City Council's EDMS classification*. Step Two Designs. Retrieved from [http://www.steptwo.com.au/files/kmc\\_caloundracouncil.pdf](http://www.steptwo.com.au/files/kmc_caloundracouncil.pdf). (Not retrievable by WebCite® at <http://www.webcitation.org/>)
- Coffey, A. & Atkinson, P. (1996). *Making sense of qualitative data*. Thousand Oaks, CA: Sage.
- Connelly, J. (2007). Functional taxonomies: myth or magic? *The Informaa Quarterly*, 27(4), 18–22.
- Convery, N. (2011). Information management, records management, knowledge management: the place of archives in a digital age. In J. Hill (Ed.), *The future of archives and recordkeeping* (pp. 191–212). London: Facet.
- Finland. *Statutes* (1994). [Archives Act, 23.9.1994/831](http://www.arkisto.fi/uploads/Arkistolaitos/Teht%C3%A4v%C3%A4t%20ja%20toiminta/The-Archives-Act-831.pdf). Retrieved from <http://www.arkisto.fi/uploads/Arkistolaitos/Teht%C3%A4v%C3%A4t%20ja%20toiminta/The-Archives-Act-831.pdf> (Archived by WebCite® at <http://www.webcitation.org/6dqU9XWxW>)
- Foscarini, F. (2009). *Function-based records classification systems: an exploratory study of records management practices in central banks*. Unpublished PhD dissertation, University of British Columbia, Vancouver, Canada.
- Foscarini, F. (2012). Understanding functions: an organizational culture perspective. *Records Management Journal*, 22(1), 20–36.
- Gunnlaugsdóttir, J. (2012). Functional classification scheme for records: FCS: a way to chart documented knowledge in organizations. *Records Management Journal*, 22(2), 116–129.
- Henttonen, P. (2012). Diversity of knowledge organization in records and archives management. In A. Neegameghan & K.S. Raghavan (Eds.), *Categories, context and relations in knowledge organization: proceedings of the 12th International ISKO Conference* (pp. 277–283). Würzburg, Germany: Ergon Verlag.
- Henttonen, P. (2015). *Johdatus asiakirjahallinnan tutkimukseen*. Helsinki: Avain.
- International Organization for Standardization (2001). *ISO 15489: information and documentation – records management*. Part 1: general.
- International Organization for Standardization (1998). *ISO 9241-11: ergonomic requirements for office work with visual display terminals*. Parts 10–17.
- Kallberg, M. (2013). Shaping a profession: A new professional context and changing status for registrars in Sweden. *Records Management Journal*, 23(3), 177–190.
- Kennedy, J. & Shauder, C. (1998). *Records management: a guide to corporate recordkeeping* (2nd ed.). South Melbourne, VIC: Longman.
- Kilkki, J. (2009). Tehtävälukitus meillä ja muualla. *Akti*, 2009(1), 20–21.
- Kling, R. & Elliott, M. (1994). Digital library design for organizational usability. *ACM SIGOIS Bulletin*, 15(2), 59–70.
- Mas, S., Maurel, D. & Alberts, I. (2011). Applying faceted classification to the personal organization of electronic records: insights into the user experience. *Archivaria*, 72(Fall), 29–59.
- Mokhtar, U. & Yusof, Z. (2015). Classification: the understudied concept. *International Journal of Information Management*, 35(2), 176–182.
- Myburgh, S. (2009). Records organization and access. In M. Bates & M. Maack (Eds.), *Encyclopedia of library and information sciences* (3rd ed.) (pp. 37–41). Taylor & Francis.
- Oliver, G. & Foscarini, F. (2014). *Records management and information culture: tackling the people problem*. London: Facet.
- Orr, S.A. (2005). *Functions-based classification of records: is it functional?* Newcastle, UK: Northumbria University.
- Packalén, S. (2015). Functional classification: record-keeping professionals' difficulties and their handling in maintenance and use of FC in Finnish organisations. *Records Management Journal*, 25(2), 166–182.
- Packalén, S. & Henttonen, P. (In press). Recordkeeping professionals' understanding of and justification for functional classification: Finnish public sector organizational context. *Archival Science*.



- Rowley, J. & Hartley, R. (2008). *Organizing knowledge an introduction to managing access to information* (4th ed.). Aldershot, UK: Ashgate.
- Sanders, R. (1998). The records manager steps out of the comfort zone: the problem with selling records management. *Records Management Quarterly*, 32(2), 56–62.
- Schellenberg, T.R. (1956). *Modern archives: principles and techniques*. Chicago, IL: University of Chicago Press.
- Shepherd, E. & Yeo, G. (2003). *Managing records: a handbook of principles and practice*. London: Facet.
- Singh, P., Klobas, J. & Anderson, K. (2007). Information seeking behaviour of electronic records management systems (ERMS) users: implications for records management practices. *Human IT*, 9(1), 135–181.
- Smith, K., 2007. *Public sector records management: a practical guide*. Aldershot, UK: Ashgate.
- Sundqvist, A. (2009). *Search processes, user behaviour and archival representational systems*. Unpublished doctoral dissertation, Mid Sweden University, Sundsvall, Sweden.
- Todd, M. (2003). *Business classification scheme design*. Kew, UK: The National Archives.
- Xie, L. (2007). [Function-based records classification system: a comparative study](http://www.armaedfoundation.org/pdfs/Sherry_Xie_Study.pdf). Retrieved from [http://www.armaedfoundation.org/pdfs/Sherry\\_Xie\\_Study.pdf](http://www.armaedfoundation.org/pdfs/Sherry_Xie_Study.pdf) (Archived by WebCite® at <http://www.webcitation.org/6dqTJAiUH>)

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# Ambiguous Labels: Facet Analysis of Class Names in Finnish Public-Sector Functional Classification Systems<sup>†</sup>

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Abstract: Functional classifications are used internationally as a method for organization of records. However, understanding of functional concepts varies, different applications exist, and usability issues have been reported. A study was performed to address the contradiction between the need for contextual records classification and difficulties in their practical use, with an aim of prompting a focus on labels used in class names and their contribution to the understanding and usability issues faced with functional classifications. Facet analysis was used to analyze the verbal expressions used in class names. Results from the study reveal the use of ambiguous class names. Differences and inconsistency in the logic used in naming classes were detected both between and within organizations. It is clear that uniform, common, and functional classifications can hardly be

achieved by combining existing systems. Instead, other measures are needed.

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## 1.0 Introduction

Understanding and interpretation of functions in the context of function-based records organization varies. Functions, activities, transactions, and processes can be characterized with several phrasings to represent the functional environment. It is open to interpretation what

exactly the functions in a given organizational context are and what the relationships are between functions, activities, and related concepts. It is not clear what form such descriptions of functions should take in functional classification systems if they are to be unambiguous and clear expressions to the systems' users.

A function-based approach predominates in records organization. The method is internationally recognized and widely used. Record-keeping professionals in particular value this functional classification (Foscarini 2012; Orr 2005; Packalén and Henttonen 2016) and see the advantages it provides for managing records in an electronic environment. Certainly, there are advantages in the approach (Shepherd and Yeo 2003, 74; Smith 2007, 56), including addition of context to electronic records and the ability to facilitate records' appraisal. Alternatives for the method are not always stated (Shepherd and Yeo 2003, 73) or seen (Packalén and Henttonen 2015). However, also various problems with the approach have gained attention in recent studies (Calabria 2006; Gunnlaugsdottir 2012; Ifould and Joseph 2016; Packalén 2015). The disadvantages are concentrated primarily in the areas of functional classification systems' usability and the logic applied in functional classifications. In addition, recent efforts notwithstanding (Alberts et al. 2010; Henttonen 2015a), the theoretical foundation of the method remains quite weak.

While the approach is in widespread use, instructions on creating and applying functional classification in an organization (Foscarini 2012) are confusing. Therefore, applications vary. In Finland, detailed instructions on how to name the classes do not exist. The recent emphasis on goals of increasing users' participation in processes involving their records in the digital era and harmonizing functional classifications across organizations demands clarity and shared understanding of concepts such as function, activity, and transaction, their relationships with each other, and how they are formed and read.

The aim with this paper is to create a better understanding of how functions manifest themselves in functional classification systems by way of analysis of class names used in functional classifications. For this, a study was carried out in Finland (Packalén and Henttonen 2016), where functional classifications are a norm for records organization in the public sector. Attention was focused on the class names used at the lowest functional level in the systems. The study addressed the various forms of expression applied in denoting organizational activities. Beginning with facet analysis as a framework for analyzing the class names used, the work then turned to generalization of the findings and to description and visualization of the various attributes used in class names.

## 2.0 The purpose of organization

"Classification is a way of seeing," according to Kwaśnik (1999, 46). Every classification serves a purpose, and what a classification covers depends on its purpose. The environment where it is used is meaningful. Cultural war-

rants (Beghtol 2001, 103-5) create a basis for the decisions made in determining which concepts are used, their order and relationships, and the whole semantic basis for the system. The purpose of systematic organization (that is, classification) is to serve users; hence, the classification system needs to be logical and simple (Meriläinen 1984, 35), both semantically and in the phrasing of the syntactic relationships. Meriläinen (109) issues a reminder that terminology used in library classification systems follows strict terminological rules, with respect to both content and the form of words. In the context of assigned indexing languages, the norm in choosing the form of words is to use nouns to the greatest extent possible. Verbal nouns, active or passive, are used to denote even activities, such as "cataloguing." Various rules (Foskett 1996, 79) exist to guide in using the singular or plural. Often, a term in natural language has several meanings; therefore, the vocabulary used in subject languages is normalized for information retrieval's sake. Natural and subject language vocabularies use lexicons in different ways. Natural language lexicons use words and sometimes phrases (Svenonius 2000, 128-9), while subject languages use only specific terms indicating the subject content. Uniformity in practices (International Organization for Standardization 2013) is enhanced also with international standardization.

In records and archives management, the increasing volume of digital items led to a change of perspective in classification. Not just records' retrieval but also understanding the context of records and the action of which they serve as evidence guided this paradigm shift in records organization in the 1980s. Functional classification lends itself well to meeting this requirement. This manner of classification differs greatly from subject-based classification. Its purpose is to describe the functions of the organization, the main functions, and the supportive functions as well. A functional classification system (National Archives of Australia 2003, 7) is based on analysis of the organization's functions and activities. It is about the context of records, why each record exists. Criteria for designation of concepts in class names in records' functional classifications do not exist in the quantity and specificity familiar from other indexing languages. Understanding of functions varies (Alberts et al. 2010; Foscarini 2009; Hurley 1993), and there are no common rules that determine their naming. Existing guidelines for creating functional classifications are difficult to understand (Foscarini 2009), so the systems end up varied and subjective. Also, an organization's functions and units, as well as subject terms (Kennedy and Schauder 1998, 115), may coincide terminologically. Previous studies (Alberts et al. 2010; Calabria 2006; Foscarini 2009; Ifould and Joseph 2016; Orr 2005; Packalén 2015) show various difficulties

in using functional classifications. The approach is not intuitive to users, and they face difficulties in relating their day-to-day work procedures to abstract functions that do not necessarily match the real work processes. Also, various users who are not record-keeping professionals need to use functional classifications in organizations (Packalén 2016), yet their needs may not be met. Initially, the difference in classifications between archives and libraries (Ribeiro 2014, 324-5) lay in its use as a means of physical organization in archives and of retrieval in libraries. A customer-oriented approach has been familiar at libraries from the very beginning, while archives have focused instead on the arrangement of documents. Today, users' needs, especially that for accessibility, make a distinction between these two contexts irrelevant. Users are forcing archivists to focus on subjects.

### 3.0 Structural and conceptual elements of functional classification

In a functional classification, the organization's functions are divided into main classes. Each main class is then divided into smaller sections, until a decent level of specification has been gained. In such a hierarchical classification, classes are listed for the system in advance. Any further classes cannot simply be added by users of the system. Accordingly, certain supporting functions usually exist in every organization, such as administrative functions, financial management, and the personnel administration. In addition, there are organization-specific specialist functions.

The various classification structures display diverse advantages and problems. One of the advantages of hierarchical classification (Kwaśnik 1999) is that it provides a wider perspective on the thematic whole. From users' points of view (Meriläinen 1984, 27), the main problem in enumerative classification systems is the predetermined classes. Listing every possible class that users might wish to use beforehand is impossible. Therefore, the user needs to settle on the least erroneous one. Also, the systems are often extensive and therefore clumsy to use.

A central issue in the problematics of functional classification is the concept of function. This is a widely used concept, yet definitions of it are few and understanding varies. That said, previous studies and literature (Alberts et al. 2010; Foscarini 2009; Hurley 1995; Sabourin 2001; Schellenberg 1956; Shepherd and Yeo 2003; Tough 2006) do provide some definitions and viewpoints. Alberts et al. (2010) define a function as "an action description that emphasizes the group carrying out the action, their responsibility, and how their action supports a general goal or organizational state," and thus functional classification (376) is "an action taxonomy organized on the basis of identified goals and sub-goals, which in turn reflect desired states of

the organization." The authors (372-3 emphasis original) go on to state that "an action has a subject, a verb, one or more objects and possibly adverb phrases—*[subject is [verb]ing [object], [subject] is [verb]ing [in order to...]*." A verb alone is not an action when this definition is applied.

Some attention has been paid internationally to naming conventions for function-related categories in classification systems. Hurley (1993) categorically states that a function is not a subject, giving the example that the function of a legislature is to legislate. The focus in functional analysis should, therefore, be on functions and processes, not subject terms. For instance, "conferences" is a subject term, but "attending conferences" and "arranging conferences" are different processes and must be classified separately, Shepherd and Yeo state (2003, 76). They clarify also that activities occur at process level; they have a clear beginning and end, in contrast to functions and sub-functions, which have no time limit. Although transitive verbs should be used to describe functions and their components, in practice these may be replaced with a noun form. At function level, the verb or verbal noun may even be omitted sometimes. At other levels, it should always be present, as in the case of "recruiting staff." Labels such as "staff" and "invoices" are not acceptable, since they do not describe the process (79). The terms used at the highest level in a functional classification system (Tough 2006, 15) should describe the purposes of the organization in order to direct the record-keeping systems toward the organizational goals, instead of technical ones. Sabourin (2001) clearly addresses the issues of titles denoting subjects or objects instead of functions, and Xie (2007, 6) differentiates between "activity-indicating" categories (oriented more toward subject-based systems), e.g., "vehicles," and "activity-denoting" categories, e.g., "motor vehicle management." Henttonen (2015a) makes a point of addressing the relationship between records and categories in the classification; a record should be created or used in the category in order to have a real functional relationship with that category.

Guidelines that Schellenberg (1956, 53) offered decades ago outline three elements that should be considered in classification of public records: the action of the record, the organizational structure of its origin, and the subject. Action may be discussed in terms of functions, activities, and transactions. Schellenberg used the term "function" to cover the responsibilities of an organization in connection with achieving the broad purposes designated for it. He saw consistency in naming the classes as important and stressed that the same principle should be followed for each successive level—e.g. function at one level and activities at another (63). Also, he stated, titles should reflect functions, activities, or transactions, and such headings as "general" or "miscellaneous"

should be avoided. Neither should business units and workgroups (Shepherd and Yeo 2003, 74) be used as a basis for classification. The group “miscellaneous” (Lybeck 2006, 46) is suitable only for occasional records that do not have any other place in the grouping. If it is used a large amount or for many matters, there is a need for more detailed grouping.

#### 4.0 The Finnish public sector as a record-keeping context

In Finland, a function-based approach to records organization started to gain ground in public-sector record-keeping during the 1980s. Since then, organizations in the public sector have followed this approach (Orrman 2007, 66), and record-keeping professionals (Packalén and Henttonen 2016) today seldom even see any alternative but to create record-keeping plans that follow a function-based structure. Furthermore, public-sector record-keeping in Finland not only is subject to laws but also follows codes of conduct and recommendations from the National Archives Service.

It is noteworthy that knowledge organization systems differ in various record-keeping cultures, as Henttonen (2012, 2) stresses. The Finnish functional classification system (Henttonen 2015b, 217) and record-keeping practices differ greatly from the systems used in some other countries. In Finnish public-sector record-keeping practice, the organizations create record-keeping plans that describe and guide the creation, maintenance, and preservation of their records and archives. The entire life of records, from creation to their preservation or destruction, is covered in the plan, which follows an approach of functional classification. Registration is a key operation in Finnish public-sector record-keeping. Today, the same functional structure is followed across registration systems, with Finnish registration tradition having their origins in Swedish (Sundqvist 2009, 79) registration practices. This helps to ensure reliability and openness of actions in the public sector. Eventually, when the records move from active use to archival, this proactive record-keeping strategy and the function-based record-keeping plans mean that the structure applied in their organization remains the same. Before functional classifications became commonplace in Finland’s public sector, “ABC” classification systems (Henttonen 2015b, 221), based on record types, were followed. Registers, minutes, outgoing and incoming letters, etc. formed the main classes, which were identified with letters: “A,” “B,” “C,” etc.

Today, functional classifications in the Finnish public sector typically follow a three-level, enumerative, hierarchical structure in line with the model offered by the National Archives Service (Kansallisarkisto 2016), though concep-

tual and hierarchical relationships in processes may vary, depending on the organization’s process descriptions. Guidance for labeling of the classes has not been presented. Organizations are free to apply their own system in this respect. Usually (Orrman 2007, 68), functions in the first three main classes stay the same: 0 for general administration, 1 for personnel administration, and 2 for financial administration. Use of technology (71) and demands for compatibility and uniformity necessitate some changes in the systems in the course of time. Overall, however, they remain the same as they were several decades ago.

#### 5.0 Methods

The following research questions were addressed in the study:

1. What kinds of labeling are used in titles at the lowest functional level in Finnish public-sector organizations’ functional classification systems?
2. Do the titles used at the lowest functional level in functional classification systems in Finnish public-sector organizations represent functions?

The data for the study consisted of descriptions of functional classification systems received in Spring 2013 from three, quite different Finnish public-sector organizations: one municipality (A), one university (B), and one national-level governmental organization (C). The systems followed a hierarchical, enumerative structure typical in Finland. They differed in contents and in accordance with the divergent functions of the organizations. The total number of class names at the lowest level of each functional classification systems (the level before record types are indicated) is presented below in Table 1. In the systems at organizations A and B, this was the third level, while it varied in organization C, being either third or fourth in the hierarchy. In addition to the title, a numeric notation such as “02.05.05” was used in the classification systems to denote the class; however, the study focused only on class names. The lowest-level class names were

Organization	Number of classes in the lowest class in the hierarchy
Organization A	221
Organization B	606
Organization C	730
Total	1,557

Table 1. The total number of class names used at the lowest level of classification.

selected since normally this is the level used for classifying records in organizations' registration practice. At that level, records belonging to the same action group are connected with each other.

The selection of data for the study involved sampling (Pickard 2007, 59), "the process of selecting a few from the many in order to carry out empirical research." The probability sampling techniques applied and the methods used in the analysis are described next, sequentially. As Table 1 shows, the number of classes was much lower in organization A than in the other two organizations' systems. Therefore, we used cluster sampling in order to select a representative sample from each of the classifications, with 105 class names selected from each system. This makes the total number of class names analyzed in the study 315. For comprehensiveness—inclusion of class names from every function class—systematic sampling was used for each of the classification systems. In line with this criterion,  $k = N/n$ . In organization A,  $221/105 = a$   $k$  value of 2; in B,  $606/105 = a$   $k$  of 6; and in C,  $730/105 = a$   $k$  of 7. The starting class name was randomly selected. In a further round, the class names already selected for the sample were skipped. The randomly selected start points were 9 in organization A, 21 in organization B, and 77 in organization C.

The class names selected were listed one organization at a time in an Excel spreadsheet. They were then sorted via facet-analysis methods as described next. The labeling of the classes usually involved more than one term. Therefore, to find out the various attributes the title represented, a class name might be deconstructed into its constituents, and these assigned to different facets. However, terms describing other terms without having a meaning of their own were bundled together with the main term. Each facet was allowed for one entry in one class name. Hence, the titles consisting of several elements denoting the same facet, e.g., "medals, decorations, honorary titles, and rewards," counted as one entry to the facet in question. In a standard descriptive statistical analysis process, the entries under each facet were summed in Excel. To illustrate findings for nominal-level data, a frequency distribution can be calculated and presented (Pickard 2007, 252–4). For data display, tables and simple bar charts were derived from each classification individually and in conjunction with the others. Also, characteristics of each classification were qualitatively described.

### 5.1 The facet-analysis approach applied and the facets used in the analysis

In the study, a facet-based approach formed the foundation for analyzing the class names used. In facet analysis

(Suominen et al. 2009, 223), a special dictionary is created to describe the content of a document. The expressions used are organized into facets that represent certain types of concepts—e.g., actions, products, or methods. Instead of creating a dictionary, the aim for the facet-analysis process in the study was to find homogeneous, mutually exclusive groups to syntactically describe the elements of verbal expressions used in the class names at issue.

There are various interpretations of what constitutes a facet (Broughton 2006, 68), from simple description of field names to complex models that support automated object description and retrieval. Broughton (2002) describes facet analysis as a "rigorous process of terminological analysis whereby the vocabulary of a given subject is organized into facets and arrays, resulting in a complex knowledge structure with both semantic and syntactic relationships clearly delineated." The starting point for the study was a simple one: seeing facets as viewpoints (Suominen et al. 2009, 224), as different angles from which to look at the scope of the object.

The first known system of faceted classification was created by Ranganathan (1951), to classify library materials. However, earlier references (Hjørland 2013) to facet-based classification exist. More recently, the method came to be applied in various electronic contexts (Broughton 2006), including Web environments, and faceted systems are quite common at present. Broughton (2002) sees facet analysis as providing a method appropriate for management of terminology and concepts in diverse environments. More extensive theoretical exploration and examination of the logic used in facet analytic tradition (presented by, for example, Hjørland 2013) are beyond the scope of this study.

The study applied facet-based approach to identify what kinds of elements characterize the class names used. Therefore, against the standard methodology of facet analysis (Vickery 1960), five suitable facets (facets 1-5 as described below) were *a priori* derived from previous research and literature describing how to create a functional classification (Alberts et al. 2010; Hurley 1993; Sabourin 2001; Schellenberg 1956; Shepherd and Yeo 2003), what kinds of elements to use, and what kinds to avoid in creating the system and labeling the classes. Also, characteristics presented in previous studies and literature describing functions, either idealistically or in terms of the elements used in functional classifications in practice (Foscarini 2009; Kennedy and Schauder 1998; Lybeck 2006; Xie 2007), were utilized in creation of the facets.

The categories (Suominen et al. 2009, 225) that exist in the grammar of natural languages are word classes (noun, adjective, etc.) and sentence elements (subject, object, etc.). The former could be described as absolute, while sentence elements are situational; i.e., their role may

change. In the study, facet categories were understood as sentence elements, to allow for the existence of various roles in terminology used in class names. Categories are concepts that define other concepts. They may be illustrated in the form of a question (225), as with the facets used in the study (see Table 2.):

Facet	Question	Example
Facet 1: Actor	Who / which part of the organization is acting?	President (in the class name "President's minutes")
Facet 2: Action	What is happening / What is being done?	Organization (in the class name "Organization of an exam")
Facet 3: Object of Action	What is the object / target / receiving end of the action?	An exam (in the class name "Organization of an exam")
Facet 4: Subject	What subject / matter / theme is dealt with in the class?	Phone directories (the class name "Phone directories")
Facet 5: Object of Documentation	What is the outcome / record articulated in the class name?	Minutes (in the class name "President's minutes")

Table 2. The facets used in the study and examples of how they were used in the analysis.

Some of the class names analyzed consisted of only one word, while others were longer and more complicated, comprising arcane grammatical expressions. Any kind of qualifying or specifying concept in a class name was separated into a facet that included the associated main concept; for instance, in a class name "Domestic cooperation in general," the terms "domestic" and "in general" were assigned to facet 2 (action) because the main concept was "cooperation." Hence, facets 1-5 as presented above were not more widely deconstructed into their constituents. It is important to note that one class name was not equal to one facet; because of the varied nature and structure of the class names, their distribution across facets varied. Some class names fitted one facet, while others included elements from several facets. For this reason, while the sample size was the same for all the classifications, the total quantity of elements after division by facet differed between classification systems.

To find out what kinds of elements the class names represented, we assigned the various verbal expressions used in class names to appropriate facet categories, as exemplified next. In the class name "organization of education and teaching," "organization" was categorized under facet 2 (action) and "education and teaching" under facet 3 (object of action). "Research data" was assigned to facet 4 (subject), while "road plan" fell under facet 5 (object of

documentation). "Ending of contract and pension" was divided such that "ending" was under facet 2 (action), "contract" under facet 3 (object of action), and "pension" under facet 4 (subject). Language does not always simply bend so as to allow categorization exclusively under one facet, however. As Svenonius (2000, 141-4) states, concepts such as organization are multi-referential and could be categorized as either processes or entities. Problems arise also with abstract terms. Finally, even when the terms are concrete, various problems with overlapping categories and confusion of purpose or redundancy may arise.

Although the analysis focused on terms in class names as sentence elements, certain morphological characteristics typical of the Finnish language that might have an influence on meaning and understanding of words could not be ignored. The Finnish language (Karlsson 2001, 1) belongs to the Finno-Ugric language family that differs quite a bit from, e.g., English or French, belonging to the Indo-European language family. Morphological derivation is the most important method of forming new words in the Finnish language. For example, nouns that often indicate result of an action can be formed with derivation (Karlsson 2001, 237), e.g., the Finnish word "ostos" (denoting "purchase") can be formed from the root word "osta/a" (denoting "buy"). Also, in Finnish language (231), a given word form may contain many derivative suffixes in succession. Hence, Finnish is an economic language (Lepämaa et al. 1996, 14). With extensive use of derivation from roots, individual words include a large amount of information. When translated to other languages they often cannot be translated by one word, e.g. the Finnish derivative word "perheellisyys" is equivalent to the English expression "whether a person has a family or not."

Unambiguousness and precision in choice of words in writing (Iisa et al. 1999, 201) is important for reaching one's goal. In technical vocabulary, noun phrases are common. Additionally, descriptions of an act are often part of technical vocabulary. In Finnish, it is possible to form two distinct kinds of nouns from the same action. Verbal expressions of these sorts are widely used, since they serve as a major concept, extensively describing the issue in question. When such expressions are used in a piece of text, the act of doing becomes a noun (208-9). In the study, the influence of such terms was seen especially with the concepts grouped under facet 2 (action). The act of doing something is not clearly and unambiguously expressed, and it could be understood as a subject just as well. An example of such an abstract class name in the sample is "early childhood education." It is not clear what exactly is being done around the theme. However, since the class names analyzed were used in the context of functional classifications, such expressions were read primarily as action descriptions. For practical and economic

reasons, the analysis focused on class names as separate verbal expressions, without considering their wider context, the upper-level class names used in the classification. However, totally ignoring aspects of contextual understanding was impossible—language always has a meaning that is formed in joint effect with other words.

## 6.0 Findings

After the elements in class names were distributed across the five facets presented in the “methods” section, the findings were illustrated: figures were drawn to show the number of elements for each facet. Below, the findings are described for organizations A, B, and C, respectively, and the attributes then are discussed as a whole.

### 6.1 Classification in organization A

In the classification in organization A (a municipality), elements in class names were most often (53%) categorized as describing actions. For the most part, verbal nouns were used, e.g. “employment.” Ultimately, however, it is open to interpretation whether the expression was an action or a subject that described the action. As noted above, such ambiguous phrases were read as actions in the study. Approximately half (47%) of those action descriptions had an object, and objects of actions accounted for 25% of all the phrases used in class names. There was relatively little use of subject terms in class names, with only under a fifth (17%) of the elements being subjects. In this classification system, one element fitted the “actor” facet. The actor in question had an action but did not have an object of action. For organization A, only a few “object of documen-

tation” elements (4%) were found. In fact, “initiatives” was the only one describing an “object of documentation.” Interestingly, multiple class names ending with the word “general” were used in this classification system. The distribution of the elements into facets in organization A is shown in Figure 1.

### 6.2 Classification in organization B

Organization B's (a university) class names typically used terms describing the object of documentation (25%). In total, class names that include terms describing an object of documentation, action (23%), and subject (23%) were quite evenly used. In this classification system, various types of objects of documentation (e.g., “minutes,” “forms,” and “guidelines”) were often stated in class names. In action descriptions, an object was present in 56% of names. Organization B had the classification system that featured expressions describing the actor. The actors identified were various units inside the organization and work groups such as “steering group for occupational health care.” Sixteen per cent of the elements in class names were categorized as fitting “actor.” Interestingly, one of the titles in the sample from this system was used three times. Figure 2 describes the distribution of elements by facet in the classification at organization B.

### 6.3 Classification in organization C

The class names used at organization C (a governmental organization) were often long and tortuous expressions. When considered in terms of our facets, most denoted an action (42%). As much as 75% of the actions included

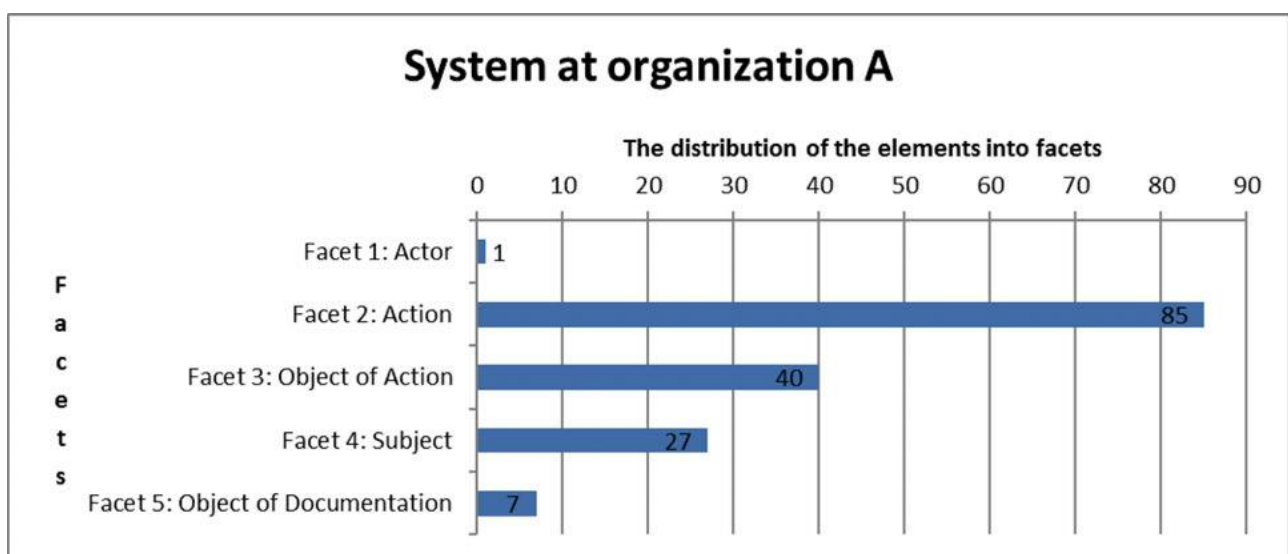


Figure 1. Distribution of elements by facet for the lowest-level class names in organization A.



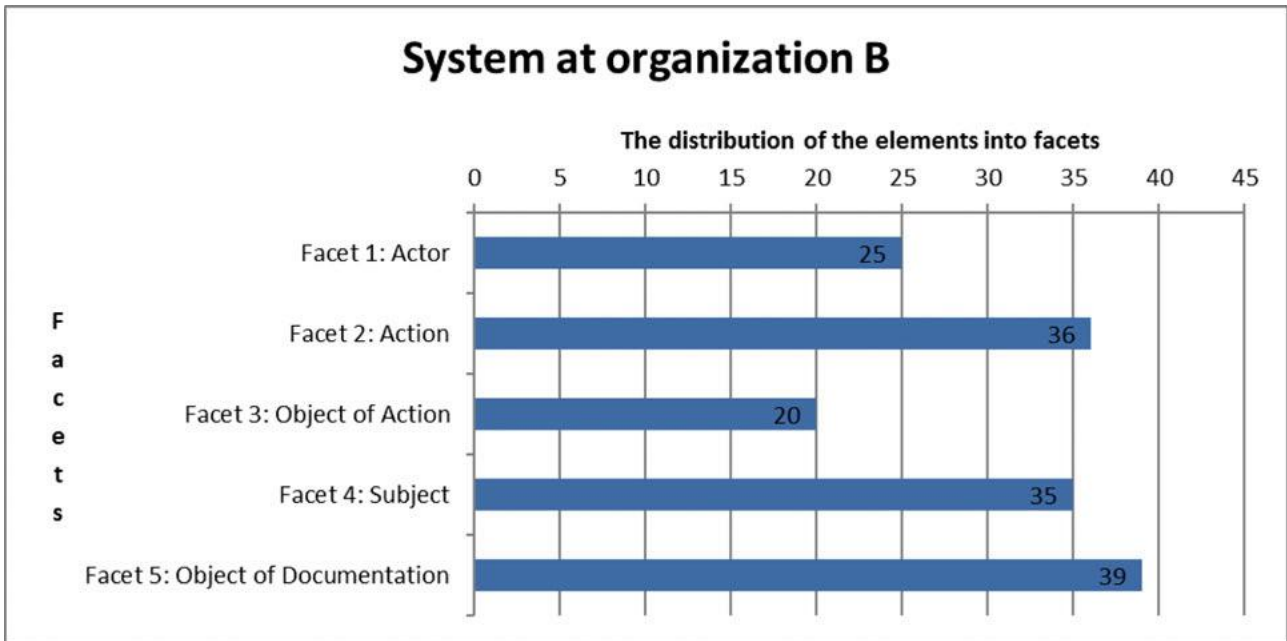


Figure 2. Distribution of elements by facet for the lowest-level class names in organization B.

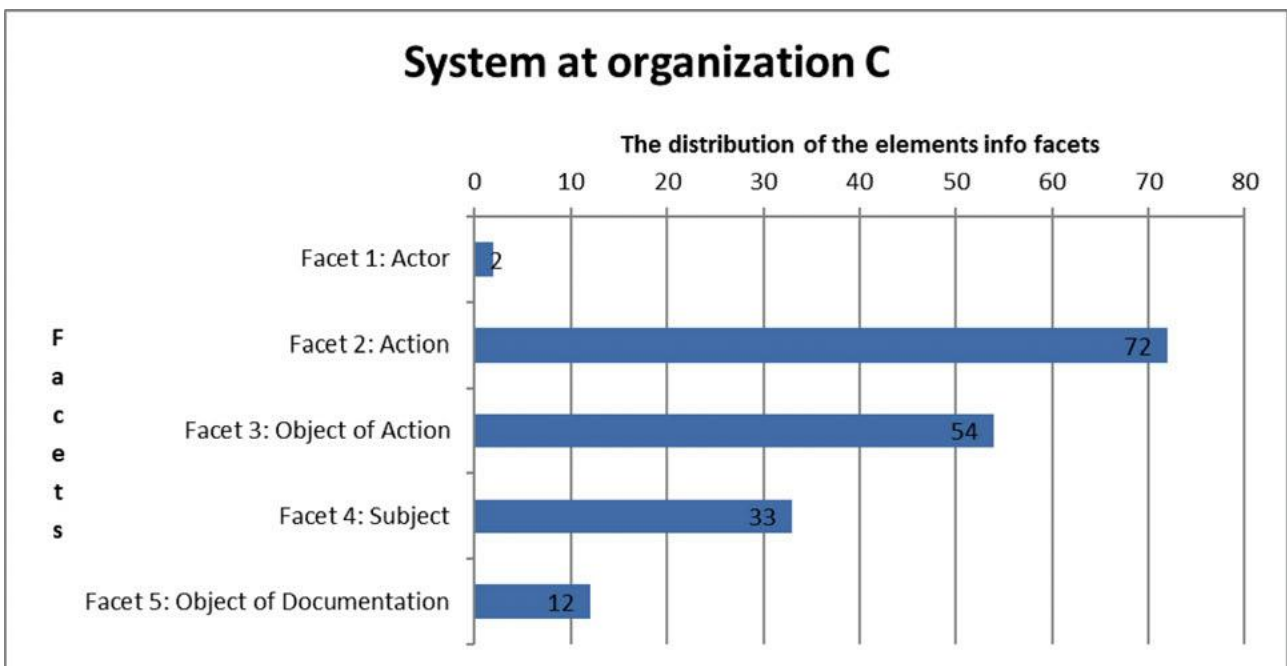


Figure 3. Distribution of elements by facet for the lowest-level class names in organization C.

an object of action. Approximately a fifth (19%) of elements in class names were subject terms. In addition, there were some objects of documentation mentioned in class names (7%). These were, e.g., “request for comment” and various “clearances.” Two actors were found. Figure 3 shows how the elements were distributed by facet in organization C.

Interestingly, some references to paragraphs of a law were used in class names at the organization. These were

categorized on the basis of the phrase used. Also, “proceedings” was used in class names in this classification system several times, e.g., “liquidation proceedings” or “appeal procedures” for various objects of action. While we interpreted proceedings as actions, they are fundamentally open to interpretation and might have been read as subjects as well. Also, some class names in organization C featured plural nouns that had a verb root. Such expressions as “procurements” were read as subjects since the expression

could hardly be understood as an action. It is possible, though, that they were meant to be action descriptions.

#### 6.4 Class names used in organizations A, B, and C

Various class names were used at the lowest level of the functional classification systems in the three Finnish public-sector organizations. Most phrases in the labeling were read as actions (40%). The concepts used to describe the action were usually individual verbal nouns or other indirect wordings, e.g. "advancement of industry and trade." Hence, it is open to interpretation whether they are actually actions or more like subjects broadly describing the subject of the action. Morphological derivation was common in the phrases. More than half of the actions included an object (59%). "Objects of actions" accounted for 23% of the total number of elements as categorized by facet. Figure 4 gives an overview of the elements' distribution.

In the class names analyzed, an actor was present in six percent. Otherwise, actors may have been hidden within the "action" and "object" of "action" facets. However, they were not visible from the labeling, given that, in classifications that describe the functions of an organization, the actor in most cases is the organization itself. Furthermore, organizations have functions that they do not literally perform but control as an authority. To some extent, the action of control was seen in titles, e.g., "supervision of seedtrade." Partly, however, this role of an authority was not displayed; instead, the object of such control was stated as the action itself, e.g., "founda-

tion and nurture of wetlands [that has multiple influences, and ...]." Also, subject elements were used in the labels, with 19% of elements in class names being categorized as subjects, e.g., "maps, address, and place information"). The phrases read as subjects were varied. Sometimes individual words were used, but more complex thematic entities were used in class names too. Object of documentation was explicitly denoted in 12% of elements in class titles. The types of objects of documentation referred to varied and extended beyond those used in official procedures (statistics, contracts, etc.).

Overall, actions had a significant presence in elements at the lowest level. However, the expressions used for action were largely ambiguous, diffuse, and abstract. Furthermore, organizations A, B, and C differed greatly from each other. Each of the classifications displayed its own typical features in class names; however, none of them maintained a specific logic across all title wordings.

#### 7.0 Discussion

The study was designed to reveal what kinds of labels are used in the lowest-level class names in functional classifications in Finland's public sector and how an organization's functions manifest themselves in those class names. The findings show differences in many respects. In addition to variation between organizations, variation existed in the phrases used in the lowest-level class names within the individual functional classification systems. There were some abstract, high-level concepts, e.g., "service activity subject

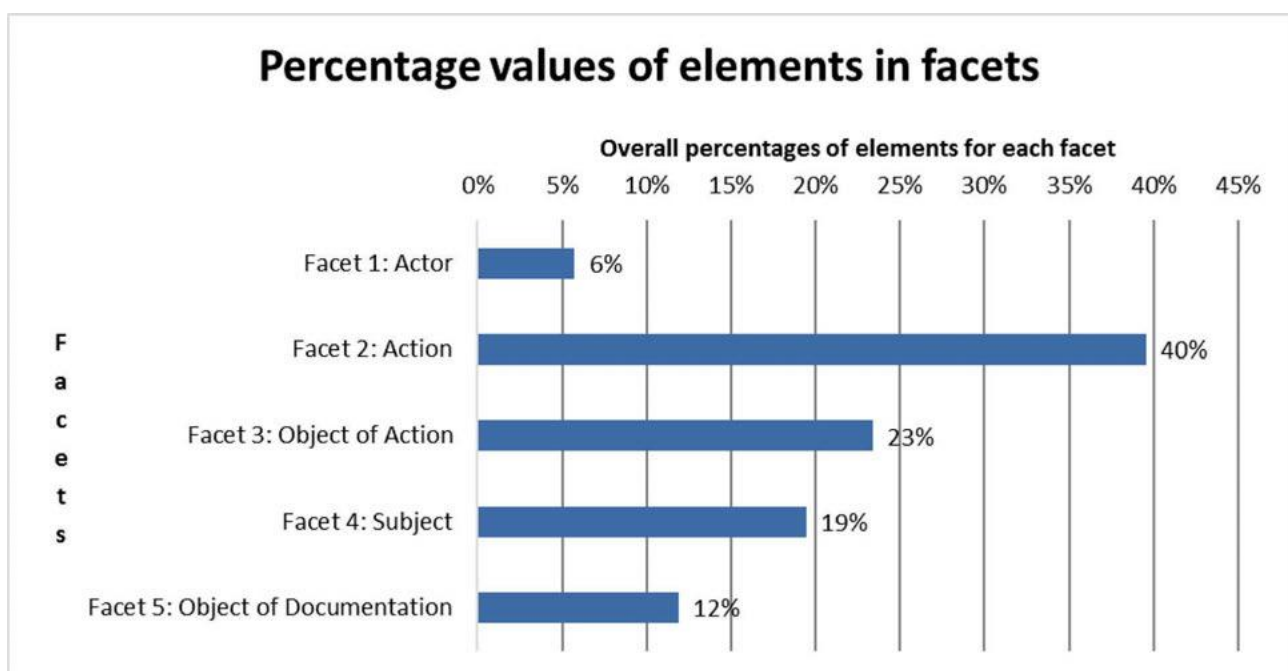


Figure 4. Percentage distribution of the elements across facets in total in classifications A, B, and C.

to a charge" and some concrete phrases, e.g., "news related to the university that has been published by others." Consistency in forms of expressions was lacking. In addition, the phrases were ambiguous. Often, whether a given element expressed action or a subject was a matter of interpretation. It was clear that a class name alone does not provide enough information for reliable understanding of its content; users need scope notes or other supportive instruments. The elements used in class names evidenced an attempt to use function-based expressions, yet this was not readily apparent, because of the miscellaneous labeling systems. None of the classification systems followed any consistent logic in its lowest-level class names.

Public-sector organizations vary in their size and structure. In this study, the classification systems analyzed were from three distinct kinds of organization (again, A was a municipality, B was a university, and C was a state entity). While they shared support functions such as "administration" and "personnel management," they differed in their main functions. All the organizations were subject to the same record-keeping and archival legislation and regulations pertaining to public-sector organizations in Finland. However, there were no detailed guidelines for labeling of classes. Therefore, the heterogeneity of the class names is in some ways not surprising. It is possible that the results would have differed less between the classification systems examined if the systems had come from organizations in the same field of activity. However, it is also possible that their structure would have differed greatly even then, because the field of activity may not determine what facets are "chosen" to be made visible in a class name.

The action-description structure presented by Alberts et al. (2010, 372-3) was absent from the classifications analyzed in the study. Functions were shown mainly via indirect, derivative nouns with a verb root. The labels used in the class names were ambiguous, whether through conscious decisions in creation of the systems to use high-level expressions to cover a wider range of issues (Iisa et al. 1999, 208-9) or unconsciously shaped through a common use of derivation in the Finnish language. It is also possible that attempts were made to follow general rules for indexing languages (Foskett 1996) by using nouns as much as possible. The ambiguousness of Finnish words created through derivation might have been partially unavoidable. At the same time, the functional classification systems analyzed in the study did not seem to follow the principle, presented by Schellenberg (1956, 63), that the structural principle selected for titles at one level in the hierarchy should be used throughout that level.

Abstract terms and class names (Packalén 2015) that are open to various interpretations cause difficulties in classifying records even for the professionals involved. The abstract and ambiguous terms at the lowest functional level

may exert a combined effect with the usability issues that previous studies too (Calabria 2006; Gunnlaugsdottir 2012; Ifould and Joseph 2016) have highlighted. According to one earlier study (Calabria 2006), users think about subjects, not functions.

In the Finnish public sector, there are ambitions of harmonization among functional classification systems. The differences among class names shown in the study casts doubt on the possibility of creating common functional classifications by combining and rewriting the existing systems. Integration of such varied approaches and viewpoints to express the organizational functions and activities in numerous functional classification systems might encounter unforeseeable challenges.

Facet analysis was useful for finding the forms of expression used in functional classification systems' labeling. However, the analysis was difficult. The class names used were miscellaneous and ambiguous, and some seemed challenging to categorize at all. The "actor," "action," and "object of action" facets turned out to be especially difficult, since a corresponding structure was unfamiliar in class names. Merging these into a single facet might have left things clearer; however, the authors decided to keep them separate, to highlight the visibility and non-visibility of actions and the associated actors and objects in class names. Notwithstanding, in the endeavor to harmonize functional classification systems, applying a facet analysis in advance might be one valuable option. The authors also see collaboration between various public sector organizations and with various groups of employees in the organizations, e.g. recordkeeping professionals, information technology personnel and other users of the systems, as important.

The main limitation of the study was that the ambiguous class names rendered various interpretations possible in categorization of the elements by facet. The study used the criteria presented in the "methods" section for interpreting and reading the class names. While other interpretations would have been possible, the findings do point to some conclusions. Another limitation of the study is that only class names at the lowest level in the functional classifications were analyzed. Upper-level class names might have represented different attributes. Omitting other levels of class names too from the analysis might have had an effect on the results. Adding context to the class names analyzed might have led to slightly different readings and results. However, the approach chosen enabled us to uncover class names that are prone to varying understandings.

## 8.0 Conclusion

Facet analysis serves as a practical method for exploring the attributes represented in functional classifications' class names. The results of the study demonstrate the variety in

forms of expression used in class names within functional classification systems in the Finnish public sector. The study offers a starting point for various conceptual and terminological analyses of functional classifications.

Conceptual structures employed in functional classification systems vary. Therefore, that systems appear function-based says little about their content. Ambiguous and varying labeling in the lowest-level class names used in functional classifications might frustrate users, acting counter to smooth use of the system and understanding of a logic suitable for representing the organization's functions. Because of the variation, shared systems of function-based classification can hardly come about through combining existing functional classifications.

Future research is warranted for rigorous analysis of the relevant concepts, understanding of them, and their influence on functional classifications' use. Carrying out more studies focusing on users' perceptions of the titles used and how those titles are understood is important.

## References

- Alberts, Inge, Jen Schellinck, Craig Eby and Yves Marleau. 2010. "Bridging Functions and Processes for Records Management." *The Canadian Journal of Information and Library Science* 34:365–90.
- Beghtol, Clare. 2001. "Relationships in Classificatory Structure and Meaning." In *Relationships in the Organization of Knowledge*, ed. Carol Bean and Rebecca Green. Dordrecht: Kluwer Academic, 99–113.
- Broughton, Vanda. 2002. "Facet Analytical Theory as a Basis for a Knowledge Organization Tool in a Subject Portal." In *Challenges in Knowledge Representation and Organization For the 21<sup>st</sup> Century: Integration of Knowledge Across Boundaries: Proceedings of the Seventh International ISKO Conference, 10-13 July 2002, Granada, Spain*. ed. María J. López-Huertas with the assistance of Francisco J. Muñoz-Fernández. Advances in knowledge organization 8. Würzburg: Ergon Verlag, 135-42.
- Broughton, Vanda. 2006. "The Need for a Faceted Classification as the Basis of All Methods of Information Retrieval." *Aslib Proceedings: New Information Perspectives* 58: 49–72.
- Calabria, Tina. 2006. "Evaluating Caloundra City Council's EDMS Classification." [http://www.steptwo.com.au/files/kmc\\_caloundracouncil.pdf](http://www.steptwo.com.au/files/kmc_caloundracouncil.pdf).
- Foscarini, Fiorella. 2009. "Function-based Records Classification Systems: An Exploratory Study of Records Management Practices in Central Banks." Faculty of Graduate Studies. Library, Archival and Information Studies. Vancouver: University of British Columbia. [https://circle.ubc.ca/bitstream/handle/2429/9310/ubc\\_2009\\_fall\\_foscarini\\_fiorella.pdf](https://circle.ubc.ca/bitstream/handle/2429/9310/ubc_2009_fall_foscarini_fiorella.pdf)
- Foscarini, Fiorella. 2012. "Understanding Functions: An Organizational Culture Perspective." *Records Management Journal* 22:20–36.
- Foskett, A. C. 1996. *The Subject Approach to Information*, 5th ed. London: Library Association.
- Gunnlaugsdóttir, Johanna. 2012. "Functional Classification Scheme for Records – FCS: A Way to Chart Documented Knowledge in Organizations." *Records Management Journal* 22:116–29.
- Henttonen, Pekka. 2012. "Diversity of Knowledge Organization in Records and Archives Management." In *Categories, Context and Relations in Knowledge Organization: Proceedings of the 12<sup>th</sup> International ISKO Conference, 6-9 August 2012, Mysore, India*. ed. A. Neegameghan and K. S. Raghavan. Advances in knowledge organization 13. Würzburg: Ergon, 277-83.
- Henttonen, Pekka. 2015a. "Dimensions of Contextual Records Management Classifications." *Knowledge Organization* 42:477–85.
- Henttonen, Pekka. 2015b. *Johdatus asiakirjahallinnan tutkimukseen*. Helsinki: Avain.
- Hjørland, Birger. 2013. "Facet Analysis: The Logical Approach to Knowledge Organization." *Information Processing and Management* 49:545–57.
- Hurley, Cris. 1993. "What, If Anything, Is a Function?" *Archives & Manuscripts* 21, no. 2:208–20.
- Hurley, Cris. 1995. "Ambient Functions – Abandoned Children to Zoos." *Archivaria* 40:21–39.
- Ifould, Peta and Pauline Joseph. 2016. "User Difficulties Working with a Business Classification Scheme: A Case Study." *Records Management Journal* 26:21–37.
- Iisa, Katariina, Hannu Oittinen and Aino Piehl. 1999. *Kielenhuollon käsikirja*. 4th ed. Helsinki: Yrityskirjat.
- International Organization for Standardization. 2013. *ISO 25964-2. Information and Documentation - Thesauri and Interoperability with Other Vocabularies and IFLA Guidelines for Subject Access in National Bibliographies*.
- Karlsson, Fred. 2001. *Finnish: An Essential Grammar*, new ed., repr. London: Routledge.
- Kansallisarkisto. 2016. "Arkistonmuodostussuunnitelma AMS." <http://www.ams-opas.fi/ams/tehtavat-tehtavien-kasittelyvaiheet-ja-asiakirjatyyppit/>.
- Kennedy, Jay and Cherryl Schauder. 1998. *Records Management: A Guide to Corporate Record Keeping*, 2nd ed. South Melbourne: Longman.
- Kwaśnik, Barbara H. 1999. "The Role of Classification in Knowledge Representation and Discovery." *Library Trends* 48 no. 1:22–8.
- Lepämaa, Anna-Liisa, Anneli Lieko and Leena Silfverberg. 1996. *Miten sanoja johdetaan: suomen kielen johto-oppia*. Helsinki: Finn Lectura.
- Lybeck, Jari. 2006. *Arkistot yhteiskunnan toimiva muisti. Asiakirjahallinnon ja arkistotoimen oppikirja*. Helsinki: Ark-

- istolaitos. [http://www.narc.fi/Arkistolaitos/oppikirja/asiakirjahallinnon\\_oppikirja.pdf](http://www.narc.fi/Arkistolaitos/oppikirja/asiakirjahallinnon_oppikirja.pdf)
- Meriläinen, Outi. 1984. *Perustiedot kirjastoluokitusten ymmärtämiseksi*. Helsinki: Kirjastopalvelu.
- National Archives of Australia. 2003. *Overview of Classification Tools for Records Management*. National Archives of Australia.
- Orr, Stuart Anthony. 2005. *Functions-based Classification of Records: Is It Functional?* Newcastle: Northumbria University.
- Orrman, Eljas. 2007. De funktionella arkivbildningsplanerna i Finland. *Arkiv, samhälle och forskning* 2:66–71.
- Packalén, Saara. 2015. "Functional Classification: Record-keeping Professionals' Difficulties and Their Handling in Maintenance and Use of FC in Finnish Organisations." *Records Management Journal* 25:166–82.
- Packalén, Saara. 2016. "Record-keeping Professionals' Perceptions of Users and Use of Functional Classification Systems in the Finnish Public Sector." *Information Research* 21, no. 1: paper "memo3." <http://www.informationr.net/ir/21-1/memo/memo3.html>
- Packalén, Saara and Pekka Henttonen. 2016. "Recordkeeping Professionals' Understanding of and Justification for Functional Classification: Finnish Public Sector Organizational Context." *Archival Science* 16:403-19. doi: 10.1007/s10502-015-9254-4
- Pickard, Alison Jane. 2007. *Research Methods in Information*. London: Facet Publishing.
- Ranganathan, S. R. 1951. *Philosophy of Library Classification*. Copenhagen: Munksgaard.
- Ribeiro, Fernanda. 2014. "The Use of Classification in Archives as a Means of Organization, Representation and Retrieval of Information." *Knowledge Organization* 41:319–26.
- Sabourin, Paul. 2001. "Constructing a Function-based Records Classification System: Business Activity Structure Classification System." *Archivaria* 51:137–54.
- Schellenberg, Theodore R. 1956. *Modern Archives: Principles and Techniques*. Chicago and London: The University of Chicago Press.
- Shepherd, Elizabeth and Geoffrey Yeo. 2003. *Managing Records: A Handbook of Principles and Practice*. London: Facet.
- Smith, Kelvin. 2007. *Public Sector Records Management: A Practical Guide*. Aldershot: Ashgate.
- Sundqvist, Anneli. 2009. *Search Processes, User Behaviour and Archival Representational Systems*. Sundsvall: Mid Sweden University.
- Suominen, Vesa, Jarmo Saarti and Pirjo Tuomi. 2009. *Bibliografinen valvonta: johdatus luetteloinnin ja sisällönkuvailun menetelmiin*. Helsinki: BTJ.
- Svenonius, Elaine. 2000. *The Intellectual Foundation of Information Organization*. Cambridge, Massachusetts: MIT Press.
- Tough, Alistair. 2006. "Records and the Transition to the Digital." In *Record Keeping in a Hybrid Environment: Managing the Creation, Use, Preservation and Disposal of Unpublished Information Objects in Context*, ed. Alistair Tough and Michael Moss. Oxford: Chandos Publishing, 1–26.
- Vickery, B. C. 1960. *Faceted Classification: A Guide to Construction and Use of Special Schemes*. London: Aslib.
- Xie, L. (Sherry). 2007. "Function-based Record Classification System: A Comparative Study." [http://www.armaedfoundation.org/pdfs/Sherry\\_Xie\\_Study.pdf](http://www.armaedfoundation.org/pdfs/Sherry_Xie_Study.pdf)