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*Οργανωσιακή καινοτομία και στρατηγική διαχείριση των
αλλαγών: Επισκόπηση στον τομέα της υγείας*

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Περίληψη

Εισαγωγή: Η οργανωσιακή καινοτομία αποτελεί πρόκληση για τους οργανισμούς υγειονομικής περίθαλψης, αλλά τα ιδιαίτερα χαρακτηριστικά της δεν έχουν αναλυθεί επαρκώς στο χώρο της υγείας. Παρά το γεγονός ότι τις τελευταίες δεκαετίες έχουν πραγματοποιηθεί αρκετές πειραματικές προσπάθειες όσον αφορά τον τομέα της οργανωσιακής αλλαγής στο χώρο της υγείας, η έρευνα έχει οδηγηθεί σε ασαφή και κατακερματισμένα συμπεράσματα σε σημείο που η εδραίωση μίας σταθερής ερευνητικής βάσης καθίσταται πλέον δύσκολη. Έτσι, φαίνεται ότι ενώ η οργανωσιακή αλλαγή ως μορφή καινοτομίας παραμένει ένα διαδεδομένο φαινόμενο στο χώρο της υγείας, εξακολουθεί να λείπει μια σταθερή επιστημονική βάση γνώσεων. Σε αυτό το πλαίσιο, καθώς προκύπτουν πολλά εννοιολογικά και μετρητικά ζητήματα, απαιτείται μία επισκόπηση της βιβλιογραφίας προκειμένου να διερευνηθεί η πρόοδος της έρευνας στον τομέα.

Σκοπός:. Σκοπός της παρούσας έρευνας είναι η ανασκόπηση της πρόσφατης βιβλιογραφίας στη διαχείριση της στρατηγικής αλλαγής στο χώρο της υγείας προκειμένου να προσδιοριστούν οι παράγοντες που επηρεάζουν την εφαρμογή και τη βιωσιμότητα της οργανωσιακής καινοτομίας στους οργανισμούς υγειονομικής περίθαλψης.

Μέθοδοι: Καθώς η οργανωσιακή καινοτομία αποτελεί ένα σχετικά νέο πεδίο έρευνας, διεξάγεται συστηματική ανασκόπηση της βιβλιογραφίας. Χρησιμοποιείται η τυπολογία των Xiao και Watson (2017) προκειμένου να περιγραφούν αναλυτικά τα χαρακτηριστικά της βιβλιογραφικής ανασκόπησης που διενεργείται καθώς επίσης και η μεθοδολογία ανασκόπησης των Webster και Watson (2002) που στηρίζεται σε συγκεκριμένους εννοιολογικούς πίνακες προκειμένου να καταγραφούν οι διαστάσεις του φαινομένου στο χώρο της υγείας .

Αποτελέσματα: Η έρευνα εντοπίζει 3168 άρθρα από τα οποία τα 88 έχουν συμπεριληφθεί σε αυτή τη διατριβή. Τα εν λόγω άρθρα δημοσιεύθηκαν μεταξύ των ετών 1994-2017.

Συμπεράσματα: Φαίνεται ότι η έρευνα καινοτομίας μπορεί να επωφεληθεί από την οπτική της στρατηγικής διαχείρισης των αλλαγών προκειμένου να βοηθήσει τους οργανισμούς υγειονομικής περίθαλψης στη μεταμόρφωσή τους κατά τη διάρκεια της οργανωσιακής καινοτομίας. Η στρατηγική διαχείριση των αλλαγών ανοίγει μια πολλά υποσχόμενη οδό για την έρευνα της οργανωσιακής καινοτομίας στην υγειονομική περίθαλψη δίνοντας έμφαση στα χαρακτηριστικά του πλαισίου και στη διαδικασία της αλλαγής.

Λέξεις-Κλειδιά: διαχείριση αλλαγών, οργανωσιακή αλλαγή, οργανωσιακός μετασχηματισμός, οργανωσιακή καινοτομία, στρατηγική αλλαγή, βιωσιμότητα, υγεία

Summary

Background: Organizational innovation is a challenge for healthcare organizations, but its specific features have not been satisfactorily investigated within healthcare organizations. Last decades there has been so much experimentation with organizational change among healthcare organizations that leads to fragmentation of the research and impedes consolidation of the field. It seems that while “organizational change as a form of innovation remains a pervasive phenomenon in the hospital sector”, a scientific knowledge base is still lacking. Thus, thorough research that applies an array of methods and multilevel analysis is needed, as many conceptual and measurement issues arise. In this case, a scoping review of the literature is necessary.

Aim: The aim is to review the recent literature of strategic change management in order to identify the factors that influence the implementation and sustainability of organizational innovation in healthcare organizations.

Methods: As organizational innovation is a relatively new field of research, a systematic literature review is conducted. The typology of Xiao and Watson (2017) for literature reviews is implemented and the review methodology of Webster and Watson (2002) based on concept-matrix tables is adopted to capture the dimensions of the phenomenon in healthcare.

Results: The search strategy identifies 3168 articles of which 88 papers included in this thesis. The included articles were published between years 1994-2017.

Conclusions: It seems that innovation research may benefit from a strategic change management perspective to assist healthcare organizations along their transformation during organizational innovation. Strategic change management opens a promising avenue for organizational innovation research in healthcare emphasizing on the features of change process and the context characteristics.

Keywords: change management, organizational change, organizational transformation, organizational innovation, strategic change, sustainability, healthcare

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Chapter One

Introduction

In an ever-changing business environment, organizational change is an important factor in the sustainability of an organization. Indeed, its frequency has now grown so much that it has become a stable feature of organizational life (Audit Commission, 2001; Glynn & Holbeche, 2001; Hayes, 2002; Iles & Sutherland, 2001). However, it has been noticed that about 70% of the organizational change programs implemented fail. (Balogun & Hope Hailey, 2004).

The healthcare industry is following a similar course with the need to adopt strategic changes to become even more urgent at a time when competition in healthcare provision is high (Siverbo, Eriksson & Wijk, 2013). Therefore, the introduction of innovative interventions at the right time and in the right way still remains a challenge in this context. Since the outcomes of organizational innovation are visible in the progress of organizational performance, several researchers approach the managerial efforts in healthcare in order to investigate the factors that favor their promotion and

the obstacles that emerge in their implementation (Allen, 2016; Golden, 2006; Van Rossum, Aij, Simons, van der Eng & ten Have, 2016).

However, the complexity inherent in such organizational changes prevents the research from exporting clear conclusions about the determinants of change (Fleuren, Wiefferink & Paulussen, 2004). The attempt to provide a causal relationship between determinants of change and change outcomes can hardly reflect the fermentations that take place in the process of organizational change, especially in a sector such as healthcare where the variables' connection is complex.

It seems that last decades there has been so much experimentation with organizational change among healthcare organizations that leads to fragmentation of the research and impedes consolidation of the field (Bazzoli, Dynan, Burns & Yap, 2004). Lansisalmi, Kivimaki, Aalto and Ruoranen (2006) insist that while "organizational change as a form of innovation remains a pervasive phenomenon in the hospital sector", a scientific knowledge base is still lacking. Innovation literature in healthcare has not developed to such an extent as in other sectors (Weberg, 2009). Thus, thorough research that applies an array of methods and multilevel analysis is needed, as many conceptual and measurement issues arise (Iles & Sutherland, 2001; Lansisalmi et al, 2006; Lee, Weiner, Harrison & Belden, 2012; Rye & Kimberly, 2015). In this case, a scoping review of the literature is necessary as a starting point to create a stable theoretical base contributing to practice by showing which topics have been addressed until now, detecting possibly understudied areas, enabling researchers with the tools to conduct empirical studies and pushing research into more generalizable findings.

Strategic change management could be a useful tool for the promotion of organizational innovation (Adams, Tranfield & Denyer, 2011; Eljiz et al, 2011). The study of successful strategic changes could be a new source of information on the prerequisites of a modern model of healthcare organization, which inspires innovative organizational behaviors for both members and leaders (Kash, Spaulding, Johnson & Gann, 2014).

Therefore, a literature review will be conducted to analyze the features of organizational innovation in healthcare through the prism of strategic change management.

1.1. Organizational Innovation in Healthcare: Problem Definition

The landmark year for the establishment of innovation research as a separate field is considered to be 1960 (Weberg, 2009). However, due to the fact that innovation research in healthcare is limited and “organization- management innovation” activities in public healthcare undeveloped (Ovretveit et al, 2012·Weberg, 2009), a brief review of the existing literature follows.

Firstly, Wolfe (1994) in an attempt to highlight the specific features of organizational innovation pointed out that it is difficult to study the phenomenon out of its context. In his framework analysis tried to define some guidelines of study for the benefit of researchers. Thus, he suggested:

- The selection of the research direction in the field of organizational innovation
- Identifying the stage of organizational innovation process where the study focuses
- Identifying the type of organizations in which innovation research is conducted
- The analysis of how innovation variable is presented.
- The analysis of innovation characteristics that are going to be studied.

The literature in the field of strategic change management moves in the same direction, pointing out the difficulties of studying the phenomenon of organizational change in public sector (Kuipers et al., 2014).

Despite the difficulties of research mentioned above, some researchers tried to define it. First of all, for Greenhalgh, Robert, MacFarlane, Bate and Kyriakidou (2004) innovation in healthcare is a novel set of behaviors, routines and ways of working that are directed at improving healthcare outcomes, administrative efficiency, cost effectiveness or users’ experience and are implemented by planned and coordinated actions. Lansisalmi et al (2006) mention that innovation can be defined as the intentional introduction and application of ideas, processes, products, new to the relative unit of adoption, designed to benefit the individual, the group or the wider society, whereas Varkey, Home and Bennet (2008) define innovation as the successful implementation of a new concept in a way that creates exciting exploitation opportunities for some or all of the stakeholders. For Thakur, Hsu and Fontenot (2012) healthcare innovation can be defined as the adoption of best-demonstrated practices that have proven to be successful and their implementation ensures not only safety but also the best possible outcomes for patients while influencing the performance of organization. Finally, Kim and Chung (2017) insist that innovation is a new form of technology, service or process that aims to improve individual and organizational performance.

The characteristics that stand out through the analysis of the definitions mentioned above are the element of innovativeness, the emphasis on the implementation process as well as the benefits associated with innovation. In this context, some researchers attempted to model the process of organizational innovation identifying specific steps. Greenhalgh et al (2004) focus on the stage of adoption, implementation, diffusion and dissemination of innovation, whereas Lansisalmi et al (2006) focus on the stages of design, adoption and dissemination of innovation. Varkey et al. (2008) describe the innovation lifecycle through specific stages such as the stage of idea production, the stage of evaluation and selection of innovative ideas, the stage of formulation, the stage of initial application , the stage of commercialization and the stage of dissemination.

Some other researchers attempted to link the concept of organizational innovation with strategic change management and the implications for healthcare were remarkable. First of all, Fleiszer, Semenic, Ritchie, Richer and Denis (2015-a) studied the sustainability of organizational innovation in healthcare sector on the basis of study for the sustainability of organizational change (Buchanan et al, 2005). Kash, Spaulding, Gann and Johnson (2013) in an attempt to understand the sustainability of innovative interventions in healthcare, introduced the concept of absorptive capacity: the capacity of an organization or a person to acquire, assimilate, internalize and exploit knowledge to create new opportunities within organizations. In their work, proposed leadership, culture and organizational technologies as dimensions of absorptive capacity. Finally, Caldwell, Chatman, O'Reilly, Ormiston and Lapiz (2008) studying the literature of organizational innovation and organizational change in healthcare highlighted the importance of leadership and organizational readiness for change when implementing strategic changes in healthcare sector (Bazzoli, Dynan, Burns & Yap, 2004; Fleuren et al., 2004; Greenhalgh et al, 2004)

Finally, it is worth noting that part of the literature on organizational innovation in healthcare analyzed the factors that facilitate or hinder its implementation. For Fleuren et al (2004) the factors that influence organizational innovation are classified according to the socio-political context, the characteristics of the organization, the characteristics of the individuals who adopt and implement the process of innovation and the characteristics of innovation itself. Lee, Weiner, Harrison and Belden (2014) tried to summarize the factors that influence organizational change within healthcare organizations by comparing them with the factors that influence organizational change in other organizations.

In conclusion, it seems that organizational innovation is a multidimensional phenomenon, but the existing literature does not present a coherent picture and some of the research findings seem contradictory (Crossan & Apaydin, 2010; Wolfe, 1994). Although it is a challenge for healthcare organizations, its specific features have not been satisfactorily investigated within healthcare organizations (Ovretveit et al, 2012). Furthermore, despite the fact that sustainable organizational innovation is a key factor in organizational performance, the data that emerge from empirical research on factors influencing the sustainability of organizational innovation are rare (Molfenter, Ford & Bhattacharya, 2011).

1.2. Aim of the Study

Based on the existing findings mentioned above, the aim is to review the recent literature of strategic change management in order to identify the factors that influence the implementation and sustainability of organizational innovation in healthcare organizations. The main axes of the review concern:

- The analysis of the specific features of organizational innovation within healthcare organizations
- The analysis of aspects of organizational life that need to be evaluated in order to understand the process of organizational innovation in these organizations
- The analysis of factors influencing organizations' readiness for change/innovation and their ability to assimilate innovative interventions
- The analysis of factors influencing the sustainability of organizational innovation in these organizations.

In view of the above, it is important to review the literature in this domain in order to:

- Create a centralized database on organizational innovation in healthcare sector.
- Approach the multidimensional nature of organizational innovation with a view to the new perspectives of analysis of the phenomenon
- Define the "black box" of organizational innovation, which is often an obstacle to its implementation, thus limiting the expansion of organization's capabilities.

1.3. Research Questions

The main research questions are summarized below:

- Which are the specific features of organizational innovation within healthcare organizations?

- Which aspects of organizational life need to be evaluated in order to understand the process of organizational innovation in these organizations?
- Which are the factors that influence organizations' readiness for change and their ability to assimilate innovative interventions?
- Which factors influence the sustainability of organizational innovation in these organizations?

1.4. Contribution

It is admitted that the innovation research is fragmented, poorly grounded theoretically, and not fully tested especially in the field of healthcare (Crossan & Apaydin, 2010; Ovretveit et al, 2012; Weberg, 2009). Thus, the main contribution of this review is the collection and the update of the existing knowledge in the demanding area of strategic change management in healthcare.

Due to the particular characteristics of healthcare sector with the involvement of multiple factors, the originality of research focuses mainly on the approach of managerial issues in healthcare. A new framework of analysis is opened studying organizational innovation through the prism of strategic change management.

Furthermore, the research contribution is also found in the application of a concept-centric review methodology that highlights the polymorphic nature of change process during the implementation of organizational innovation (Webster & Watson, 2002). The sequence of steps in this methodology leads to a more precise synthesis of heterogeneous elements in the literature, providing a flexible schema of study through the use of suitable concept-matrix.

Finally, since the emphasis of this research is on successful organizational innovation its utility lies to the identification of the prerequisites for successful change management.

1.5. Study Structure

The main pillars of this study are briefly summarized in chapter 1. The introductory paragraph offers the starting point of the analysis, whereas the theoretical framework analyses the stimuli of research. The aim of this review as well as the research questions are described. The contribution of the research is also included in this chapter. In chapter 2, the circle of steps that led to the selection of literature review as search methodology is depicted. The analysis of the research methodology used is also presented. In chapter 3, the design and the implementation of research methodology is

outlined. In chapter 4, an overview of the results is provided. The data synthesis offers a coherent picture of the phenomenon. In chapter 5, the critical issues of the research are discussed drawing conclusions from the results extracted. The research constraints and the implications for future research are also part of this section. The figure below depicts the structure of the chapters.

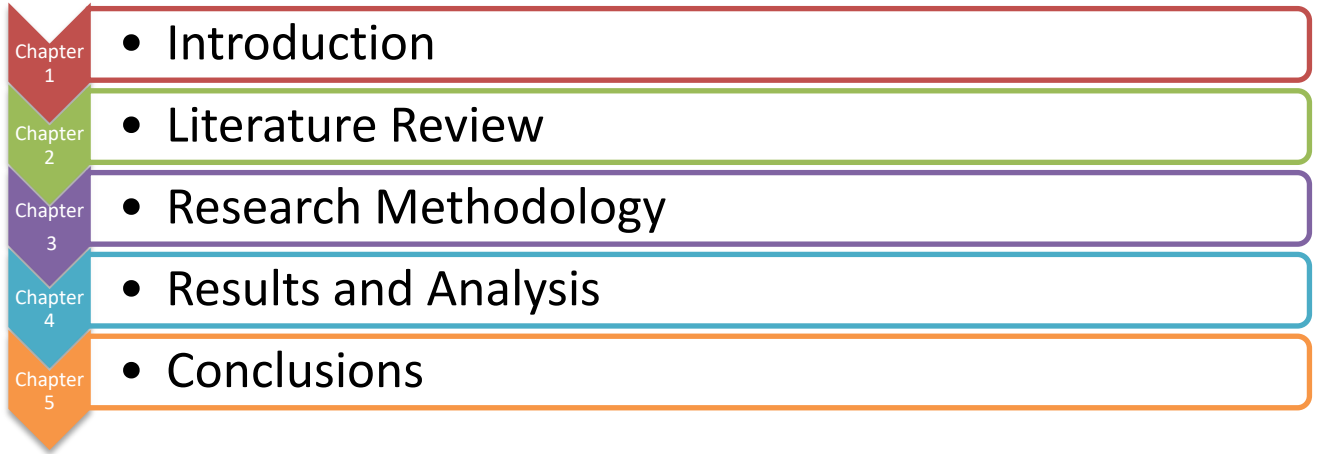


Figure 1. The Structure of Thesis

Chapter Two

Literature Review

The selection of a representative research methodology is the main task of this section. In this thesis, the most representative research methodology for investigating the specific characteristics of organizational innovation in healthcare is considered to be systematic literature review. The reasons justifying the selection of this method are going to be further analyzed and the guidelines for its successful implementation described. The research method that is going to be used is that of Webster and Watson (2002) and the reviewing cycle is presented in detail below.

2.1. Theoretical Background

Systematic literature review was established as a widely-known research methodology in the 1990s, especially in medical research (Dickson, Cherry & Boland, 2013). Although it is a widely-used research methodology, in business and management sector rigorous systematic literature reviews

are rare due to the complexity of the field and the undeveloped review methods. (Xiao & Watson, 2017).

The lack of systematic knowledge on this research field was firstly completed by Cochrane in 1972 and Glass in 1976 (Cochrane, 1972;Glass, 1976). Then, the two-book report of Chalmers, Enkin and Keirse laid the foundations for the establishment of systematic literature review as a basic scientific method (Chalmers, Enkin & Keirse, 1989). But, the decisive point for the development of the field was the foundation of Cochrane Collaboration in 1992, which is a popular organization for the promotion of systematic literature review methodology. Specifically, in the field of management research Tranfield, Denyer and Smart (2003) pointed out the utility of systematic literature review methodology. A robust knowledge pool is created by classifying and organizing contradictory information, while at the same time the scope of knowledge broadens. Finally, Xiao and Watson in 2017, who tried to gather knowledge about systematic literature review methodology and provide the basic guidelines for valid literature reviews, contributed also to the development of the field (Xiao & Watson, 2017).

According to Cochrane Collaboration (2014) a widely-accepted definition of systematic literature review is: “A review of a clearly formulated question that uses systematic and explicit methods to identify, select, and critically appraise relevant research, and to collect and analyze data from the studies that are included in the review”. This definition is indicative of the potential of this research methodology as it can reveal the most delicate features of literature. In the same direction, Xiao and Watson (2017) suggest a typology of literature reviews, which is useful in practice:

- Stand-alone reviews, which are usually used as a toolkit for the identification, investigation and management of the existing literature.
- Background reviews, which are usually used as theoretical basis for other studies

The stand-alone literature reviews can be also divided into categories based on the review purpose and the review methodology. The review types are outlined below (Xiao & Watson, 2017):

- Descriptive Review
 - ✓ Narrative review
 - ✓ Textual narrative synthesis
 - ✓ Metasummary
 - ✓ Meta-narrative
 - ✓ Scoping review

- Testing Review
 - ✓ Meta-analysis
 - ✓ Bayesian meta-analysis
 - ✓ Realist review
 - ✓ Ecological triangulation
- Extending Review
 - ✓ Meta-ethnography
 - ✓ Thematic synthesis
 - ✓ Meta-interpretation
 - ✓ Meta-study
 - ✓ Critical interpretive synthesis
 - ✓ Framework synthesis
- Critical Review
- Hybrid Review

The basic characteristics of this literature review will be defined in the following sections based on the current theoretical background.

2.2. Reasons for Adopting Systematic Literature Review

In this thesis the adoption of systematic literature review methodology serves a series of reasons. Firstly, the goal of this thesis is to describe the progress of study in strategic change management in healthcare so as to define the features and the process of organizational innovation. Systematic literature review has the potential to reflect the progress of study in a particular sector (Xiao & Watson, 2017)

Systematic literature review can also penetrate the paths of literature and bring to the surface the factors that influence healthcare organizations' readiness for innovation/change and their ability to assimilate innovative interventions. The identification of relationships between different factors as well as the integration of findings can be facilitated using systematic literature review (Webster & Watson, 2002).

The development of a theoretical basis where inconsistencies of literature will be evaluated so as to define the factors that influence the sustainability of organizational innovation in these organizations can be completed using systematic literature review (Chalmers et al., 1989).

The collection and processing of new information through systematic literature review offers an evidence-based approach with important implications for future search (Xiao & Watson, 2017).

2.3. Important Features of Systematic Literature Review

The central features of systematic literature review guide the prospects of this study and determine its form. The typology of Xiao and Watson (2017) is implemented as shown below.

This is a stand-alone literature review, as it is not the theoretical background of another study. The review type is equivalent to review purpose and review methodology. As the review purpose is to describe the progress of study in strategic change management in healthcare, a type of descriptive review is selected: scoping review.

A scoping review follows the principles of descriptive review. The aim is to obtain as much information as possible on the field to analyze the data and synthesize the extracted concepts. Thus, the selection of research methodology is important. Since the review aim is to provide an overview of what has been done, the research quality is not the main request for scoping reviews (Peters, Godfrey, Khalil, McInerney, Parker & Soares, 2015). In addition, a scoping review is not limited to one methodology, set of journals or geographic region.

Based on what has been reported so far the research method that meets the requirements of a scoping review is the one suggested by Webster and Watson (2002). Thus, the literature review will be concept- centric and not author centric as shown in Table 1. The structure of the research protocol is going to be in line with the research strategy and include an analysis of the steps taken so that articles be extracted. The inclusion and exclusion criteria will be further analyzed in review protocol so that the most representative articles be collected. Reviewing tools such as Endnote and Mendeley will be used to process and sort out the extracted articles. The extracted data will be evaluated using quality criteria. The findings' presentation will be based on concept matrix so that information processing is facilitated. The findings' synthesis will be based on concept matrix as well as on the research questions, which have been formulated.

2.4. The Research Methodology of Systematic Literature Review

As the research area is broad, the methodology to be used is that of Webster and Watson (2002). Its structured approach enables researchers to give a more representative picture of the concepts under study in areas where the existing literature varies.

This methodology offers significant benefits to the researcher such as (Webster & Watson, 2002):

- The search is not limited to one research methodology, one set of journals or geographic region
- The approach to knowledge is concept centric
- The research can be easily reproduced

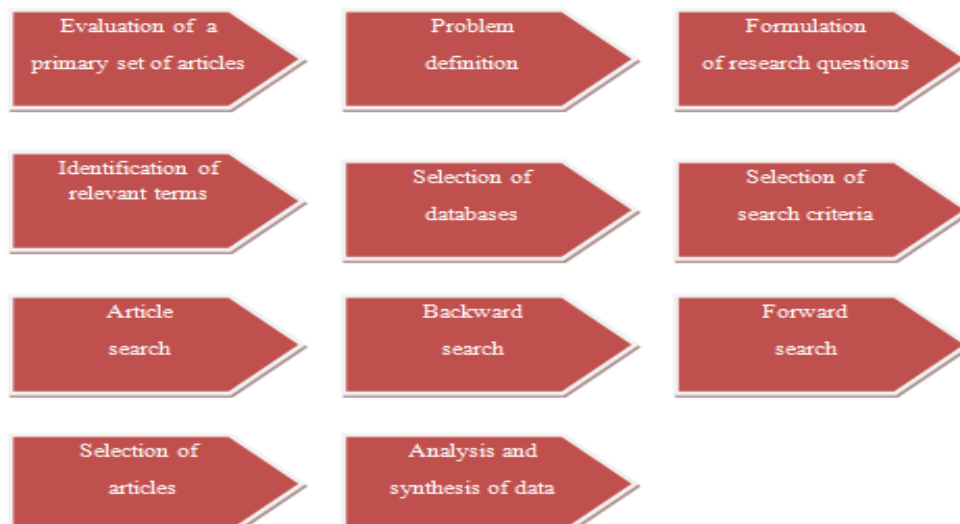


Figure 2. Research Methodology

Research methodology is presented in Figure 2 and the sequence of steps is described (Webster & Watson, 2002). First of all, a primary set of articles will be retrieved and evaluated. The gap in existing literature will be identified and the problem of research will be defined. Then, research questions will be formulated, relevant terms will be identified and databases will be selected. Search criteria will be selected and carefully formulated. Article search will be conducted based on inclusion and exclusion criteria of research, whereas backward and forward search is going to follow based on the same search criteria. Relevant articles will be selected after this procedure. The analysis and synthesis of data will be completed using concept-matrix tables based on Webster & Watson (2002) methodology as shown in Table 1, 2 and 3. Table 1 shows the different approaches to literature reviews. Table 2 involves the clusters of analysis based on different concepts of research, whereas Table 3 involves sub-units to add further topics of analysis.

Table 1.

Approaches to Literature Reviews (2002)

Table 1. Approaches to Literature Reviews	
Concept-centric	Author-centric
Concept X..... (author A, author B...)	Author A..... concept X, concept Y...
Concept Y.....(author A, author C...)	Author B.....concept X, concept W...

Source: Webster & Watson (2002)

Table 2.

Concept Matrix (2002)

Table 2. Concept Matrix					
Articles	Concepts				
	A	B	C	D
1		✓	✓		✓
2	✓	✓			
.....			✓	✓	

Source: Webster & Watson (2002)

Table 3.

Concept Matrix Augmented with Units of Analysis (2002)

Table 3. Concept Matrix Augmented with Units of Analysis													
Articles	Concepts												
	A			B			C			D		
Unit of analysis	a	b	c	a	b	c	a	b	c	a	b	c	
1		✓			✓				✓			✓	
2							✓					✓	

Source: Webster & Watson (2002)

Chapter Three

Research Methodology

As organizational innovation is a relatively new field of research, the review methodology of Webster & Watson (2002) was chosen to capture the dimensions of the phenomenon in healthcare. The reviewing cycle usually involves three stages: planning the review, conducting the review, and reporting the review (Xiao & Watson, 2017; Kitchenham & Charters 2007; Breretona, Kitchenhama, Budgenb, Turnera, & Khalilc , 2007). The reviewing cycle as well as the execution of this process will be described step by step in this section. The reviewing cycle is briefly depicted below:

Table 4.

The Reviewing Cycle

The Reviewing cycle	
Stage 1	Planning the review
Phase 1	Identification of the need for a review
Phase 2	Operationalization of review questions
Phase 3	Development of a review protocol
Stage 2	Conducting the review
Phase 1	Search strategy
Phase 2	Selection of studies
Phase 3	Study quality assessment
Phase 4	Data extraction
Phase 5	Data synthesis
Stage 3	Reporting the review

3.1. Planning the review

The first stage of reviewing cycle involves three phases: the identification of the need for a review, the operationalization of review questions and the development of a review protocol. As we have said, the inspiration of this stage is a primary set of articles mainly literature reviews. The formulation of review questions is the result of a pre-review mapping procedure (Xiao & Watson, 2017), whereas the development of the review protocol is the crowning of this stage. The review protocol is a brief blueprint that leads the research. It is considered to be adequate when :

- Theoretical background of the review is included
- Aim research and research questions are formulated in detail
- Databases are defined
- Inclusion and exclusion criteria are involved
- Quality assessment is analyzed
- The process of data extraction is designed in detail
- A time table is predefined to meet the deadlines of stages

3.1.1. The Identification of Need for a Literature Review

The body of research in organizational innovation needs to be enriched as it is a relatively new field in healthcare (Weberg, 2009). Literature review is an evidence-based approach that has the potential to capture the multidimensional nature of the phenomenon and clarify the contradictory information of literature. Furthermore, the verification of literature inconsistencies is the basis for the development of a solid theoretical background. The quality of existing literature is examined and the limits of research are identified for future research.

3.1.2. Operationalization of review questions

The operationalization of review questions is conducted with the help of a pre-review mapping. A pre-review mapping is a helpful procedure to summarize research activities in the domain of interest and specify review questions (Xiao & Watson, 2017).

During pre-review mapping a primary set of articles is selected as background for the development of aim review and review questions. In this case, it seems that problem definition as emerges from articles' key findings prompts research into the description of diverse literature of organizational innovation through the prism of strategic change management. Thus, the selected articles are mainly literature reviews in the field of strategic change management and organizational innovation. In Table 5 articles' search criteria and key findings are depicted.

Table 5.

Primary Articles' Search Criteria and Key Findings

Author Article	Search Criteria	Articles' Key Findings
01 Wolfe, 1994	<u>Inclusion Criteria:</u> -Subject area: diffusion of innovation/determinants of organizational innovativeness/innovation processes	-The identification of research streams of organizational innovation -The inconsistent and inconclusive nature of innovation research
02 Bazzoli et al, 2004	<u>Inclusion Criteria:</u> -Publication date: 1980 or later -Subject area : The assessment of organizational change efforts involving both hospitals and physicians -Document type: The use of both quantitative and qualitative studies <u>Exclusion Criteria:</u> -Document type: Trade and business magazines/Individual	-The diversity of literature on organizational change in healthcare

		opinions/literature prescriptive in nature /literature reviews -Subject area: Not examining health organizations per se	
03	Fleuren et al., 2004	<u>Inclusion criteria:</u> -Subject area: innovation processes and determinants within health care organizations/ innovations aiming at changing the behavior of health professionals/health care organizations providing direct patient care -Document type: empirical studies only.	-The description of determinants of innovation processes. -The identification of methodological flaws in innovation studies The difficulty of evaluating implementation process
04	Buchanan et al., 2005	<u>Inclusion criteria:</u> - Subject area: Sustainability <u>Exclusion criteria:</u> -Not mentioned	-The literature on organizational change is large and fragmented but pays limited attention to sustainability
05	Lansisalimi et al, 2006	<u>Inclusion Criteria:</u> -Document type: empirical Studies/Peer-reviewed international journals -Subject area: generation, adoption, diffusion of innovation/ determinants of innovativeness in healthcare organizations	-The need for innovation in healthcare is urgent -Thorough research is needed in healthcare sector
06	Weiner et al., 2008	<u>Inclusion Criteria:</u> -Document type: peer-reviewed literature -Subject area: organizational change/organizational readiness for change/ <u>Exclusion Criteria:</u> -Subject area: employee acceptance of new information systems	-Lack of evidence of reliability or validity for most measures of organizational readiness for change
07	Crossan & Apaydin, 2010	<u>Inclusion criteria:</u> -Subject area: Innovation and its derivatives (business, management, economics, finance) -Document type: article and review but not 'book review' -Language 'English'	-The creation of a framework for organizational innovation, connecting three meta-constructs of innovation determinants
08	Lee et al, 2013	<u>Inclusion Criteria:</u> -Document type: Peer-reviewed literature/ -Publication date: Not limited by the year of publication -Subject area: Emphasis on change that is organizational <u>Exclusion Criteria:</u> Prescriptive articles/ literature reviews/conceptual-theoretical-conference articles	-The multiplicity of factors affecting change -The complexity of interactions between factors -The lack of information about the process of transformational change
09	Kuipers et al., 2014	<u>Inclusion Criteria:</u> -Publication date: from 2000 to 2010 -Document type: peer-reviewed articles, published in ISI-ranked journals/ not monographs -Language: English	-The field of organizational change seems to be dispersed. -The importance of contextual factors during organizational change -The features of leadership in the public sector
10	Thune & Mina, 2016	<u>Inclusion Criteria:</u> -Subject area: in abstracts/full papers innovation/ hospitals/not only implementation -Document type: conceptual/empirical studies <u>Exclusion Criteria:</u> -Subject area: patient effects and either	-Identification of three strands of literature on hospitals and innovation

11	Kim & Chung, 2017	<u>Inclusion Criteria:</u> -Subject area: Innovative behavior as idea utilization and creativity as idea generation/Innovation implementation or use -Document type: SSCI-listed journals	-The necessity of further investigating the role of individual and social factors during implementation process -The investigation of change mechanism of innovation during implementation, as innovation is an organizational change that can change during implementation -The necessity of investigating innovation as a continuous stream of innovations and not a single phenomenon.
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After a quick evaluation of the existing literature as shown in Table 5, review questions are formulated below.

Organizational innovation has been studied in other fields (Crossan & Apaydin, 2010; Wolfe, 1994). However, in healthcare sector, the conclusions are contradictory (Bazzoli et al, 2004; Fleuren et al., 2004; Lansisalmi et al, 2006; Lee et al, 2013; Thune & Mina, 2016). Therefore, there is a need for thorough investigation in the context of healthcare sector. In this perspective, the question that emerges is: Which are the specific features of organizational innovation within healthcare organizations?

Previous literature reviews place great emphasis on the process of organizational innovation and the way it is applied in different contexts (Lee et al, 2013; Wolfe, 1994.). Thus, the question that arises is: Which aspects of organizational life need to be evaluated in order to understand the process of organizational innovation in these organizations?

Literature stands out as a key factor in the process of organizational innovation the mechanism of change (Kim & Chung, 2017). And this is the reason for studying organizational innovation through the prism of strategic change management in this thesis (Kuipers et al., 2014). The assimilation of changes that organizational innovation entails as well as organizational readiness for change play an important role in the implementation process (Weiner, Amick & Lee, 2008). Consequently, at this point the investigation focuses on: which factors influence organizations' readiness for change and their ability to assimilate innovative interventions?

Literature also identifies the importance of sustainability (Buchanan et al., 2005), but in healthcare further investigation is needed. Thus, the research has to deal with: Which factors affect the sustainability of organizational innovation in healthcare organizations.

3.1.3. The development of a review protocol

The review protocol is the backbone of research and includes a detailed design of the search strategy. It needs to be flexible and keep up with research demands as it is the main axis for reproducing the research. A detailed protocol has the potential to reduce researcher’s biasness and as a result improves the quality of search. (Kitchenham & Charters 2007 Xiao & Watson, 2017). For this study, the following protocol is selected:

Table 6.

The Review Protocol

The Review Protocol
Introduction
Aim Review
Research questions
Search strategy
Databases to be searched
Search strings
Study selection criteria
Inclusion criteria
Exclusion criteria
Study selection procedure
Backward Searching
Forward Searching
Study quality assessment checklist and procedure
Data extraction strategy
Synthesis of the extracted data

3.2. Conducting the Review

In this section, the research process is described in detail so that can be easily reproduced in case of future research. The review protocol guides the research process. The initial step of this phase is the development of a search strategy. Search strings are also recorded and inclusion-exclusion criteria are defined based on pre-review mapping with the help of Table 6 and 7.

3.2.1. Search Strategy

Search strategy is applied to specific electronic databases and consists of six steps. Firstly, sources of research are defined with the help of pre-review mapping as shown in Table 7. Then, terms of research are selected with the help of pre-review mapping as shown in Table 7. Search strings are developed based on research terms and primary results of pre-review mapping as shown in Table 7.

Finally, inclusion and exclusion criteria are defined based on research methodology, the content of aim research and the inclusion-exclusion criteria of primary studies as shown in Table 6 and 7.

Table 7.

Primary Articles' Aim Review, Keywords and Databases

Author Article	Aim Review	Keywords	Databases
01 Wolfe, 1994	The development of a more cumulative knowledge base	-	-
02 Bazzoli et al, 2004	The synthesis of diverse literature	Organizational change, Organizational restructuring, Consolidation, integration	National Library of Medicine's Medline service, Academy Health
03 Fleuren et al., 2004	The overview of determinants of innovations in health care	Delphi-study, Determinants Health care organizations, Implementation, Innovations Literature Review	Medline, PsycLIT, Eric, CHID, Health promis, Healthstar, Sociological abstracts, Heclinet, Pica, GLIN, SWTL
04 Buchanan et al., 2005	The development of a model of change sustainability	Sustainability, sustaining change/ organizational change, sustainability of change/ organizational change	BIDS Ingenta, Social Sciences Citation Index., Business Source Premier (EBSCO host), Emerald Proquest
05 Lansisalmi et al, 2006	A review of published research on innovations in healthcare organizations	Healthcare change, Hospital service change, Innovation, Leadership, Management, Medical Practise, Organizational Research	Computer searchers of electronic journals and reference databases
06 Weiner et al., 2008	A review of literature on organizational readiness for change in health services research and other fields	Organizational change, Readiness for change, Measurement	Pubmed, CINAHL, ISI Web of Science, Business Source Premier, PsycInfo, CSA Sociological Abstracts
07 Crossan & Apaydin, 2010	The description of academic research on innovation	Innovation and its derivatives	SSCI database
08 Lee et al, 2013	A systematic review of literature of empirical research on transformational change in health care and other industries	Transformational change, organizations, Systematic review, Healthcare	Pubmed, CINAHL, ISI Web of science
09 Kuipers et al., 2014	A review of literature on change management in public organizations	change management, change process, re-organization, change leadership, reform, government, public sector, public organization', New Public Management, European Union	ISI Web of Knowledge, Google Scholar, Search engine of the Erasmus University Rotterdam
10 Thune & Mina, 2016	A systematic literature review of the links between the activities of hospitals and medical innovation	Health-care technology, Health innovation system, Hospitals, Medical innovation, User innovator	Scopus, Pubmed, ISI Web of Science

11	Kim & Chung, 2017	A systematic literature review of innovation implementation and factors influencing implementation process	Innovation, implementation, Innovation characteristics, Social Factors, Organizational factors, Individual factors	Academic Search Complete, Business Source Complete, Computers & Applied Sciences Complete, PsycArticles, SocINDEX
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3.2.1.1. Sources of Research

The selection of research sources is important to find a good number of relevant articles. The current research is performed only on electronic databases. As we can see from pre-review mapping in Table 7 previous literature reviews used many different databases. This study is part of medical and management research. Thus, EBSCO, Web of Sciences, Scopus and PubMed are chosen as the most representative databases in the field of management and healthcare studies.

3.2.1.2. Terms of Research

Review terms derive from articles' keywords. The keywords used in these studies are recorded in Table 7. From what we can see the most representative terms used for the compilation of articles are:

- change management
- organizational change
- strategic change
- organizational transformation
- organizational innovation
- healthcare

3.2.1.3. Search Strings

Search strings are adapted in accordance with the search engines of each database and are presented in Appendix A. The main search string used for the compilation of articles is:

TITLE-ABS-KEY("change management") OR
 TITLE-ABS-KEY("organizational change") OR
 TITLE-ABS-KEY("organizational transformation") OR
 TITLE-ABS-KEY("organizational innovation") OR
 TITLE-ABS-KEY("strategic change") AND
 TITLE-ABS-KEY(healthcare)

The search is directed to the titles, abstracts and keywords of each article. The main search returns a total number of 3168 articles from all four databases, with the following criteria:

- All articles should be written in English.

- All articles should be published on academic journals.
- Acceptable articles should be peer reviewed.

3.2.1.4. Study Selection Criteria

Study selection criteria derived from the analysis of Table 6 and 7. From table analysis it appears that:

- Literature on organizational change and innovation is diverse and fragmented.
- Strategic change management research spreads from 1980 and later.
- All articles are written in English
- From study to study document type varies. But, literature is peer-reviewed and published on academic journals.
- From study to study, research method also varies.
- Concerning subject area the most widespread issues are: organizational change, innovation process, innovation determinants

Therefore, the inclusion criteria used for this study are:

- Only articles, conference papers and book chapters are accepted
- All articles are written in English
- All articles have to be published on academic journals
- Acceptable articles have to be peer reviewed
- No restriction is placed on research methods used
- Articles that study organizational innovation or change in general with implications for healthcare are involved
- The selected articles have to focus on healthcare or public organizations
- The selected articles have to focus on change/innovation that is organizational or involves organizational changes influencing different dimensions of organizational life.
- The selected articles have to focus on factors that lead to successful change or innovation

The exclusion criteria used for this study are:

- Duplicate copies of the same research studies are excluded from the review
- Articles with weak ties to healthcare or public organizations are excluded
- Articles that their focus is on other managerial issues rather than the factors of successful organizational change/innovation are also dismissed

3.2.1.5. Study Quality Assessment

The study quality assessment checklist is seen in Table 8. The articles' evaluation is based on the criteria of this list. The aim of this list is to improve the selection criteria reducing the biasness of research.

Table 8.

Study Quality Assessment Checklist

Section of the Paper	Questions	Checklist
Introduction	Does the research paper's introduction provides information about the factors that lead to successful organizational change/ innovation in healthcare organizations?	Yes/No
	Is the objective of the article clearly formulated?	
Research Method	Is the research methodology used clearly described?	Yes/No
Results	Are the study results clearly formulated?	Yes/No
	Are the results indicative to answer the research questions?	

3.2.2. Study Selection Procedure

The main search is conducted on four electronic databases (Scopus, WoS, Pubmed and EBSCO) and returned 3168 articles.

Two reference management tools are used: Mendeley and Endnote. Article citations are initially transferred to Mendeley to remove articles that are not written in English (article abstracts written in English, whereas full text written in languages other than English) . At next stage, duplicates are removed with the help of Mendeley and Endnote. Then, the available articles are imported to Endnote for further processing.

Scouting the available articles, studies are excluded based on the title. The remaining articles are excluded based on abstract content. The articles that are not available full text for further reading are also excluded. The accepted full text articles are analyzed based on quality assessment checklist and excluded based on the relevance of their content.

Finally, backward search is conducted based on the list of references at the end of the articles reviewed, whereas forward search is conducted based on the list of references of electronic databases that cite the articles reviewed (Webster & Watson, 2002).

The study selection procedure is presented in Figure 3, whereas literature search and evaluation for inclusion is presented in Figure 4.

Articles Analysis	Analysis of the articles	Detailed Analysis of the articles	
	Categorization	Matrix Table	
Articles Searching	References & Citations	Backward & Forward Search	19
	3 rd Level: Article Examination	Full Text	69
	2 nd Level: Article Examination	Abstract	327
	1st Level: Article Examination	Title	920
	Mendeley&Endnote Examination	Doubles	2248
	Mendeley Examination	Language Criteria	3165
	Article selection	Keywords and criteria	3168
	Selection of Databases	Databases	4 Databases
	Process	Activities	Results

Figure 3. The Study Selection Procedure

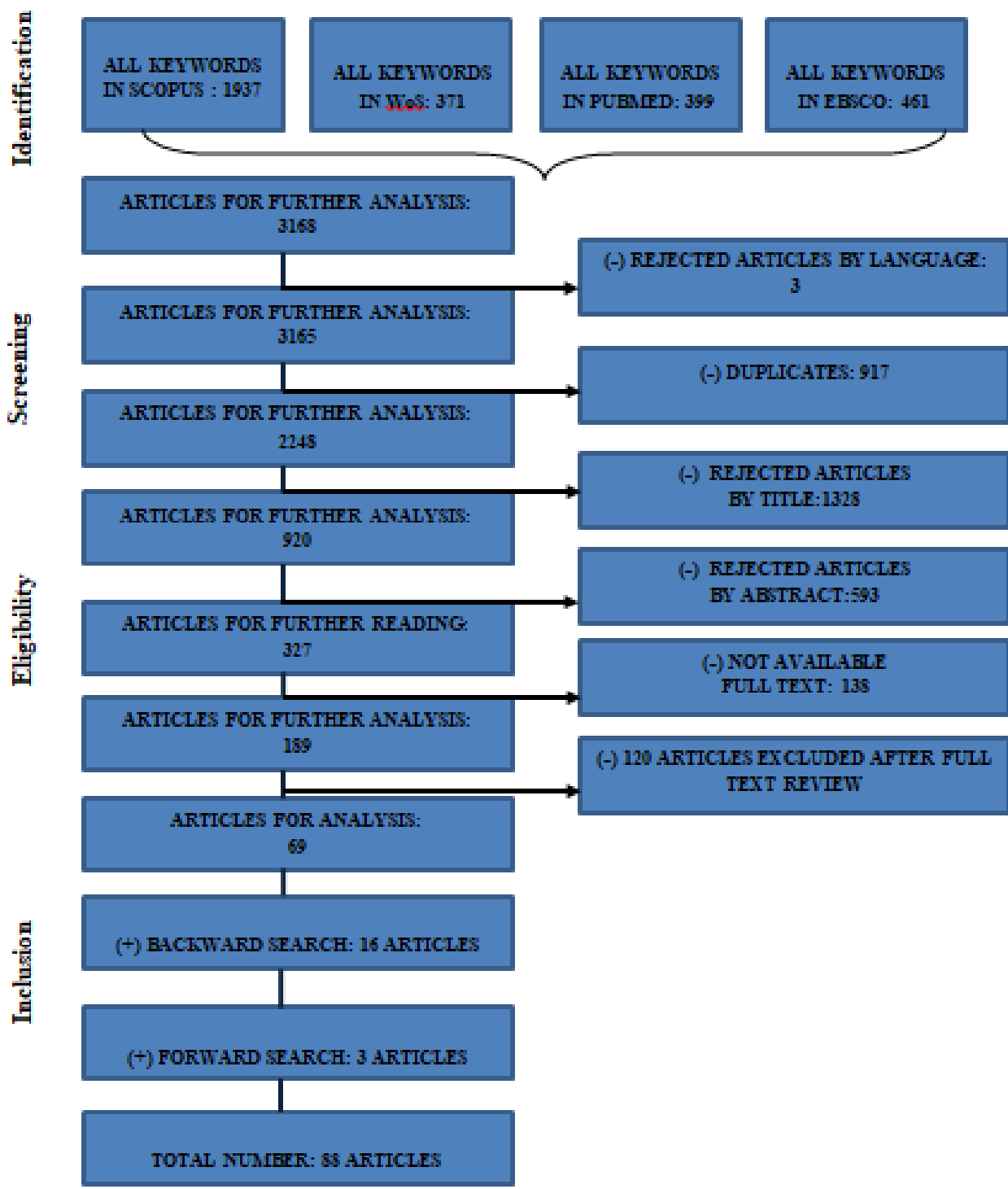


Figure 4. Literature Search and Evaluation for Inclusion

3.2.3. Data Extraction Strategy

The data extraction strategy is adapted to review typology (Xiao & Watson, 2017). In this thesis, a scoping review is performed and as a result the main goal is to extract as much relevant data from each article as possible. The process of data extraction will be based on concept matrix tables in

accordance to review methodology. The process also involves inductive coding, as the coding is based on data extracted from the review (Suri & Clarke 2009; Xiao & Watson, 2017). The data extraction form is presented below.

Table 9.

The Data Extraction Form

The Data Extraction Form	
General Information about the Paper	Article Author
	Article Title
	Source (Journal/Conference/Book Chapter)
	Publication Year
Specific Information about the Paper	Research Methodology
	Type of Change
	Stage of Change Process
	Key Findings
Concept Matrix Table Analysis (coding)	Relevant Area of Research
	Units of Research Area
Analysis of Papers Empirical Methodology	Research Method
	Sample
	Country
	Data Analysis
Researcher's Synthesis	Which are the specific features of organizational innovation within healthcare organizations?
	Which aspects of organizational life need to be evaluated in order to understand the process of organizational innovation in these organizations?
	Which factors influence organizations' readiness for change and their ability to assimilate innovative interventions?
	Which factors affect the sustainability of organizational innovation in these organizations?

3.2.4. Data Synthesis

Data synthesis is the last phase of search procedure and is also adapted to review typology (Xiao & Watson, 2017). In this case, due to the heterogeneous body of literature, the synthesis is based on the categorization of concept matrix table providing a textual description of different dimensions of literature. Thus, descriptive synthesis is the method used and is targeted to research questions.

3.3. Reporting the Review

Reporting is the final stage of search procedure and involves an overview of identified results.

The textual description of results should be well-grounded and structured on key issues and specific subunits. (Rowley & Slack, 2004)

Chapter Four

Results and Analysis

This chapter summarizes the main characteristics of the included studies and analyzes the findings. Overall, 88 articles related to the topic of research are identified and classified into appendices. In Appendix B, each study is analyzed based on author, title, source and publication year. In Appendix C, each study is analyzed based on research methodology, type of change, stage of change process and content of research. In Appendix D, each study is categorized into groups based on the main concept of research and in line with review questions. Some studies were included in more than one groups. In Appendix E, each study is categorized based on research method, sample, country and data analysis. The goal of the analysis is to answer the research questions based on Appendix C and D.

4.1. Overview of studies

In Table 10 the number of articles published on organizational innovation and targeted in strategic change management in healthcare is presented in each year during 1994-2017.

Table 10.

Distribution of the Reviewed Articles along the Time Frame

Year	Number of Papers	Articles
1994	1	Wolfe, 1994
1997	2	Ferrara-Love, 1997; McPhail, 1997
1999	1	O'Sullivan, 1999
2000	1	Anson, 2000
2002	1	Cunningham et al, 2002
2003	2	Gustafson et al., 2003; Narine, L. & Persaud, 2003
2004	2	Bazzoli et al., 2004; Fleuren et al., 2004
2005	2	Bamford & Daniel, 2005; Buchanan et al., 2005
2006	5	Åmo, 2006; Brown et al., 2006; Golden, 2006; Lansisalmi et al, 2006; Rye & Kimberly, 2006
2007	1	MacPhee, 2007
2008	6	Caldwell et al., 2008; Landaeta et al., 2008; Peltokorpi et al., 2008; Varkey et al., 2008; Watt & Piotrowski, 2008; Weiner et al., 2008
2009	5	Erwin, 2009; Knol & Van Linge, 2009; Suc et al, 2009; Weberg, 2009; Weiner, 2009
2010	4	Bevan, 2010; Crossan, & Apaydin, 2010; Thompson, 2010; Ward, 2010
2011	10	Abraham & Junglas, 2011; Adams et al., 2011; Barnett et al., 2011; Doebbeling & Flanagan, 2011; Eljiz et al., 2011; Halm, 2011; Hopkins et al., 2011; Macfarlane et al., 2011; Molfenter et al, 2011; Pellegrin & Currey, 2011
2012	7	Birken et al., 2012; Carlström & Ekman, 2012; Chreim et al., 2012; Martin et al, 2012; Øvretveit et al., 2012; Salmela et al., 2012; Thakur et al., 2012
2013	10	Adams et al, 2013; Birken et al., 2013; Erskine et al., 2013; Kash et al., 2013; Lee et al., 2013; Merono-Cerdan & Lopez-Nicolas, 2013; Siverbo et al., 2013; Steinke et al., 2013; Teo et al., 2013; Ugurluoglu et al., 2013
2014	8	Anders & Cassidy, 2014; Carlstrom & Olsson, 2014; Kash et al., 2014; Kash et al., 2014; Kuipers et al., 2014; Ljungquist, 2014; Osatuke et al., 2014; Shea et al., 2014
2015	10	Bérard et al., 2015; Evans et al., 2015; Fleiszer et al., 2015; Fleiszer et al., 2015; Giæver & Smollan, 2015; Harvey et al., 2015; Jacobs et al., 2015; Smollan, 2015; Smollan, 2015; Steele Gray et al., 2015
2016	5	Allen, 2016; Birken et al, 2016; Boyal & Hewison, 2016; Thune & Mina, 2016; Van Rossum et al., 2016

2017	5	Guglielmi et al., 2017; Kim & Chung, 2017; Nelson-Brantley & Ford, 2017; Smollan, 2017; Yabome, 2017
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The fact that the search identifies articles since 1994 shows that innovation research through the prism of change management is a relatively new field of research. The distribution of the reviewed articles along the time frame is also presented graphically. The Diagram 1 reveals the researchers' increasing interest over time for the phenomenon.

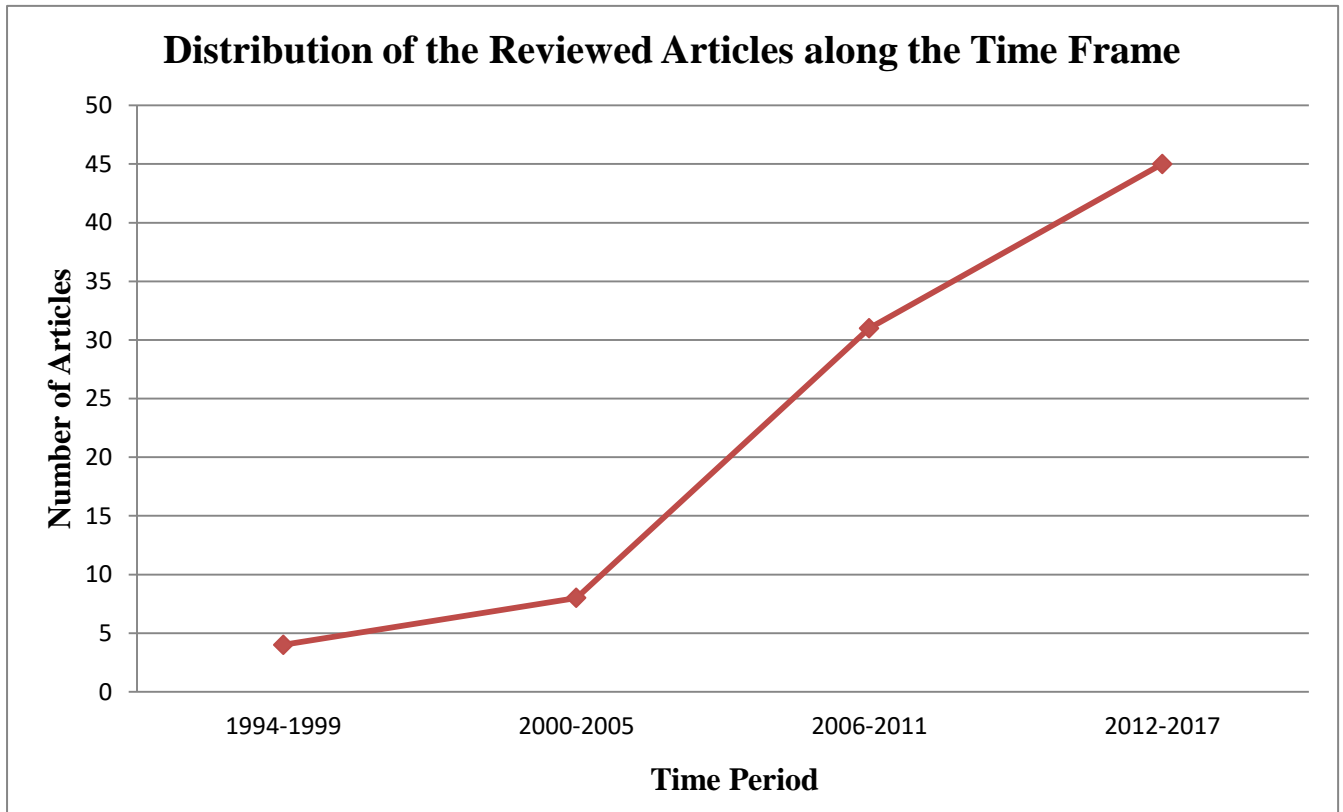


Diagram 1. Distribution of the Reviewed Articles along the Time Frame

It is clear from Table 11 that this search draws data from various fields of interest such as organizational literature, innovation literature in healthcare, innovation literature in public organizations, change management literature, change management literature in healthcare and change management literature in public organizations. These topics are covered using a multitude of research methods as shown in Table 11.

Table 11.

Research Methods Used in the Reviewed Articles

Research Type	Research method	Domain	Number of articles	Articles
	Literature Review	-4 articles based on organizational innovation literature in general -5 articles based on organizational innovation in healthcare -5 articles based on change management literature in healthcare -1 article based on change management literature in public organizations	15	Anders & Cassidy, 2014; Bazzoli et al., 2004; Buchanan et al, 2005; Crossan & Apaydin, 2010; Fleischer et al., 2015; Kim & Chung, 2017; Kuipers et al., 2014; Lansisalmi et al, 2006; Lee et al., 2013; Nelson-Brantley & Ford, 2017; Rye & Kimberly, 2006; Thune & Mina, 2016; Weberg, 2009; Weiner et al., 2008; Wolfe, 1994
Theoretical Paper	Theoretical Analysis	-4 articles based on organizational innovation literature in healthcare -1 article based on change management literature in general -9 articles based on change management literature in healthcare	14	Allen, 2016; Birken et al., 2012; Doebbeling & Evans et al., 2015; Flanagan, 2011; Ferrara-Love, 1997; Halm, 2011; Kash et al., 2014; McPhail, 1997; Narine & Persaud, 2003; O'Sullivan, 1999; Thompson, 2010; Varkey et al., 2008; Ward, 2010; Weiner, 2009

Research Paper	Quantitative Analysis	-5 articles based on organizational innovation literature in healthcare -14 articles based on change management literature in healthcare	18	Åmo, 2006· Brown et al., 2006· Caldwell et al., 2008· Carlström & Ekman, 2012· Carlstrom & Olsson, 2014· Cunningham et al, 2002· Gustafson et al., 2003· Jacobs, et al., 2015· Knol & Van Linge, 2009· Merono-Cerdan & Lopez-Nicolas, 2013· Pellegrin & Currey, 2011· Shea et al., 2014· Steele Gray et al., 2015· Steinke et al., 2013· Teo et al., 2013· Ugurluoglu et al., 2013· Van Rossum et al., 2016· Watt & Piotrowski, 2008
	Qualitative Analysis	-12 articles based on organizational innovation literature in healthcare -16 articles based on change management literature in healthcare	28	Adams et al., 2011· Adams et al., 2013· Barnett et al, 2011· Bérard et al., 2015· Birken et al., 2016· Boyal & Hewison, 2016· Chreim et al., 2012· Eljiz et al., 2011· Erskine et al., 2013· Fleischer et al., 2015· Giæver & Smollan, 2015· Harvey et al., 2015· Kash et al., 2013· Kash et al., 2014· Landaeta et al., 2008· Ljungquist, 2014· Macfarlane et al., 2011· Martin et al, 2012· Molfenter et al., 2011· Osatuke et al., 2014· Peltokorpi et al., 2008· Salmela et al., 2012· Siverbo et al., 2013· Smollan, 2015· Smollan, 2015· Smollan, 2015· Thakur et al., 2012· Yabome, 2017
	Case Studies	-3 articles based on organizational innovation literature in healthcare -5 articles based on change management literature in healthcare	9	Abraham & Junglas, 2011· Anson, 2000· Bamford & Daniel, 2005· Bevan, 2010· Golden, 2006· Hopkins et al., 2011· MacPhee, 2007· Øvretveit et al., 2012· Suc et al, 2009
	Mixed Method	-2 articles based on organizational innovation literature in healthcare -2 articles based on change management literature in healthcare	4	Birken et al., 2013· Erwin, 2009· Fleuren et al., 2004· Guglielmi et al, 2017

The diagram 2 shows that research papers outweigh theoretical papers, whereas the diagram 3 presents the distribution of articles based on the methodology used. The findings show that most of studies are recorded as qualitative, while 20% corresponds to quantitative surveys. Literature reviews as well as theoretical analyzes reach 16-17%, while 15% of studies include case studies and mixed methods.

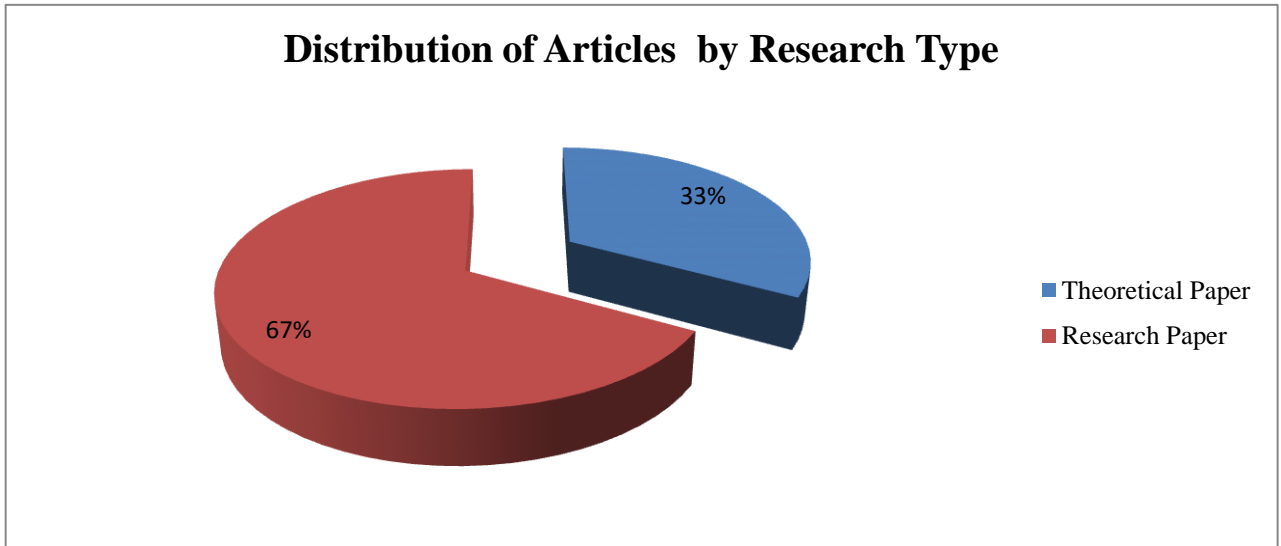


Diagram 2. Distribution of Reviewed Articles by Research Type

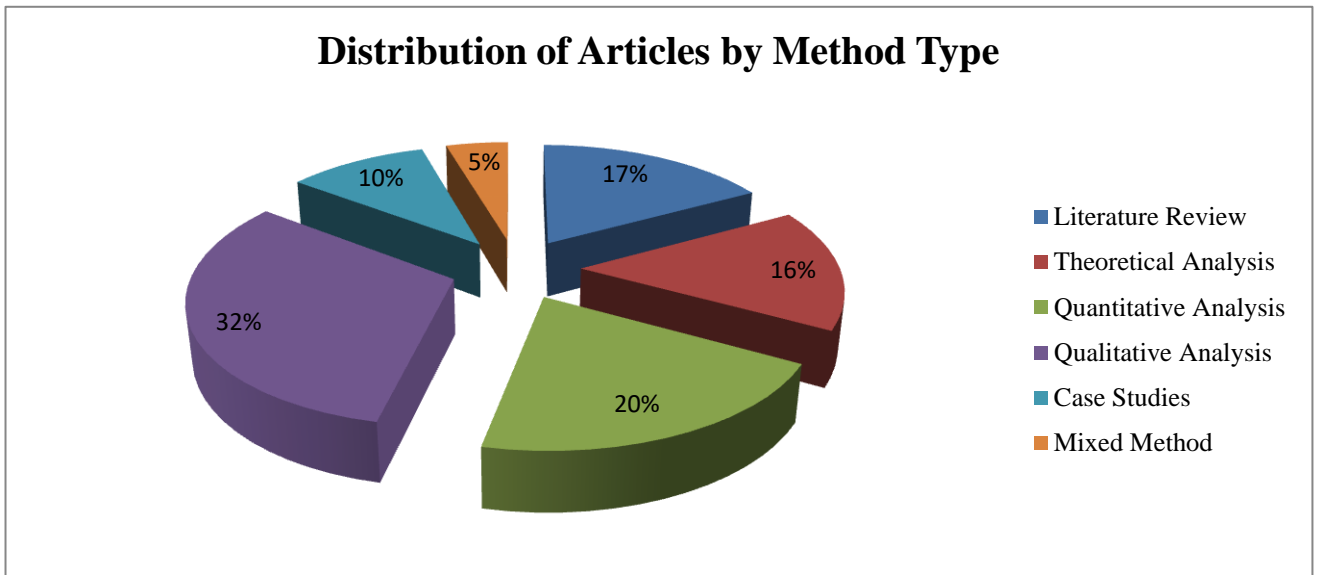


Diagram 3. Distribution of Articles by Method Type

The diagram 4 presents the distribution of articles based on method type and source domain. It seems that organizational innovation literature and change management literature in healthcare are the articles' main source of origin. The findings also indicate that the majority of articles derived from organizational innovation or change management literature are qualitative studies.

Finally, it is obvious that the existing literature in this field consists mainly of qualitative studies, theoretical analyzes and literature reviews rather than quantitative studies. It seems that most of the reviewed articles try to construct a theoretical basis rather than test the theory. These findings are in line with the idea that a relatively new field of research such as innovation research in healthcare uses mainly literature review, qualitative analysis or theoretical analysis to cover the lack of a solid theoretical background.

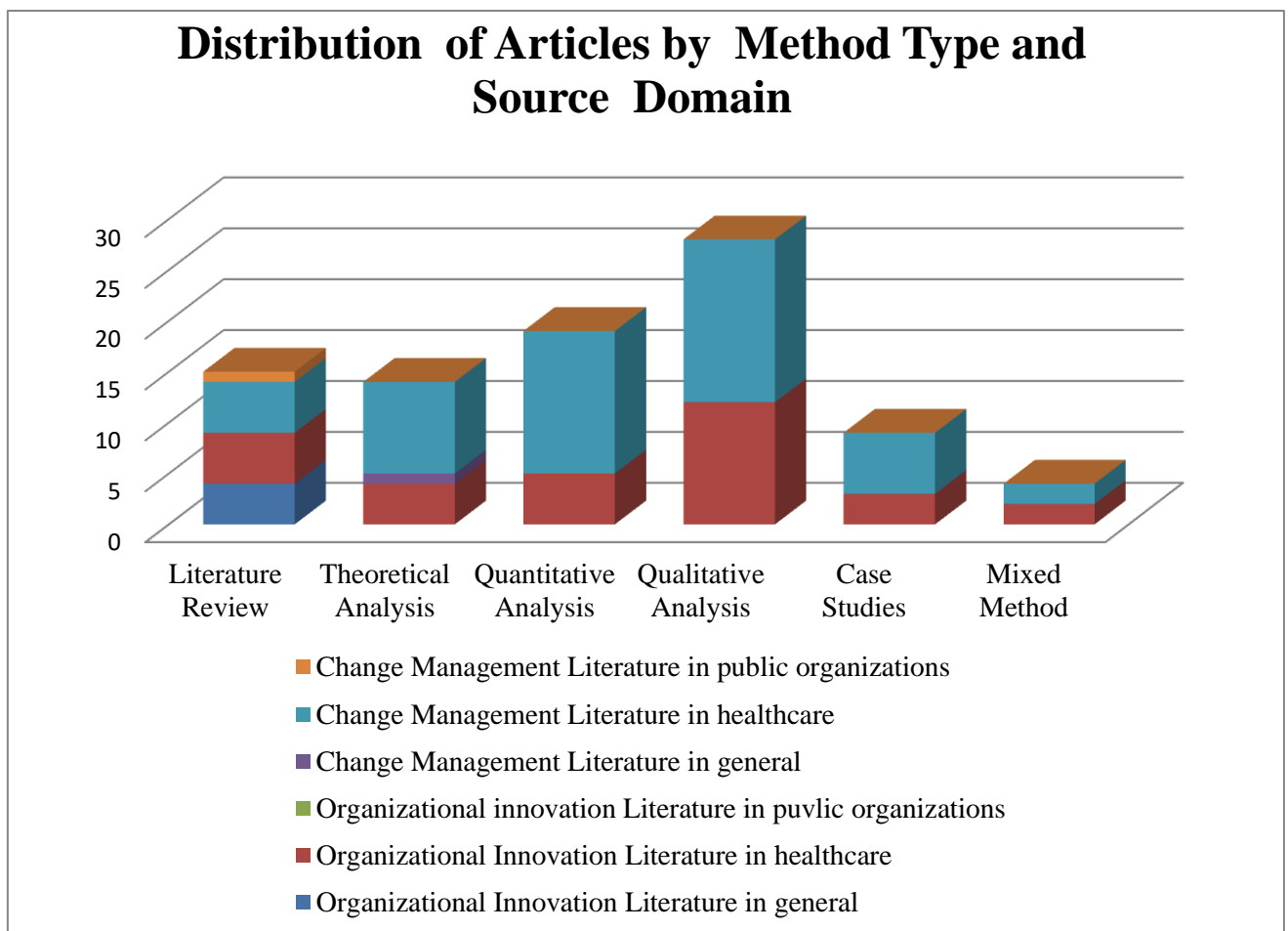


Diagram 4. Distribution of Articles by Method Type and Source Domain

In Table 12, the distribution of articles by method of research methodology is presented. The table contains only the papers that followed a research method such as a questionnaire survey, an

interview or even a combination of them. Based on Table 12 and Appendix D, we can see the analysis of papers' empirical methodology. It seems that in this topic both methods of data collection are used to the same extent, whereas the methods of data analysis used by researchers vary.

Table 12.

Distribution of Articles by Method of Data Collection

Method of Research Methodology	Number of Papers	Articles
Questionnaires	21	Åmo, 2006; Birken et al., 2016; Brown et al., 2006; Carlström & Ekman, 2012; Carlstrom & Olsson, 2014; Cunningham et al., 2002; Guglielmi et al., 2017; Gustafson et al., 2003; Jacobs et al., 2015; Knol & Van Linge, 2009; Merono-Cerdan & Lopez-Nicolas, 2013; Molfenter et al., 2011; Osatuke et al., 2014; Pellegrin & Currey, 2011; Shea et al., 2014; Steele Gray et al., 2015; Steinke et al., 2013; Teo et al., 2013; Ugurluoglu et al., 2013; Van Rossum et al., 2016; Watt & Piotrowski, 2008
Interviews	20	Barnett et al., 2011; Bérard et al., 2015; Birken et al., 2013; Boyal & Hewison, 2016; Chreim et al., 2012; Eljiz et al., 2011; Erwin, 2009; Giæver & Smollan, 2015; Harvey et al., 2015; Kash et al., 2013; Kash et al., 2014; Martin et al., 2012; Peltokorpi et al., 2008; Salmela et al., 2012; Siverbo et al., 2013; Smollan, 2015; Smollan, 2015; Smollan, 2017; Thakur et al., 2012; Yabome, 2017
Combination	7	Adams et al., 2011; Adams et al., 2013; Caldwell et al., 2008; Erskine et al., 2013; Fleischer et al., 2015; Ljungquist, 2014; Macfarlane et al., 2011
Not mentioned	2	Fleuren et al., 2004; Landaeta et al., 2008

Distribution of Articles by Method of Data Collection

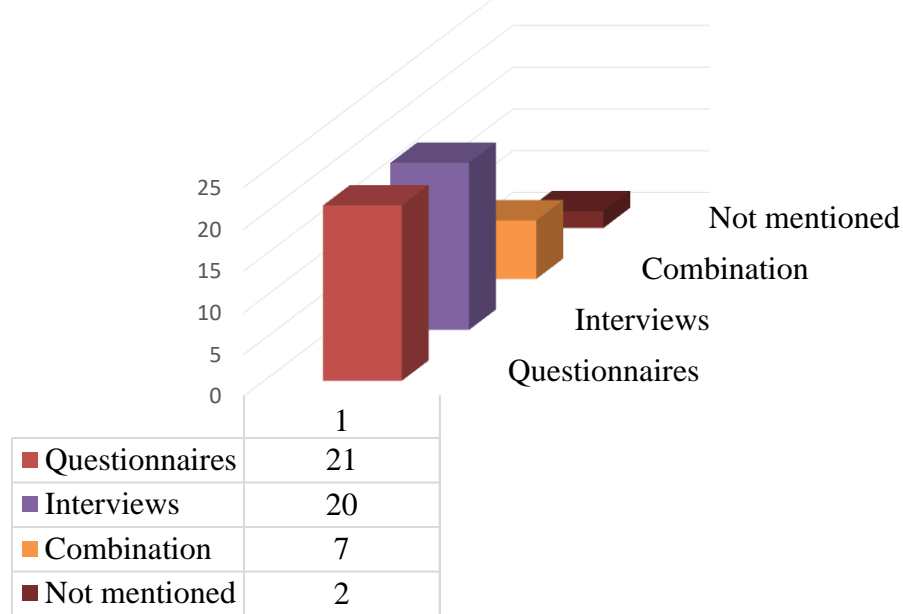


Diagram 5. Distribution of Articles by Method of Data Collection

In Table 13 the distribution of articles per unit of analysis is presented. Firstly, key findings are identified with the help of Appendix C and then several units of analysis are defined in line with the content of each article and the review question they answer. Thus, the articles are classified into four main categories:

- Features of organizational innovation in healthcare
- Aspects of organizational life that need to be evaluated to understand the process of organizational innovation through the prism of strategic change management in healthcare
- Factors influencing organizations' readiness for change and their ability to assimilate innovative interventions in healthcare
- Factors that influence sustainability of organizational innovation in healthcare

Then, key concepts are divided into subunits as shown in Table 13. Based on the concept-matrix table of Appendix D, the structure of analysis is described. Considering the absence of a stable theoretical framework, some researchers tried to approach the features of organizational innovation in healthcare analyzing the different streams of innovation research. Some others thoroughly

studied the dimensions of the phenomenon in order to form a complete picture of its characteristics. A group of articles linked the characteristics of innovation in healthcare with the factors that determine its adoption and implementation. Innovation behavior was another issue that also attracted the interest of researchers. As we have already said, to understand the mechanism of change that innovation entails through the lens of change management, the study of organizational change in healthcare was also included. This group of researchers focused on studying the aspects of organizational life involved in change process highlighting the influence of specific change management factors, organizational culture and leadership. Some researchers specified the factors that influence organizational readiness for change and resistance to change in healthcare, while others tried to link organizational readiness for change to the level of absorptive capacity, the development of organizational learning and the management of psychological effects that are associated with change. A small group of articles analyzed the factors that affect innovation sustainability in healthcare.

Table 13.

Distribution of Articles per Unit of Analysis

Main Concept	Unit of analysis	Number of Articles	Articles
Features of organizational innovation in healthcare	Innovation Research	10	Birken et al., 2012; Birken et al., 2013; Crossan, & Apaydin, 2010; Fleuren et al., 2004; Kim & Chung, 2017; Lansisalmi et al, 2006; Rye & Kimberly, 2006; Thune & Mina, 2016; Weberg, 2009; Wolfe, 1994
	Innovation Dimensions	5	Adams et al., 2011; Adams, R. et al, 2013; Crossan & Apaydin, 2010; Suc et al, 2009; Varkey et al., 2008
	The determinants of innovation	14	Barnett et al, 2011; Bérard et al, 2015; Birken et al., 2012; Birken et al., 2013; Birken et al., 2016; Crossan & Apaydin, 2010; Eljiz et al., 2011; Fleuren et al., 2004; Jacobs et al., 2015; Kim & Chung, 2017; Øvretveit et al., 2012; Thakur et al., 2012; Varkey et al., 2008; Ward, 2010
	Innovative behavior	4	Åmo, 2006; Hopkins et al., 2011; Knol & Van Linge, 2009; Merono-Cerdan & Lopez-Nicolas, 2013

Aspects of organizational life that need to be evaluated to understand the process of organizational innovation	Change Management Factors	26	Abraham & Junglas, 2011·Allen, 2016· Anders & Cassidy, 2014· Bamford & Daniel, 2005·Bazzoli et al., 2004· Chreim et al., 2012·Doebbeling & Flanagan, 2011· Erwin, 2009· Guglielmi et al, 2017·Gustafson et al, 2003· Kash et al, 2014· Kuipers et al., 2014· Lee et al., 2013· Ljungquist, 2014· Macfarlane et al., 2011· MacPhee, 2007· Mc Phail, 1997· Øvretveit et al., 2012· Peltokorpi et al., 2008· Siverbo et al., 2013· Smollan, 2017· Steinke et al., 2013· Suc et al, 2009· Thompson, 2010· Van Rossum et al, 2016·Yabome, 2017
	Organizational Culture	16	Anders & Cassidy, 2014·Anson, 2000· Bevan, 2010· Caldwell et al., 2008· Carlström & Ekman, 2012· Erskine et al., 2013· Erwin, 2009· Evans et al., 2015· Ferrara-Love, 1997· Halm, 2011· Hopkins et al., 2011· Kash et al., 2014·MacPhee, 2007· Narine & Persaud, 2003· Pellegrin, & Currey, 2011· Salmela et al., 2012
	Leadership	14	Anders & Cassidy, 2014· Bevan, 2010· Boyal & Hewison, 2016· Caldwell et al., 2008· Golden, 2006· Erskine et al., 2013·Erwin, 2009· Hopkins et al., 2011· Kash et al., 2014· Kuipers et al., 2014· MacPhee, 2007· Nelson-Brantley & Ford, 2017·Salmela et al., 2012·Van Rossum et al, 2016
Factors influencing organizations' readiness for change and their ability to assimilate innovative interventions in healthcare	Organizational Readiness for change	7	Caldwell et al., 2008· Cunningham et al, 2002·Nelson-Brantley & Ford, 2017·Shea et al., 2014· Steele Gray et al.,2015·Weiner et al., 2008·Weiner, 2009
	Organizational Learning	3	Abraham & Junglas, 2011·O'Sullivan, 1999· Ugurluoglu et al., 2013
	Absorptive Capacity	3	Harvey et al., 2015· Kash et al., 2013· Kash et al., 2014
	Resistance to change	5	Carlström & Ekman, 2012· Carlstrom & Olsson, 2014· Landaeta et al., 2008· Osatuke et al., 2014· Peltokorpi et al., 2008
	Psychological Effects	10	Brown et al., 2006· Caldwell et al., 2008· Evans et al., 2015· Giaever, & Smollan, 2015· Kim & Chung, 2017· Smollan, 2015· Smollan, 2015·Smollan, 2017· Teo et al, 2013· Watt & Piotrowski, 2008

Factors that influence sustainability of organizational innovation	5	Buchanan et al., 2005; Fleiszer et al., 2015; Fleiszer et al., 2015; Martin et al, 2012; Molfenter et al., 2011
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Based on Table 13 it appears that most articles are classified into second category that studies the aspects of organizational life that need to be evaluated to understand the process of organizational innovation, whereas only five studies fit into the category that studies the sustainability of organizational innovation. The number of articles in each category reveals the variable interest of researchers. In Figure 5 the main topics of research are presented, whereas in Figure 6 the main topics that need further investigation are described.

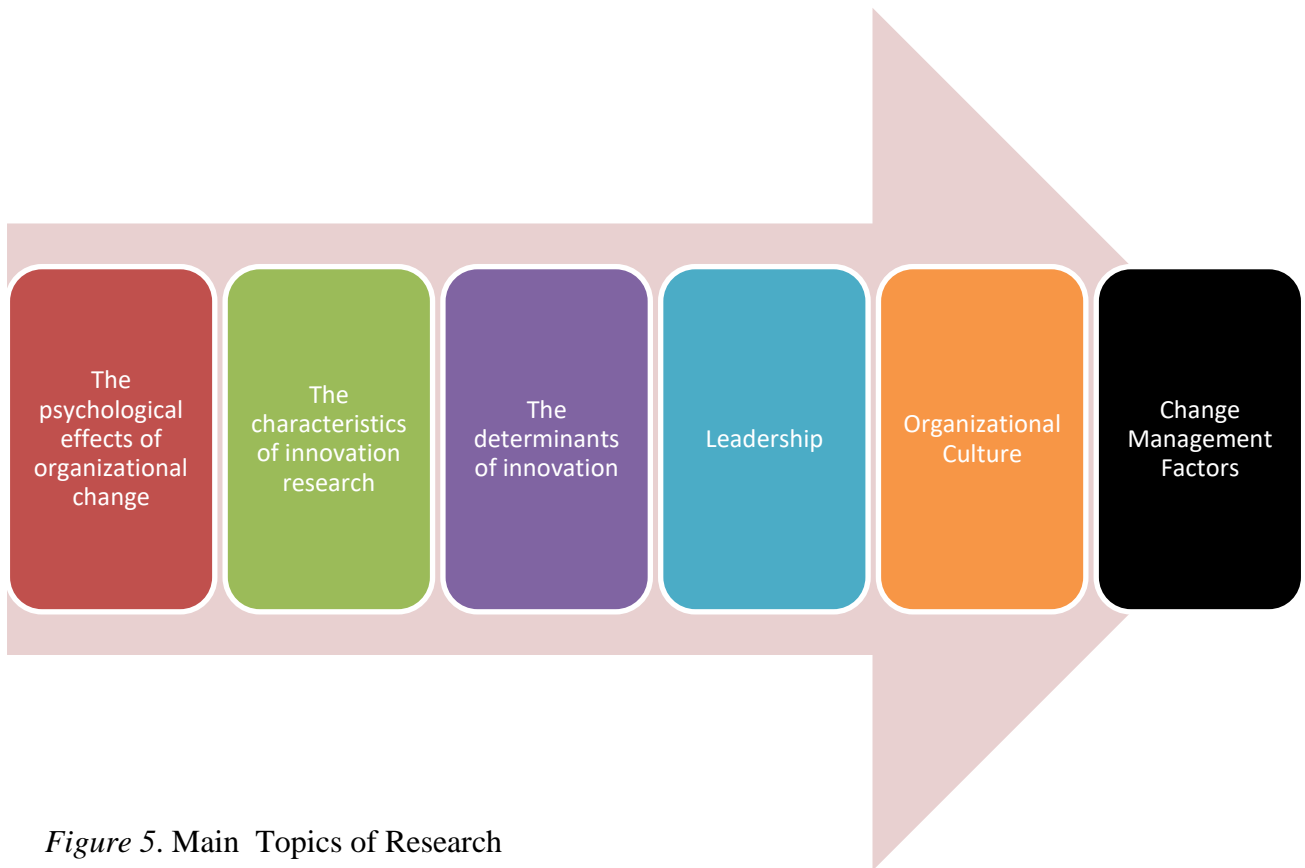


Figure 5. Main Topics of Research



Figure 6. Main Topics for Further Investigation

Chapter Five

Conclusions

In this chapter, the key findings of the research are discussed drawing conclusions from the results extracted. The research constraints and the implications for future research are also presented.

5.1 Discussion

In this section, an attempt is made to summarize the findings of research and answer briefly the review questions:

- **What is known about the features of organizational innovation in healthcare?**

It seems that none of the articles give a direct answer to this question. However, several articles are related to this issue and could provide a basis for certain conclusions.

The contradictory findings of research show that organizational innovation in general is a multi-dimensional phenomenon (Crossan & Apaydin, 2010). The difficulty of existing innovation literature is to generalize its conclusions due to:

- The lack of acceptance of a commonly accepted definition for organizational innovation (Ovretveit, 2012; Weberg, 2009)
- The tendency of research to ignore the demands of context in which organizational innovation is implemented (Bérard et al., 2015; Wolfe, 1994)
- The heterogeneity of literature as in each case innovative activities are related to different stages or dimensions of innovation as shown also in Appendix C (Crossan & Apaydin, 2010; Lansisalmi, 2014; Thune & Mina, 2016; Wolfe 1994).

First of all, organizational innovation in healthcare is a form of service or method carrying out management tasks and is perceived as new by those who adopt it. (Ovretveit, 2012). It is obvious that some “medical innovations” present similarities with “organizational innovations”, but the emphasis is not on changes in service delivery or clinical practice, but mainly on changes in the provision of administrative support. That means that organizational innovation deals with people and the organization of work, whereas process innovation deals with the implementation of new equipment, techniques etc. (Merono-Cerdan. & Lopez-Nicolas, 2013). The difference is subtle, but significant in practice. The sub-categories of organizational innovation are: quality/ safety improvements, information technology- assisted service delivery or management models and strategies/ methods used for implementing improvements (Ovretveit, 2012).

The adoption and implementation of organizational innovation in healthcare organizations seem to be a complex issue (Fleuren et al, 2004; Rye & Kimberly, 2007), as the context presents several challenges. First of all, in healthcare the emphasis is mainly on patient care and not on the quality of administrative support (Suc et al, 2009). Then, the adjustment of implementation strategy to the needs of healthcare organizations is a demanding procedure (Suc et al, 2009). Moreover, clinicians and nursing groups present resistance to change the existing medical practices risking their autonomy in everyday practice (Lansisalmi, 2014). The difficulty also appears in the management of hierarchical structure (Suc et al, 2009) and the gap between managers’ motivations and stakeholders’ values (Ward, 2010).

The absence of an innovation strategy that takes into account these factors lead to the adoption of management or improvement techniques from other sectors ignoring contextual factors (Bérard et

al, 2015·Eljiz et al, 2011). However, Merono-Cerdan and Lopez-Nicolas (2013) note that in other sectors, organizational innovation is “result-oriented” emphasizing on cost, time and quality whereas in healthcare the emphasis is on knowledge management and product/process innovation. These features of organizational innovation in healthcare show that effective innovation implementation is feasible when:

- The process, the content, the context and the outcome of change that entails is analyzed (Ovretveit, 2012).
- Determinants of innovation at any stage of innovation cycle are defined based on characteristics of socio-political context, characteristics of the organization, characteristics of the adopting person and characteristics of innovation (Crossan & Apaydin, 2010·Barnett et al., 2011·Fleuren et al, 2004·Varkey et al, 2008)
- The engagement of clinical leaders is promoted (Hopkins et al.,2011· Ovretveit, 2012)
- Physicians’ perceptions of implementation climate are taken into account (Jacobs et al, 2015)
- Middle managers’ involvement in innovation implementation is encouraged. (Birken et al, 2012· Birken et al, 2013· Birken et al, 2016)
- The implementation process is adapted to the innovation type (Ovretveit, 2012)

Based on these findings, the prerequisites for successful management of organizational innovation in healthcare are described in detail. First of all, conscious change management should be adopted to enable innovation adoption as ‘same innovation can mean different things for individuals in different contexts’ (Adams et al, 2011·Eljiz et al, 2011). In addition, as innovation types can be distinguished on the basis of innovation process characteristics, attention should be given to innovation process (Adams et al, 2013).

Secondly, prior to the adoption of innovations by provider organizations in healthcare environmental influences, the level of connectedness, organizational attributes and innovation characteristics should be taken into account (Rye & Kimberly, 2007). Furthermore, the contribution of healthcare practitioners in innovation process and the role of hospitals in innovative activities should be evaluated (Thune et Mina, 2016) and a bottom-up approach should be encouraged to facilitate the adoption of innovation (Thakur et al, 2012). In the same direction, middle managers’ proactivity should be promoted (Birken et al, 2013).

Decision-making strategy concerning the execution of innovative ideas should be aligned to the mission of the organization and adapted to government policies (Thakur et al, 2012). Emphasis

should be given on the development of empowerment that promotes innovation behavior in healthcare organizations (Amo, 2006; Knol & Van Linge, 2008) and on the construction of a climate in which innovation implementation is encouraged. (Jacobs et al, 2015). As individual factors seem to be the primary predictors of implementation success emphasis should be given specially to the individual-level implementation process (Kim & Chung, 2017). Finally, improvement techniques from other industries can be adopted but should be adapted to healthcare organizations. (Eljiz et al, 2011)

- **Which aspects of organizational life need to be evaluated to understand the process of organizational innovation;**

Varkey et al (2008) noticed that little is known about innovation process in healthcare. However, the existing literature on strategic change penetrates into organizational life of healthcare organizations and tries to capture the factors that promote or hinder change process. But which is the magic formula for a successful change process?

Allen (2016) insists that the key to implementation effectiveness in healthcare is the methodical planning of change process. Golden (2006) suggests that the ‘‘recipe for a successful strategic change’’ involves five critical elements: vision, skills, incentives, resources and action plan. Doebbeling and Flanagan (2011) describe a set of redesign strategies that promote transformational change in healthcare based on the concept of complex adaptive systems, the role of organizational context, the evaluation of organizational performance using tools of measurement, the construction of a continuous learning organization and the incorporation of information, technology, and communication into practice. Kash et al (2014) describe ‘‘the success factors’’ of change process in healthcare emphasizing on the role of organizational culture, the adoption of an effective leadership style, the enhancement of communication within the organization, the management of financial resources, the active involvement of staff during change process, the access to information, the role of market forces, the service quality and client satisfaction, the design of a coherent planning and the management of business process. Siverbo et al. (2013) suggest that the key point for change is the adoption of a bottom-up approach with everyone’s engagement. Steinke et al (2013) analyze the barriers to organizational change and introduce organizational strategies that enhance organizational fitness for change. Finally, Yabome (2017) introduces the method of large-scale organization development interventions to support successful change process based on shared transformational experience.

These findings provide practical knowledge on the management of change process in healthcare and indicate that innovation research may benefit from a change management perspective to assist healthcare organizations along their transformation. (Eljiz et al, 2011). Thus, research can be directed to the aspects of organizational life that need to be evaluated to understand the process of organizational innovation.

It is clear that the introduction of organizational innovation can disrupt organizational life causing changes in different aspects. As Thompson (2010) underlies “the objective is to translate the change from innovation to an accepted way of organizing work”. However, healthcare organizations are “the most complex form of human organizations to manage” (Golden,2006). The complexity is reflected to the management of unbalanced dynamic capabilities associated with different management roles within the organization. (Ljungquist, 2014). It seems that the emphasis of top management on the efficiency of change process in contrary to the implementation of change in practice from local management can block the whole process.

First of all, it seems that change process in healthcare is mainly a non-linear process (Chreim et al, 2012). Lee et al (2012) in their attempt to describe the process of transformational change in healthcare and other industries, added that in healthcare change is a process primarily performed from top to bottom, its implementation is always based on a plan, while the length of process varies along time. The outcome is mainly directed to financial performance, product or service quality and organizational survival (Lee et al, 2012). Secondly, the modernization of healthcare demands an “organic model of change” based on human resources rather than a “deterministic” based on re-engineering. (Macfarlane et al, 2011). Recent developments in healthcare show that the mobilization of workforce is essential to upgrade performance in cost and quality (Bevan, 2010; Guglielmi, 2017).

In addition, successful organizational performance in healthcare depends on the incorporation of change into organization’s culture. (Anson, 2000; Ferrara-Love,1997; Narine & Persaud, 2003; Pellegrin & Currey, 2015; Thompson, 2010) Organizational culture refers to beliefs, values and common behavior patterns among a group of people and is closely linked to the success of organizational change (Evans et al, 2015). The emphasis is mainly given to bonding mechanisms of an organization - the “social glue” binding the different parts of an organization together (Evans et al, 2015)

Organizational change also demands leadership development. The features of leadership as well as the reaction of individuals to leaders' interventions influence change process (Erwin, 2015). For example, transformational leadership enables change especially in hospitals implementing lean principles (Van Rossum et al, 2016).

From what we can see, as strategic change management is the process of managing change implementation according to organizations' mission and strategies (Kuipers et al, 2013), a change-oriented organization should evaluate the execution of change process in practice, the level of human resources development, the existing organizational culture and the degree of leadership development.

Bazzoli et al. (2004) studied organizational change in healthcare including hospitals and physicians and suggested that the content, the process, the context and the outcomes of organizational change should be examined simultaneously in healthcare services. Thus, the nature of change should be evaluated in terms of scope, depth and urgency prior to change process (Thompson, 2010). Different change models can be used as tools to assist in this process, but the selection depends on the flow of change process, the nature of change and the context (Anders & Cassidy, 2014). Generally, models of planned change are useful, but as organizational change always displays emergent elements, models of emergent change should be equally used (Bamford & Daniel, 2005).

Furthermore, there are few models that evaluate the outcome of change projects in healthcare, but they focus mainly on identifying potential barriers to improvement changes (Gustafson et al, 2013). However, in healthcare stakeholders' involvement can influence the outcome of change and as a result attention should be given to power dynamics (Chreim et al, 2012). Therefore, Peltokorpi et al (2008) suggest the adoption of a stakeholder approach for evaluating organizational change projects based on the goals of organizational change and stakeholders' reaction to change.

The level of human resources development should be also evaluated as healthcare demands greater employee engagement during change process (Halm, 2011). Therefore, in response to a changing environment human resources management should be developed to fulfill the construction of a supportive workplace for employees and staff development adapted to service needs (Macfarlane et al, 2011; Smollan, 2017).

Organizational culture is a critical element during change process and should be evaluated . It is obvious that healthcare units generally present autonomy and as a result collective action and coordination is difficult (Abraham & Junglas, 2011). Thus, cultural differences should be identified and managed (Evans et al, 2015). Otherwise, active involvement of different stakeholders' and coordinated action cannot be accomplished. Innovative change demands culture with an emphasis on human capital and organizational behavior consistent with organizations' strategy. (Pellegrin & Currey, 2015).

Finally, the quality of leadership should be evaluated at different levels of hierarchy as transformational change is shaped by leaders ‘‘from board to the ward’’(Erskine et al, 2013). In healthcare, as collective action is of vital importance the modern perspective of leadership that focuses on relationships and trust formation responds to challenges (Hopkins et al, 2011· MacPhee, 2007). The aim is individual competency development to promote change at organizational level. In this effort, special attention should be given to nurses as change agents (Bevan, 2010·McPhail, 1997). Salmela et al (2011) insist that leading change as nurse in healthcare means leading relationships, processes and culture. Boyal and Hewison (2016) highlight the key role of nursing staff in strategic decision making, whereas Nelson- Brantley and Ford (2016) claim that ‘‘ leading change is a complex process where nurses individually and collectively balance paradoxically priorities to provide operational support, foster relationships and facilitate organizational learning to achieve improved performance and outcomes and new organizational culture and values’’.

- Which factors influence organizations' readiness for change and their ability to assimilate innovative interventions;

In healthcare, organizational readiness for change is a critical element during the implementation of complex innovation as it reflects organization's motivation and capability for intentional organizational change (Weiner et al, 2008). Thus, attention should be given to its measurement development due to the fact that a reliable assessment predicts change efforts that may fail and shows organization's flexibility for collective action, co-ordination and teamwork in case of imminent change (Shea et al, 2014).

Organizational readiness for change is defined as a shared psychological state with two dimensions: change commitment and change efficacy (Weiner, 2009). The level of organizational readiness for change depends on the level of organization's valence to commit change and the

assessment of organization's implementation capability based on task demands, resource availability and situational factors (Weiner, 2009) . The role of contextual factors should be also identified as context receptivity for innovation varies , whereas emphasis should be given to the evaluation of readiness for change during the different phases of change as it changes over time (Steele et al, 2015·Weiner, 2009).

Organizational readiness for change is also associated with individual readiness for change. It seems that the active engagement in organizational change reducing at the same time working inhibitors and encouraging individuals' sense of self-efficacy are factors that enable readiness for organizational change (Cunningham et al, 2002).

Furthermore, it seems that the adoption of a leadership style based on norms such as teamwork and tolerance for mistakes positively influence readiness for change (Caldwell et al, 2008). Therefore, the importance of organizational readiness for change should not be overlooked as it is a critical antecedent for leading change (Nelson-Brantley & Ford, 2016).

However, the capacity of healthcare organizations to assimilate innovative interventions is also related to other factors. First of all, special attention should be placed on the sources of resistance to change that are specific to healthcare organizations (Landaeta et al, 2008). In healthcare, employees' reactions to change should be at the center of leadership's interest (Osatuke et al, 2014). As resistance to change is related to specific types of subcultures between different working groups within a clinic, cultural differences between working groups should be identified prior the implementation of change process to evaluate employees' preparedness for change (Carlstrom & Olsson, 2014). The correlation between organizational culture and resistance to change should be analyzed even in lower hierarchical levels such as the wards of a clinic (Carlström & Ekman, 2012).

Secondly, it is known that stress impedes readiness for change (Cunningham et al, 2002). It seems that stress varies during the different phases of change, whereas the transition phase is the most stressful (Smollan, 2015-a· Smollan, 2015-b). Giæver & Smollan (2015) reveal the vital role of emotions as change process unfolds. For example, organizational change cynicism can hinder employee engagement during organizational change (Watt & Piotrowski, 2008). But, organizations' ability to assimilate innovative interventions depends on the management of psychological effects of change (Brown et al, 2006· Teo et al, 2013). A model of support based on employees' needs

during the different stages of change could promote employees' engagement in change process (Guglielmi, et al., 2008; Smollan, 2017).

Furthermore, organizational learning is critical for organizations to prepare for change (Ugurluoglu et al, 2013). It is a lengthy "trial- and – error" process, where an organization modifies his behavior based on new data from the external environment and knowledge derived from changes on organizational performance (O' Sullivan, 1999). The emphasis is given to the "collaborative learning process of individuals" and is also a critical element for the implementation of change (Abraham & Junglas, 2011; Ugurluoglu et al, 2013). A learning organization insists on the development of an "adaptive capacity to the changing environment" (Ugurluoglu et al, 2013).

Finally, Kash et al (2013) note that organizational readiness for change, implementation success and outcomes depend on the dimensions of absorptive capacity. Absorptive capacity is defined as "a set of organizational routines and processes by which firms acquire, assimilate, internalize and exploit knowledge to produce a dynamic organizational capability" (Kash et al, 2013). The measurement development of absorptive capacity in healthcare can be based on leadership, culture and organizational technologies (Kash et al, 2013). It seems that the level of absorptive capacity with its focus on knowledge management and organizational learning should be evaluated to understand the features of organizational context that affect decisions concerning change initiatives (Harvey et al, 2017)

- **Which factors affect the sustainability of organizational innovation in these organizations**
Little attention has been given to sustainability of organizational change in change management literature (Buchanan et al, 2005). Successful implementation does not mean sustained change, as the two concepts are distinct (Fleizer et al, 2015-a). Thus, Molfenter et al. (2015) insist on the differentiation of factors between change implementation and change sustainability of healthcare innovations.

Different terms are used to define innovation sustainability in literature, but three main features stand out: enduring health benefits, innovation persistence and development of innovation or recipients of innovation (Fleizer et al, 2015-a). In healthcare sustainability is defined as an enduring innovation that implies stability and is always in line with the wider context of change. (Buchanan et al, 2005; Fleizer et al, 2015-a). Specifically, Molfenter et al (2011) define sustainable change as "an implemented change that remains in place or is improved upon six months later."

First of all, Buchanan et al (2005) identified seven categories of factors that affect sustainability: substantial, individual, managerial, financial, leadership, organizational, cultural, political, processual, contextual, temporal. The outcome of sustainability process is the result of the interplay between three factors: the substance of change, the implementation process and other temporal factors (Buchanan et al, 2005).

Secondly, Molfenter et al (2011) in their model identified nine factors that influence sustainability: adaptability, change reversibility, champion turnover, ongoing leadership, political environment, staff motivation, resources devoted to change, evidence of effectiveness, external pressure.

In addition, Fleizer et al (2015-a) suggested four categories of factors that are related to innovation sustainability: innovation factors, contextual factors, leadership factors and process factors. It seems that the level of innovation sustainability depends on the interaction between innovation-related, context-related, leadership-related and process-related factors and sustainability attributes such as enduring health benefits, innovation persistence and development of innovation or recipients of innovation (Fleizer et al, 2015-a). Based on the example of a nursing practice guideline program Fleizer et al (2015-b) identified the key relationships between factors and features of innovation sustainability that promote sustainability:

- The interaction of commitment of leadership with positive benefits of program
- The interaction of complementarity of leadership actions with both innovation persistence and development
- The interaction of reflection-and-course strategy with development

Finally, Martin et al (2012) noticed that sustainability process is linked to the wider context of change, the nature of innovation, the utility of strategies used and the power of service leaders. It seems that the development of a supportive network within organization, the incorporation into the network of clinical care as well as a flexible and active stance towards change are strategies that promote sustainability.

5.2 General Conclusions

The present thesis aimed to describe the progress of study in strategic change management in healthcare so as to define the features of organizational innovation in healthcare. In the same direction, the aspects of organizational life that need to be evaluated to understand the change

mechanism of innovation process were described. Additionally, the vital role of organizational readiness for change was identified and the factors that affect organization's ability to assimilate innovative interventions were analyzed. The subtle difference between innovation sustainability and successful change implementation was also underlined and the factors influencing innovation sustainability were summarized.

The review was conducted by following the guidelines of Xiao and Watson (2017) about systematic review and the methodology adopted was that of Webster and Watson (2002) based on concept-matrix tables. The search strategy identified 3168 articles, of which 88 papers included in this thesis. The included articles were published between years 1994-2017. The review responded to research challenges and replied to research questions.

It seems that innovation research through the prism of change management is a relatively new field of research and draws data from various fields of interest such as organizational literature, innovation literature in healthcare, innovation literature in public organizations, change management literature, change management literature in healthcare and change management literature in public organizations using a multitude of research methods. Most of the reviewed articles try to construct a theoretical basis rather than test the theory to cover the gap of a solid theoretical background in the domain. The research was based on central units of analysis identified in the existing literature. Units of analysis were defined in line with the content of each article and the review questions and classified into four main categories. Then, key concepts were divided into several subunits.

None of the articles give a direct answer to the first review question about the features of organizational innovation in healthcare. Thus, the specific features of innovation research are analyzed to capture the complexity of the phenomenon. The demands of healthcare context are also identified and the predisposing factors of effective innovation implementation in this sector described. But, the main contribution of the existing literature in this field of research is the key findings about prerequisites for successful management of organizational innovation in healthcare.

It seems that innovation research may benefit from a change management perspective to assist healthcare organizations along their transformation during organizational innovation. Thus, research is directed to the aspects of organizational life that need to be evaluated to understand the process of organizational innovation. Based on findings, a change-oriented organization should evaluate the

execution of change process in practice, the level of human resources development, the existing organizational culture and the degree of leadership development prior the implementation of organizational innovation.

The vital role of organizational readiness for change is also identified during the implementation of complex innovation as it reflects organization's flexibility for collective action in case of change (Shea et al, 2014). The level of organizational readiness for change depends on several factors that need further research such as:

- the level of organization's valence to commit change,
- the level of organization's implementation capability
- the context receptivity for innovation ,
- the level of individual readiness for change
- the leadership style,
- the level of resistance to change that are specific to healthcare organizations
- the management of psychological effects of organizational change
- the development of organizational learning
- the level of absorptive capacity

Another topic that received little attention in the existing literature is the sustainability of organizational innovation in healthcare. Therefore, the term is defined and differentiated from successful implementation of innovation. However, the existing literature has no clear evidence on the factors that affect sustainability of organizational innovation, as there are plenty of factors that seem to be involved.

To sum up, strategic change management opens a promising avenue for organizational innovation research in healthcare emphasizing on the features of change process and the context characteristics. The main contribution of this study is the consolidation of inconsistent findings concerning organizational innovation in healthcare into a theoretically grounded and multi-dimensional structure to advance the existing theory.

5.3 Research Limitations

In this section research limitations are outlined and potential research bias analyzed. From what we can see, research constraints that should be taken into account are considered to be:

- Research articles accessible in the listed digital databases were only included

- The included book chapters were limited in number and found in digital databases
- The review only included articles that were available in full text.

From the beginning of this review, research bias was identified as a potential threat for the validity and accuracy of the study. The main categories are described below:

- Researcher's bias. To minimize researcher's bias in this thesis, articles' titles, abstracts and full texts were read twice.
- Publications' bias. To eliminate publications' bias, the search strategy was analyzed in detail in the review protocol and four of the most well-known databases were used.
- Bias related to primary studies. In order to minimize the risk, articles' titles and abstracts were selected with the help of most well-known databases and read twice.
- Bias related to data acquisition and extraction processes. To minimize the risk, data extract process was analyzed in detail in the data extraction form.

5.4 Suggestions for Future Research

It is generally accepted that organizational innovation in healthcare is a relatively new field of research and needs further development in general. The fact that organizational innovation in healthcare is not "result-oriented" emphasizing on cost, time and quality should be investigated in detail. An implication of this research is that organizational innovation in healthcare cannot be executed faithfully, step by step and without deviations from a specific plan. Innovation is an organizational change but it may change during implementation (Kim & Chung, 2017). Thus, its evolving nature during implementation as well as the role of different stakeholders need further research.

In this thesis, the identified articles mainly include literature reviews, qualitative analyzes or theoretical analyzes to cover the gaps of theoretical background. However, it seems that broader empirical studies are needed to ensure a more evidence-based perspective on change management literature.

It is real that this search focused on successful change initiatives to identify the prerequisites for successful management of organizational innovation. But, attention should be given also to unsuccessful change initiatives to capture the factors that circumvent change process.

As we have seen innovation research in healthcare presents several difficulties due to the great heterogeneity. Thus, a commonly accepted definition for organizational innovation should be adopted, the characteristics of context in which organizational innovation is implemented should be analyzed and the stage of innovation process should be defined in future research efforts.

The aspects of organizational life that need to be assessed to understand the course of innovation process have been reported in this thesis. However, further research is needed to identify the way these factors affect the outcome of change process and which of them need attention in each case.

The emotional nature of organizational change requires also deeper analysis, as the existing literature emphasizes on the management of psychological effects of organizational change.

Future research may also benefit from the study of organizational learning and absorptive capacity in healthcare. Defining the characteristics of a “learning organization” may enhance organizations’ preparedness for change. In the same direction, monitoring the absorptive capacity of change may provide decision-makers with chances to evaluate organizational context from different perspectives and help the organization to adjust its action according to existing conditions eliminating unsuccessful change efforts.

Finally, future research should highlight the sustainability of organizational innovation. Existing literature has no clear evidence on the factors that affect sustainability of organizational innovation.

References

- Abraham, C., & Junglas, I. (2011). From cacophony to harmony: A case study about the IS implementation process as an opportunity for organizational transformation at Sentara Healthcare. *Journal of Strategic Information Systems*, 20(2), 177-197.
- Adams, R., Tranfield, D., & Denyer, D. (2011). How can toast be radical? Perceptions of innovations in healthcare. *International Journal of Clinical Leadership*, 17(1), 37-49.
- Adams, R., Tranfield, D., & Denyer, D. (2013). Process antecedents of challenging, under-cover and readily-adopted innovations. *Journal of Health, Organisation and Management*, 27(1), 42-63.
- Allen, B. (2016). Effective design, implementation and management of change in healthcare. *Nursing standard (Royal College of Nursing (Great Britain) : 1987)*, 31(3), 58-71.
- Åmo, B. W. (2006). Employee innovation behaviour in health care: The influence from management and colleagues. *International Nursing Review*, 53(3), 231-237.
- Anders, C., & Cassidy, A. (2014). Effective organizational change in healthcare: Exploring the contribution of empowered users and workers. *International Journal of Healthcare Management*, 7(2), 132-151.

- Anson, B. R. (2000) Taking Charge of Change in a Volatile Healthcare Marketplace. *HR People & Strategy*, 23, 21-33.
- Audit Commission (2001) *Change Here!: Managing Change to Improve Local Services* (London: Audit Commission).
- Balogun, J. & Hope Hailey, V. (2004) *Exploring Strategic Change*, 2nd edn (London: Prentice Hall).
- Bamford, D., & Daniel, S. (2005). A case study of change management effectiveness within the NHS. *Journal of Change Management*, 5(4), 391-406.
- Barnett, J., Vasileiou, K., Djemil, F., Brooks, L., & Young, T. (2011). Understanding innovators' experiences of barriers and facilitators in implementation and diffusion of healthcare service innovations: A qualitative study. *BMC Health Services Research*, 11.
- Bazzoli, G. J., Dynan, L., Burns, L. R., & Yap, C. (2004). Two decades of organizational change in health care: what have we learned? *Med Care Res Rev*, 61(3), 247-331.
- Bérard, E., Bonnier, C., Saulpic, O., & Zarlowski, P. (2015). Implementing managerial innovations: Lessons from two case studies. *British Journal of Health Care Management*, 21(3), 125-129.
- Bevan, H. (2010). Review: How can we build skills to transform the healthcare system? *Journal of Research in Nursing*, 15(2), 139-148.
- Birken, S. A., DiMartino, L. D., Kirk, M. A., Lee, S. Y. D., McClelland, M., & Albert, N. M. (2016). Elaborating on theory with middle managers' experience implementing healthcare innovations in practice. *Implementation Science*, 11(1).
- Birken, S. A., Lee, S. Y. D., & Weiner, B. J. (2012). Uncovering middle managers' role in healthcare innovation implementation. *Implementation Science*, 7(1).
- Birken, S. A., Lee, S. Y. D., Weiner, B. J., Chin, M. H., & Schaefer, C. T. (2013). Improving the Effectiveness of Health Care Innovation Implementation: Middle Managers as Change Agents. *Medical Care Research and Review*, 70(1), 29-45.
- Boyal, A., & Hewison, A. (2016). Exploring senior nurses' experiences of leading organizational change. *Leadership in health services (Bradford, England)*, 29(1), 37-51.
- Breretona, P., Kitchenhama, B.A, Budgenb, D., Turnera, M. and Khalilc, M. (2007). Lessons from Applying the Systematic Literature Review Process within the Software Engineering Domain. *Journal of Systems and Software*, 80 (4): 571–83.
- Brown, H., Zijlstra, F., & Lyons, E. (2006). The psychological effects of organizational restructuring on nurses. *Journal of Advanced Nursing*, 53(3), 344-357.
- Buchanan, D., Fitzgerald, L., Ketley, D., Gollop, R., Jones, J., Lamont, S., . . . Whitby, E. (2005). No going back: A review of the literature on sustaining organizational change. *International Journal of Management Reviews*, 7(3), 189-205.
- Caldwell, D. F., Chatman, J., O'Reilly, C. A., 3rd, Ormiston, M., & Lapid, M. (2008). Implementing strategic change in a health care system: the importance of leadership and change readiness. *Health Care Manage Rev*, 33(2), 124-133.
- Carlstrom, E., & Olsson, L. E. (2014). The association between subcultures and resistance to change – In a Swedish hospital clinic. *Journal of Health, Organisation and Management*, 28(4), 458-476.
- Carlström, E. D., & Ekman, I. (2012). Organisational culture and change: Implementing person-centred care. *Journal of Health, Organisation and Management*, 26(2), 175-191.
- Chalmers, I., Enkin, M., Keirse, M.J.N.C., (1989). *Effective Care in Pregnancy and Childbirth*. Oxford University Press, Oxford.
- Chreim, S., Williams, B. E., & Collier, K. E. (2012). Radical change in healthcare organization: Mapping transition between templates, enabling factors, and implementation processes. *Journal of Health, Organisation and Management*, 26(2), 215-236.
- Cochrane, A., (1972). *Effectiveness and Efficiency: Random Reflections on Health Services*. The Nuffield Provincial Hospital Trust.

- Crossan, M. M., & Apaydin, M. (2010). A Multi-Dimensional Framework of Organizational Innovation: A Systematic Review of the Literature. *Journal of Management Studies*, 47(6), 1154-1191.
- Cunningham, C. E., Woodward, C. A., Shannon, H. S., MacIntosh, J., Lendrum, B., Rosenbloom, D., & Brown, J. (2002). Readiness for organizational change: A longitudinal study of workplace, psychological and behavioural correlates. *Journal of Occupational and Organizational Psychology*, 75(4), 377-392.
- Dickson, R., Cherry, M.G., Boland, A., (2013). Carrying Out a Systematic Review As a Master's Thesis. *Doing a Systematic Review. A student's guide*, pp. 3-16.
- Doebbeling, B. N., & Flanagan, M. E. (2011). Emerging Perspectives on Transforming the Healthcare System Redesign Strategies and a Call for Needed Research. *Medical Care*, 49(12), S59-S64.
- Eljiz, K., Hayes, K., Dadich, A., Fitzgerald, J., Sloan, T., & Kobilski, S. (2011). Can that work for us? Analysing Organisational, Group and Individual Factors for Successful Health Services Innovation. *Asia Pacific Journal of Health Management*, 6(2), 29-38.
- Erskine, J., Hunter, D. J., Small, A., Hicks, C., McGovern, T., Lugsden, E., . . . Eccles, M. P. (2013). Leadership and transformational change in healthcare organisations: A qualitative analysis of the North East Transformation System. *Health Services Management Research*, 26(1), 29-37.
- Erwin, D. (2009). Changing organizational performance: examining the change process. *Hospital Topics*, 87(3), 28-40.
- Evans, J. M., Baker, G. R., Berta, W., & Barnsley, J. (2015). Culture and cognition in health systems change. *Journal of Health Organization and Management*, 29(7), 874-892.
- Ferrara-Love, R. (1997). Changing organizational culture to implement organizational change. *Journal of perianesthesia nursing : official journal of the American Society of PeriAnesthesia Nurses*, 12(1), 12-16.
- Fleiszer, A. R., Semenic, S. E., Ritchie, J. A., Richer, M. C., & Denis, J. L. (2015a). An organizational perspective on the long-term sustainability of a nursing best practice guidelines program: A case study. *BMC Health Services Research*, 15(1).
- Fleiszer, A. R., Semenic, S. E., Ritchie, J. A., Richer, M. C., & Denis, J. L. (2015b). The sustainability of healthcare innovations: A concept analysis. *Journal of Advanced Nursing*, 71(7), 1484-1498.
- Fleuren, M., Wiefferink, K., & Paulussen, T. (2004). Determinants of innovation within health care organizations: literature review and Delphi study. *Int J Qual Health Care*, 16(2), 107-123.
- Gjæver, F., & Smollan, R. K. (2015). Evolving emotional experiences following organizational change: a longitudinal qualitative study. *Qualitative Research in Organizations and Management*, 10(2), 105-133.
- Gilpin-Jackson, Y. (2017). Participant experiences of transformational change in large-scale organization development interventions (LODIs). *Leadership and Organization Development Journal*, 38(3), 419-432.
- Glass, G. V., (1976). Primary, Secondary, and Meta-analysis of Research. *Educational Researcher*, 5 (2).
- Glynn, C. & Holbeche, L. (2001) *The Roffey Park Management Agenda 2001* (Horsham: Roffey Park Institute).
- Golden, B. (2006). Transforming healthcare organizations. *Healthcare quarterly (Toronto, Ont.)*, 10 Spec No, 4,10-19.
- Greenhalgh, T., Robert, G., Macfarlane, F., Bate, P., & Kyriakidou, O. (2004). Diffusion of innovations in service organizations: systematic review and recommendations. *Milbank Q*, 82(4), 581-629.

- Guglielmi, D., Florini, M. C., Mazzetti, G., Depolo, M., Calabrò, E., Miglioli, S., . . . Cioni, G. (2017). Assessment of organizational well-being in an Italian General Hospital after an organizational change. *Italian Journal of Medicine*, *11*(2), 95-101.
- Gustafson, D. H., Sainfort, F., Eichler, M., Adams, L., Bisognano, M., & Steudel, H. (2003). Developing and testing a model to predict outcomes of organizational change. *Health Services Research*, *38*(2), 751-776.
- Halm, B. (2011). Employee engagement: a prescription for organizational transformation. *Advances in health care management*, *10*, 77-96.
- Harvey, G., Jas, P., & Walshe, K. (2015). Analysing organisational context: Case studies on the contribution of absorptive capacity theory to understanding inter-organisational variation in performance improvement. *BMJ Quality and Safety*, *24*(1), 48-55.
- Hayes, J. (2002) *The Theory and Practice of Change Management* (Basingstoke: Palgrave).
- Hopkins, M. M., O'Neil, D. A., FitzSimons, K., Bailin, P. L., & Stoller, J. K. (2011). Leadership and organization development in health-care: lessons from the Cleveland Clinic. *Advances in health care management*, *10*, 151-165.
- Iles, V. and Sutherland, K. (2001) *Managing Change in the NHS—Organisational Change* (London: NCCSDO).
- Jacobs, S. R., Weiner, B. J., Reeve, B. B., Hofmann, D. A., Christian, M., & Weinberger, M. (2015). Determining the predictors of innovation implementation in healthcare: a quantitative analysis of implementation effectiveness. *BMC Health Services Research*, *15*, 6-6.
- Kash, B. A., Spaulding, A., Gamm, L., & Johnson, C. E. (2013). Health care administrators' perspectives on the role of absorptive capacity for strategic change initiatives: a qualitative study. *Health Care Manage Rev*, *38*(4), 339-348.
- Kash, B. A., Spaulding, A., Gamm, L. D., & Johnson, C. (2014). Leadership, culture, and organizational technologies as absorptive capacity for innovation and transformation in the healthcare sector: A framework for research. *Change Management*, *13*(1), 1-13.
- Kash, B. A., Spaulding, A., Johnson, C. E., & Gamm, L. (2014). Success factors for strategic change initiatives: a qualitative study of healthcare administrators' perspectives. *Journal of healthcare management / American College of Healthcare Executives*, *59*(1), 65-81.
- Kim, J. S., & Chung, G. H. (2017). Implementing innovations within organizations: a systematic review and research agenda. *Innovation*, *19*(3), 372-399.
- Kitchenham, B & Charters, S. (2007). *Guidelines for Performing Systematic Literature Reviews in Software Engineering*. In EBSE Technical Report, Software Engineering Group, School of Computer Science and Mathematics, Keele University, Department of Computer Science, University of Durham.
- Knol, J., & van Linge, R. (2009). Innovative behaviour: the effect of structural and psychological empowerment on nurses. *J Adv Nurs*, *65*(2), 359-370.
- Kuipers, B. S., Higgs, M., Kickert, W., Tummers, L., Grandia, J., & Van Der Voet, J. (2014). The management of change in public organizations: A a literature review. *Public Administration*, *92*(1), 1-20.
- Landaeta, R. E., Mun, J. H., Rabadi, G., & Levin, D. (2008). Identifying sources of resistance to change in healthcare. *International Journal of Healthcare Technology and Management*, *9*(1), 74-96.
- Lansisalmi, H., Kivimaki, M., Aalto, P., & Ruoranen, R. (2006). Innovation in healthcare: a systematic review of recent research. *Nurs Sci Q*, *19*(1), 66-72; discussion 65.
- Lee, S. Y., Weiner, B. J., Harrison, M. I., & Belden, C. M. (2013). Organizational transformation: a systematic review of empirical research in health care and other industries. *Med Care Res Rev*, *70*(2), 115-142.

- Ljungquist, U. (2014). Unbalanced dynamic capabilities as obstacles of organisational efficiency: Implementation issues in innovative technology adoption. *Innovation: Management, Policy and Practice*, 16(1), 82-95.
- Macfarlane, F., Greenhalgh, T., Humphrey, C., Hughes, J., Butler, C., & Pawson, R. (2011). A new workforce in the making?: A case study of strategic human resource management in a whole-system change effort in healthcare. *Journal of Health, Organisation and Management*, 25(1), 55-72.
- MacPhee, M. (2007). Strategies and tools for managing change. *Journal of Nursing Administration*, 37(9), 405-413.
- Martin, G. P., Weaver, S., Currie, G., Finn, R., & McDonald, R. (2012). Innovation sustainability in challenging health-care contexts: embedding clinically led change in routine practice. *Health Services Management Research*, 25(4), 190-199.
- McPhail, G. (1997). Management of change: an essential skill for nursing in the 1990s. *Journal of Nursing Management*, 5(4), 199-205.
- Merono-Cerdan, A. L., & Lopez-Nicolas, C. (2013). Understanding the drivers of organizational innovations. *Service Industries Journal*, 33(13-14), 1312-1325.
- Molfenter, T., Ford, J. H., & Bhattacharya, A. (2011). The development and use of a model to predict sustainability of change in healthcare settings. *International Journal of Information Systems and Change Management*, 5(1), 22-35.
- Narine, L., & Persaud, D. D. (2003). Gaining and maintaining commitment to large-scale change in healthcare organizations. *Health Services Management Research*, 16(3), 179-187.
- Nelson-Brantley, H. V., & Ford, D. J. (2017). Leading change: a concept analysis. *Journal of Advanced Nursing*, 73(4), 834-846.
- O'Sullivan, M. J. (1999). Strategic learning in healthcare organizations. *Hospital Topics*, 77(3), 13-21.
- Osatuke, K., Yanchus, N., White, S., & Ramsel, D. (2014). Change in the Veterans Health Administration: Theory and Applications. *Journal of Organizational Psychology*, 14(1), 77-95.
- Øvretveit, J., Andreen-Sachs, M., Carlsson, J., Gustafsson, H., Hansson, J., Keller, C., . . . Brommels, M. (2012). Implementing organisation and management innovations in Swedish healthcare: Lessons from a comparison of 12 cases. *Journal of Health, Organisation and Management*, 26(2), 237-257.
- Pellegrin, K. L., & Currey, H. S. (2011). Demystifying and improving organizational culture in health-care. *Advances in health care management*, 10, 3-23.
- Peltokorpi, A., Alho, A., Kujala, J., Aitamurto, J., & Parvinen, P. (2008). Stakeholder approach for evaluating organizational change projects. *International Journal of Health Care Quality Assurance*, 21(5), 418-434.
- Peters, M. D. J., Godfrey, C. M., Khalil, H., McInerney, P., Parker, D. and Soares, C. B. (2015) Guidance for Conducting Systematic Scoping Reviews. *International Journal of Evidence-Based Healthcare*, 13 (3): 141–46.
- Rowley, J. & Slack, F (2004). Conducting a Literature Review. *Management Research News*, 27 (6): 31–39.
- Rye, C. B., & Kimberly, J. R. (2007). The adoption of innovations by provider organizations in health care. *Med Care Res Rev*, 64(3), 235-278.
- Salmela, S., Eriksson, K., & Fagerstrom, L. (2012). Leading change: a three-dimensional model of nurse leaders' main tasks and roles during a change process. *J Adv Nurs*, 68(2), 423-433.
- Shea, C. M., Jacobs, S. R., Esserman, D. A., Bruce, K., & Weiner, B. J. (2014). Organizational readiness for implementing change: A psychometric assessment of a new measure. *Implementation Science*, 9(1).

- Siverbo, K., Eriksson, H., & Wijk, H. (2013). An Improvement Engine for empowered change in healthcare. *International Journal of Productivity and Performance Management*, 62(2), 156-167.
- Smollan, R. K. (2015). Causes of stress before, during and after organizational change: A qualitative study. *Journal of Organizational Change Management*, 28(2), 301-314.
- Smollan, R. K. (2015). The personal costs of organizational change: A qualitative study. *Public Performance and Management Review*, 39(1), 223-247.
- Smollan, R. K. (2017). Supporting staff through stressful organizational change. *Human Resource Development International*, 20(4), 282-304.
- Steele Gray, C., Wilkinson, A., Alvaro, C., Wilkinson, K., Harvey, M., Gray, C. S., . . . Harvey, M. (2015). Building resilience and organizational readiness during healthcare facility redevelopment transitions: Is it possible to thrive? *Health Environments Research and Design Journal*, 9(1), 10-33.
- Steinke, C., Dastmalchian, A., Blyton, P., & Hasselback, P. (2013). Organizational change strategies within healthcare. *Healthcare Management Forum*, 26(3), 127-135.
- Suc, J., Prokosch, H. U., & Ganslandt, T. (2009). Applicability of Lewin's change management model in a hospital setting. *Methods of Information in Medicine*, 48(5), 419-428.
- Suri, H. & Clarke, D. (2009) Advancements in Research Synthesis Methods: From a methodologically Inclusive Perspective. *Review of Educational Research*, 79 (1): 395–430.
- Teo, S. T. T., Pick, D., Newton, C. J., Yeung, M. E., & Chang, E. (2013). Organisational change stressors and nursing job satisfaction: the mediating effect of coping strategies. *Journal of Nursing Management*, 21(6), 878-887.
- Thakur, R., Hsu, S. H. Y., & Fontenot, G. (2012). Innovation in healthcare: Issues and future trends. *Journal of Business Research*, 65(4), 562-569.
- Thompson, J. M. (2010). Understanding and managing organizational change: implications for public health management. *Journal of public health management and practice : JPHMP*, 16(2), 167-173.
- Thune, T., & Mina, A. (2016). Hospitals as innovators in the health-care system: A literature review and research agenda. *Research Policy*, 45(8), 1545-1557.
- Tranfield, D., Denyer, D., Smart, P., (2003). Towards a Methodology for Developing Evidence Informed Management Knowledge by Means of Systematic Review. *British Journal of Management*, 14 (3), pp. 207-222.
- Ugurluoglu, O., Ugurluoglu Aldogan, E., & Dilmac, E. (2013). The impact of managers' perceptions of learning organizations on innovation in healthcare: Sample of Turkey. *International Journal of Health Planning and Management*, 28(2), e158-e168.
- van Rossum, L., Aij, K. H., Simons, F. E., van der Eng, N., & ten Have, W. D. (2016). Lean healthcare from a change management perspective: The role of leadership and workforce flexibility in an operating theatre. *Journal of Health, Organisation and Management*, 30(3), 475-493.
- Varkey, P., Horne, A., & Bennet, K. E. (2008). Innovation in health care: a primer. *Am J Med Qual*, 23(5), 382-388.
- Ward, R. (2010). *Why don't innovation models help with informatics implementations?*, Faculty of Health and Life Sciences, University of the West of England, United Kingdom.
- Watt, J. D., & Piotrowski, C. (2008). Organizational Change Cynicism: A Review of the Literature and Intervention Strategies. *Organization Development Journal*, 26(3), 23-31.
- Weberg, D. (2009). Innovation in healthcare: A concept analysis. *Nursing Administration Quarterly*, 33(3), 227-237.
- Webster, J. & Watson, R.T. (2002) Analyzing the Past to Prepare for the Future: Writing a Literature Review. *MIS Quarterly*, 26 (2): xiii–xiii.
- Weiner, B. J. (2009). A theory of organizational readiness for change. *Implementation science : IS*, 4, 67-67.

- Weiner, B. J., Amick, H., & Lee, S. Y. (2008). Conceptualization and measurement of organizational readiness for change: a review of the literature in health services research and other fields. *Med Care Res Rev*, 65(4), 379-436.
- Wolfe, R. A. (1994). Organizational innovation: review, critique and suggested research directions. *Journal of Management Studies*, 31(3), 405-431.
- Xiao, Y. & Watson, M. (2017) Guidance on Conducting a Systematic Literature Review. *Journal of Planning Education and Research*, 1-20

Appendices

Appendix A

Table 14.

Search Strings

Databases	Search Strings	Records
Scopus	<p>TITLE-ABS-KEY ("change management") OR TITLE-ABS-KEY ("organizational change") OR TITLE-ABS-KEY ("organizational transformation") OR TITLE-ABS-KEY ("organizational innovation") OR TITLE-ABS-KEY ("strategic change") AND TITLE-ABS-KEY (healthcare) AND LIMIT-TO (SUBJAREA,"MEDI") OR LIMIT-TO (SUBJAREA,"NURS") OR LIMIT-TO (SUBJAREA,"SOCI") OR LIMIT-TO (SUBJAREA,"BUSI") OR LIMIT-TO (SUBJAREA,"HEAL") OR LIMIT-TO (SUBJAREA,"DECI") OR LIMIT-TO (SUBJAREA,"PSYC") OR LIMIT-TO (SUBJAREA,"ECON") AND LIMIT-TO (DOCTYPE,"ar") OR LIMIT-TO (DOCTYPE,"cp") AND LIMIT-TO (LANGUAGE, "English")</p>	1937
Web of Science	<p>TOPIC: ("change management") AND TOPIC: ("healthcare") Refined by: DOCUMENT TYPES: (ARTICLE) AND LANGUAGES: (ENGLISH)</p> <hr/> <p>TOPIC: ("organizational change") AND TOPIC: ("healthcare") Refined by: DOCUMENT TYPES: (ARTICLE) AND LANGUAGES: (ENGLISH)</p> <hr/> <p>TOPIC:("organizational transformation") AND TOPIC: ("healthcare") Refined by: DOCUMENT TYPES: (ARTICLE) AND LANGUAGES: (ENGLISH)</p> <hr/> <p>TOPIC:("organizational innovation") AND TOPIC: ("healthcare") Refined by: DOCUMENT TYPES: (ARTICLE) AND LANGUAGES: (ENGLISH)</p> <hr/> <p>TOPIC: ("strategic change") AND TOPIC: ("healthcare") Refined by: DOCUMENT TYPES: (ARTICLE) AND LANGUAGES: (ENGLISH)</p>	371

TI "change management" AND

TI healthcare

Limiters - Peer Reviewed

Narrow by Language: - English
(Search modes - Boolean/Phrase)

TI "change management" AND

AB healthcare

Limiters - Peer Reviewed

Narrow by Language: - english
(Search modes - Boolean/Phrase)

AB "change management" AND

TI healthcare

Limiters - Peer Reviewed

Narrow by Language: - english
(Search modes - Boolean/Phrase)

AB "change management" AND

AB healthcare

Limiters - Peer Reviewed

Narrow by Language: - english
(Search modes - Boolean/Phrase)

TI "organizational change" AND

TI "healthcare"

Limiters - Peer Reviewed

Narrow by Language: - english
(Search modes - Boolean/Phrase)

TI "organizational change" AND

AB "healthcare"

Limiters - Peer Reviewed

Narrow by Language: - English
(Search modes - Boolean/Phrase)

AB "organizational change" AND

TI "healthcare"

Limiters - Peer Reviewed

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(Search modes - Boolean/Phrase)

AB "organizational change" AND

AB "healthcare"

Limiters - Peer Reviewed

Narrow by Language: - english
(Search modes - Boolean/Phrase)

TI "organizational transformation" AND

TI healthcare

Limiters - Peer Reviewed

(Search modes - Boolean/Phrase)

TI "organizational transformation" AND

AB healthcare

Limiters - Peer Reviewed

(Search modes - Boolean/Phrase)

AB "organizational transformation" AND TI healthcare

Limiters - Peer Reviewed

	(Search modes - Boolean/Phrase)	
	<hr/> AB "organizational transformation" AND AB healthcare Limiters - Peer Reviewed Narrow by Language: - english (Search modes - Boolean/Phrase) <hr/>	
	TI "organizational innovation" AND TI healthcare Limiters - Peer Reviewed (Search modes - Boolean/Phrase) <hr/>	
	TI "organizational innovation" AND AB healthcare Limiters - Peer Reviewed (Search modes - Boolean/Phrase) <hr/>	
	AB "organizational innovation" AND TI healthcare Limiters - Peer Reviewed (Search modes - Boolean/Phrase) <hr/>	
	AB "organizational innovation" AND AB healthcare Limiters - Peer Reviewed Narrow by Language: - english (Search modes - Boolean/Phrase) <hr/>	
	TI "strategic change" AND TI healthcare Limiters - Peer Reviewed (Search modes - Boolean/Phrase) <hr/>	
	TI "strategic change" AND AB healthcare Limiters - Peer Reviewed (Search modes - Boolean/Phrase) <hr/>	
	AB "strategic change" AND TI healthcare Limiters - Peer Reviewed (Search modes - Boolean/Phrase) <hr/>	
	AB "strategic change" AND AB healthcare Limiters - Peer Reviewed Narrow by Language: - english (Search modes - Boolean/Phrase) <hr/>	
Pubmed	Title/Abstract "change management" OR Title/Abstract "organizational change" OR Title/Abstract "organizational transformation" OR Title/Abstract "organizational innovation" OR Title/Abstract "strategic change" AND Title/Abstract healthcare	399
TOTAL		3168

Appendix B

Table 15.

General Information about the Articles Used

	AUTHOR	TITLE	JOURNAL/CONFERENCE	YEAR
01	Wolfe, 1994	Organizational Innovation: Review, critique and suggested research directions	Journal of Management Studies	1994
02	Ferrara-Love, 1997	Changing organizational culture to implement organizational change.	Journal of perianesthesia nursing : official journal of the American Society of PeriAnesthesia Nurses	1997
03	McPhail, 1997	Management of change: an essential skill for nursing in" the 1990s	Journal of Nursing Management	1997
04	O'Sullivan, 1999	Strategic learning in healthcare organizations	Hospital Topics	1999
05	Anson, 2000	Taking Charge of Change in a Volatile Healthcare Marketplace	Human Resource Planning	2000
06	Cunningham et al, 2002	Readiness for organizational change: A longitudinal study of workplace, psychological and behavioural correlates.	Journal of Occupational and Organizational Psychology	2002
07	Gustafson et al., 2003	Developing and testing a model to predict outcomes of organizational change	Health Services Research	2003
08	Narine & Persaud, 2003	Gaining and maintaining commitment to large-scale change in healthcare organizations	Health Services Management Research	2003
09	Bazzoli et al., 2004	Two decades of organizational change in health care: what have we learned?	Medical Care Research and Review	2004
10	Fleuren et al., 2004	Determinants of innovation within health care organizations: literature review and Delphi study	International Journal for Quality in Health Care	2004
11	Bamford & Daniel, 2005	A case study of change management effectiveness within the NHS	Journal of Change Management	2005
12	Buchanan et al., 2005	No going back: A review of the literature on sustaining organizational change	International Journal of Management Reviews	2005
13	Åmo, 2006	Employee innovation behaviour in health care: The influence from management and colleagues.	International Nursing Review	2006
14	Brown et al., 2006	The psychological effects of organizational restructuring on nurses	Journal of Advanced Nursing	2006

15	Golden, 2006	Transforming healthcare organizations.	Healthcare Quarterly	2006
16	Lansisalmi et al., 2006	Innovation in healthcare: a systematic review of recent research	Nursing Science Quarterly	2006
17	Rye & Kimberly, 2006	The adoption of innovations by provider organizations in health care	Medical Care Research and Review	2006
18	MacPhee, 2007	Strategies and tools for managing change	Journal of Nursing Administration	2007
19	Landaeta et al., 2008	Identifying sources of resistance to change in healthcare	International Journal of Healthcare Technology and Management	2008
20	Peltokorpi et al., 2008	Stakeholder approach for evaluating organizational change projects	International Journal of Health Care Quality Assurance	2008
21	Watt & Piotrowski, 2008	Organizational Change Cynicism: A Review of the Literature and Intervention Strategies	Organization Development Journal	2008
22	Caldwell et al., 2008	Implementing strategic change in a health care system: the importance of leadership and change readiness	Health Care Management Review	2008
23	Varkey et al., 2008	Innovation in health care: a primer	American Journal of Medical Quality	2008
24	Weiner et al., 2008	Conceptualization and measurement of organizational readiness for change: a review of the literature in health services research and other fields	Medical Care Research and Review	2008
25	Erwin, 2009	Changing organizational performance: examining the change process	Hospital Topics	2009
26	Suc et al., 2009	Applicability of Lewin s change management model in a hospital setting	Methods of Information in Medicine	2009
27	Weberg, 2009	Innovation in healthcare: A concept analysis	Nursing Administration Quarterly	2009
28	Weiner, 2009	A theory of organizational readiness for change.	Implementation Science	2009
29	Knol & Van Linge, 2009	Innovative behaviour: the effect of structural and psychological empowerment on nurses	Journal of Advanced Nursing	2009
30	Crossan & Apaydin, 2010	A Multi-Dimensional Framework of Organizational Innovation: A Systematic Review of the Literature	Journal of Management Studies	2010
31	Bevan, 2010	Review: How can we build skills to transform the healthcare system?	Journal of Research in Nursing	2010.
32	Thompson, 2010	Understanding and managing organizational change: implications for public health management	Journal of public health management and practice : JPHMP	2010

33	Ward, 2010	Why don't innovation models help with informatics implementations?	MEDINFO	2010
34	Doebbeling & Flanagan, 2011	Emerging Perspectives on Transforming the Healthcare System Redesign Strategies and a Call for Needed Research	Medical Care	2011
35	Abraham & Junglas, 2011	From cacophony to harmony: A case study about the IS implementation process as an opportunity for organizational transformation at Sentara Healthcare	Journal of Strategic Information Systems	2011
36	Barnett et al., 2011	Understanding innovators' experiences of barriers and facilitators in implementation and diffusion of healthcare service innovations: A qualitative study	BMC Health Services Research	2011
37	Eljiz et al., 2011	Can that work for us? Analysing Organisational, Group and Individual Factors for Successful Health Services Innovation	Asia Pacific Journal of Health Management	2011
38	Halm, 2011	Employee engagement: a prescription for organizational transformation.	Advances in health care management	2011
39	Hopkins et al., 2011	Leadership and organization development in health-care: lessons from the Cleveland Clinic	Advances in health care management	2011
40	Macfarlane et al., 2011	A new workforce in the making?: A case study of strategic human resource management in a whole-system change effort in healthcare	Journal of Health, Organisation and Management	2011
41	Molfenter et al., 2011	The development and use of a model to predict sustainability of change in healthcare settings	International Journal of Information Systems and Change Management	2011
42	Pellegrin, & Currey, 2011	Demystifying and improving organizational culture in health-care	Advances in health care management	2011
43	Adams et al., 2011	How can toast be radical? Perceptions of innovations in healthcare	International Journal of Clinical Leadership	2011
44	Birken et al., 2012	Uncovering middle managers' role in healthcare innovation implementation	Implementation Science	2012
45	Carlström & Ekman, 2012	Organisational culture and change: Implementing person-centred care	Journal of Health, Organisation and Management	2012
46	Chreim et al., 2012	Radical change in healthcare organization: Mapping transition between templates, enabling factors and implementation processes.	Journal of Health, Organisation and Management	2012

47	Martin et al., 2012	Innovation sustainability in challenging health-care contexts: embedding clinically led change in routine practice	Health services management research	2012
48	Øvretveit et al., 2012	Implementing organisation and management innovations in Swedish healthcare: Lessons from a comparison of 12 cases.	Journal of Health, Organisation and Management	2012
49	Salmela et al., 2012	Leading change: a three-dimensional model of nurse leaders' main tasks and roles during a change process	Journal of Advanced Nursing	2012
50	Thakur et al., 2012	Innovation in healthcare: Issues and future trends	Journal of Business Research	2012
51	Adams et al., 2013	Process antecedents of challenging, under-cover and readily-adopted innovations	Journal of Health, Organisation and Management	2013
52	Birken et al., 2013	Improving the Effectiveness of Health Care Innovation Implementation: Middle Managers as Change Agents	Medical Care Research and Review	2013
53	Erskine et al., 2013	Leadership and transformational change in healthcare organisations: A qualitative analysis of the North East Transformation System	Health Services Management Research	2013
54	Merono-Cerdan & Lopez-Nicolas, 2013	Understanding the drivers of organizational innovations	Service Industries Journal	2013
55	Siverbo et al., 2013	An Improvement Engine for empowered change in healthcare	International Journal of Productivity and Performance Management	2013
56	Steinke et al., 2013	Organizational change strategies within healthcare	Healthcare Management Forum	2013
57	Teo et al., 2013	Organisational change stressors and nursing job satisfaction: the mediating effect of coping strategies	Journal of Nursing Management	2013
58	Ugurluoglu et al., 2013	The impact of managers' perceptions of learning organizations on innovation in healthcare: Sample of Turkey	International Journal of Health Planning and Management	2013
59	Kash, et al., 2013	Health care administrators' perspectives on the role of absorptive capacity for strategic change initiatives: a qualitative study.	Health Care Management Review	2013
60	Lee et al., 2013	Organizational transformation: a systematic review of empirical research in health care and other	Medical Care Research and Review	2013

		industries		
61	Ljungquist, 2014	Unbalanced dynamic capabilities as obstacles of organisational efficiency: Implementation issues in innovative technology adoption	Innovation: Management, Policy and Practice	2014
62	Anders & Cassidy, 2014	Effective organizational change in healthcare: Exploring the contribution of empowered users and workers	International Journal of Healthcare Management	2014
63	Carlstrom & Olsson, 2014	The association between subcultures and resistance to change – In a Swedish hospital clinic	Journal of Health, Organisation and Management	2014
64	Kash et al., 2014	Leadership, culture, and organizational technologies as absorptive capacity for innovation and transformation in the healthcare sector: A framework for research	Change Management	2014
65	Kash et al., 2014	Success factors for strategic change initiatives: a qualitative study of healthcare administrators' perspectives	Journal of healthcare management / American College of Healthcare Executives	2014
66	Osatuke et al., 2014	Change in the Veterans Health Administration: Theory and Applications	Journal of Organizational Psychology	2014
67	Shea et al., 2014	Organizational readiness for implementing change: A psychometric assessment of a new measure	Implementation Science	2014
68	Kuipers et al., 2014	The management of change in public organizations: a literature review	Public Administration	2014
69	Bérard et al., 2015	Implementing managerial innovations: Lessons from two case studies	British Journal of Health Care Management	2015
70	Evans et al., 2015	Culture and cognition in health systems change.	Journal of Health Organization and Management	2015
71	Fleiszer et al., 2015	An organizational perspective on the long-term sustainability of a nursing best practice guidelines program: A case study.	BMC Health Services Research	2015
72	Fleiszer et al., 2015	The sustainability of healthcare innovations: A concept analysis.	Journal of Advanced Nursing	2015
73	Giæver & Smollan, 2015	Evolving emotional experiences following organizational change: a longitudinal qualitative study	Qualitative Research in Organizations and Management	2015
74	Harvey et al., 2015	Analysing organisational context: Case studies on the contribution of absorptive capacity theory to	BMJ Quality and Safety	2015

		understanding inter-organisational variation in performance improvement.		
75	Jacobs et al., 2015	Determining the predictors of innovation implementation in healthcare: a quantitative analysis of implementation effectiveness.	BMC Health Services Research	2015
76	Smollan, 2015	Causes of stress before, during and after organizational change: A qualitative study.	Journal of Organizational Change Management	2015
77	Smollan, 2015	The personal costs of organizational change: A qualitative study	Public Performance and Management Review	2015
78	Steele Gray et al., 2015	Building resilience and organizational readiness during healthcare facility redevelopment transitions: Is it possible to thrive?	Health Environments Research and Design Journal	2015
79	Allen, 2016	Effective design, implementation and management of change in healthcare	Nursing standard(Royal College of Nursing (Great Britain): 1987	2016
80	Birken et al., 2016	Elaborating on theory with middle managers' experience implementing healthcare innovations in practice	Implementation Science	2016
81	Boyal & Hewison, 2016	Exploring senior nurses' experiences of leading organizational change	Leadership in health services (Bradford, England)	2016
82	Van Rossum et al., 2016	Lean healthcare from a change management perspective: The role of leadership and workforce flexibility in an operating theatre	Journal of Health, Organisation and Management	2016
83	Thune & Mina, 2016	Hospitals as innovators in the health-care system: A literature review and research agenda.	Research Policy	2016
84	Yabome, 2017	Participant experiences of transformational change in large-scale organization development interventions (LODIs).	Leadership and Organization Development Journal	2017
85	Guglielmi et al., 2017	Assessment of organizational well-being in an Italian General Hospital after an organizational change.	Italian Journal of Medicine	2017
86	Nelson-Brantley & Ford, 2017	Leading change: a concept analysis	Journal of Advanced Nursing	2017
87	Smollan, 2017	Supporting staff through stressful organizational change	Human Resource Development International	2017
88	Kim & Chung, 2017	Implementing innovations within organizations: a systematic review and research agenda	Innovation: Organization and Management	2017

Appendix C

Table 16.

Specific Information about the Articles Used

	Author	Method Type	Type of change	The stage of change process	Key findings
01	Wolfe, 1994	Literature Review	Organizational Innovation	Multiple stages of innovation process	<p>The main contribution of this research is the identification of three streams in the existing innovation literature: 1) The diffusion of innovation 2) The determinants of innovativeness 3) The process of innovation.</p> <p>The difficulty of existing innovation literature is to generalize its conclusions due to lack of information on the stage of innovation at which every search focuses, the ambiguity in specific innovation characteristics, the emphasis on single-organizational-type innovation phenomena and the tendency of research to focus on a single theoretical perspective.</p> <p>The research highlights the importance of the context in which innovation takes place.</p>
02	Ferrara-Love, 1997	Theoretical Analysis	Organizational change (Redesign, Restructuring, Behavior Modification)	-	<p>The evolution of healthcare organizations from hospital-based to patient-focused entails re-examining the process of organizational change for the improvement of services provided. The adjustment to these changes can be achieved by modifying the existing organizational culture. The incorporation of power/coercive, empirical/rational and normative/re-educative strategies for planned change can be beneficial for organizational performance.</p>
03	Mc Phail, 1997	Theoretical Analysis	Organizational Change	Multiple stages of change process	<p>Nursing implies management of people, operations, money and information. Effective change management in nursing is possible through the faithful implementation of a five phase approach to change process: preparation, movement, synergy, the new reality and integration. Comfort zones, lack of a shared vision and lack of forward planning can be factors that inhibit change in healthcare organizations. But, the emphasis from a change agent on attitude and behavior, emotions and culture could overcome resistance to change. The implementation of power/coercive, empirical/rational and normative/re-educative strategies could help nurses handle changes.</p>

04	O'Sullivan, 1999	Theoretical Analysis	Organizational Change	-	The main concept of this article is that strategic planning is a continuous process of organizational learning. Successful organizational performance is the result of a lengthy trial-and-error learning process with the contribution of physicians and nurses to promote innovation.
05	Anson, 2000	Case Study	Restructuring (reorganization of staffing/ transformation of culture)	The Implementation of change	The development of human resources promotes organizational change in healthcare organizations through the change of organizational culture.
06	Cunningham et al, 2002	Quantitative Analysis	Organizational Re-engineering	Multiple stages of change	This article claims that the active engagement in organizational change reducing at the same time working inhibitors and encouraging individuals' sense of self-efficacy are factors that enable readiness for healthcare organizational change.
07	Gustafson et al., 2003	Quantitative Analysis	Healthcare Improvement Project	-	The article insists that the development of a model to evaluate change efforts is of vital importance in health care sector to predict the outcome of organizational change
08	Narine & Persaud, 2003	Theoretical Analysis	Large- scale organizational change	-	The basic principles of strategic change management are the key to upgrade healthcare services. The individuals' commitment to change, the organizational readiness for change, the need for differentiation from the current organizational situation, the adoption of a clear vision of change, the active involvement in change as well as the development of a communication plan are factors that enable this effort. However, successful organizational performance depends on the incorporation of change into organization's culture and the development of feedback mechanisms.
09	Bazzoli et al., 2004	Literature Review	Restructuring	The implementation of restructuring	The effort to upgrade healthcare services during 1980s and 1990s resulted in large-scale reorganization between healthcare organizations and groups of physicians. The article introduces a new framework of study for organizational change during consolidation and integration of healthcare services examining simultaneously the content, the process, the context and the outcomes of organizational change. From the study of two decades, it is clear that administrative consolidation was achieved up to a point, but the outcomes of large-scale changes need more research.
10	Fleuren et al., 2004	Mixed Method	Innovation	The implementation of innovation	The categorization of innovation determinants is the main contribution of this article. The main categories are: 1) characteristics of socio-political context, 2) characteristics of the organization, 3) characteristics of the adopting person and 4) characteristics of the innovation. However, the lack of a systematic design, the absence of an innovation strategy based on theoretical background as well as the difficulty of linking possible determinants with the degree of implementation are a benchmark for changing the way innovation research is conducted.

11	Bamford & Daniel, 2005	Case Study	Organizational Change	The implementation of change	A large-scale organizational change took place when PHLS laboratories' management was transferred to the NHS and HPA was created. In this change effort, the contribution of models of planned change was important, but as organizational change displays always emergent elements the utility of models of emergent change was obvious. Models of discontinuous change were also useful. The main point of this study is that every model has a different approach to change but the selection of a change management model depends on the stage of change process.
12	Buchanan et al., 2005	Literature Review	Organizational Change	The sustainability of change	Little attention has been given to sustainability of organizational change in change management literature. In this article, sustainability process is defined and the dimension of context is added as sustainability is always in line with the wider context of change. The study of change management models offers a new framework of work where the outcome of sustainability process is the result of the interplay between three factors: the substance of change, the implementation process and other temporal factors.
13	Åmo, 2006	Quantitative Analysis	Innovation	-	Employee innovation behavior in healthcare is analyzed with significant implications for corporate entrepreneurship programs. A healthcare organization's strategy should be adapted to the fact that employees' empowerment for innovation behavior is influenced by the different rank in the organizational hierarchy.
14	Brown et al., 2006	Quantitative Analysis	Organizational Restructuring (Merging)	The implementation of restructuring	The main contribution of this study is the operationalization of the interaction between management of change factors and psychological effects of restructuring in a conceptual framework. Negative outcomes of organizational change on nurses could be assimilated with the active involvement in organizational change and the distribution of information within the organization.
15	Golden, 2006	Case Study	Transformative Change	Multiple stages of change process	This article provides a guide for healthcare leaders to deal with organizational change in healthcare suggesting a four stage model for the success of organizational change
16	Lansisalmi et al, 2006	Literature Review	Innovation	Multiple stages of change process	The article discusses the recent development of innovation research and makes proposals for future innovation research in healthcare explaining the special features of the field
17	Rye & Kimberly, 2006	Literature Review	Innovation	The adoption and diffusion of innovation	The articles identifies the factors that facilitate or prevent the adoption of innovation in healthcare sector. During the research, difficulties arise and the findings are inconsistent. Their remarks are useful for future innovation research.
18	MacPhee, 2007	Case study	Innovative Change	-	Leadership style, team-building activities, a high trust organizational culture, effective change management tools and attention to change process are the elements that promote innovative change.
19	Landaeta et	Qualitative Analysis	Organizational Change	Multiple stages of change process	The article identifies sources of resistance to change that are specific to healthcare organizations.

	al., 2008				
20	Peltokorpi et al., 2008	Qualitative Analysis	Change Project	The implementation of change	The contribution of stakeholders in the success of change project is identified and a six step model is presented to evaluate change initiatives
21	Watt & Piotrowski, 2008	Quantitative Analysis	Organizational Change	-	Organizational change cynicism in healthcare is discussed and its effects on employee engagement.
22	Caldwell et al., 2008	Quantitative Analysis	Strategic change	The implementation of change	Successful implementation of strategic change depends on the involvement of physician teams. Team leadership as well as the development of norms for change readiness lead to physicians' mobilization to support change.
23	Varkey et al., 2008	Theoretical Analysis	Innovation	Multiple stages of change process	The key features of healthcare innovation are outlined in this introductory article with significant implications for innovation management.
24	Weiner et al., 2008	Literature Review	Organizational Change	The implementation of change	The main contribution of this study is to define organizational readiness for change and its dimensions in healthcare sector. Conceptual and methodological issues are described for the promotion of future research on organizational readiness for change.
25	Erwin, 2009	Mixed Method	Financial Transformation	Multiple stages of change	This article offers practical knowledge on the management of change process in a healthcare organization. As organizational performance depends highly on the flow of change process as well as the leadership style, the stages of change process are analyzed in detail.
26	Suc et al., 2009	Case Studies	Change Management Project	Multiple stages of change process	The article proved that the implementation of Lewin's change management model in healthcare is possible but special hospital features should be evaluated. In hospital settings, despite high administrative workload the emphasis is on patient care ,economic issues and active involvement in cost decisions. The engagement of nursing group, the management of hierarchy and the adjustment of implementation strategy to hospital's needs are critical elements to change process.
27	Weberg, 2009	Literature Review	Innovation	-	The goal of this article is the clarification of innovation concept in healthcare. The term analysis could advance future research as the inconsistency of literature in healthcare innovation is identified.
28	Weiner, 2009	Theoretical Analysis	Organizational Change	-	The main contribution of this article is the clarification of organizational readiness for change. The term is defined as a shared psychological state with two dimensions: change commitment and change efficacy. The emphasis is on the adoption of collective behavior.. The determinants of organizational readiness for change are also summarized in three categories: change valence, change efficacy and contextual factors A link between organizational readiness for change and implementation climate is also suggested for future research.

29	Knol & Van Linge, 2009	Quantitative Analysis	Innovation	-	Empowerment is the way to promote innovative behavior. The determinants of innovative behavior in healthcare are classified in two categories: structural and psychological empowerment. The interaction between them determines innovative behavior.
30	Crossan & Apaydin, 2010	Literature Review	Organizational Innovation	Multiple stages of change	A multi-dimensional framework of organizational innovation is presented. Innovation as a process and innovation as an outcome are the two dimensions of innovation and are described in detail. The determinants of innovation are also analyzed with implications for future research and managerial issues.
31	Bevan, 2010	Case Study	Large-scale change (transformation)	-	Analyzing NHS' strategic priorities, the article notes that organizational performance in healthcare is based on the promotion of capability building for improvement. The involvement of healthcare workforce depends largely on the quality of leadership. Change agents' skills for radical change and innovation are described.
32	Thompson, 2010	Theoretical Analysis	Organizational Change	Multiple stages of change process	The management of organizational change is a demanding task for healthcare managers in public healthcare organizations. In this article, the concept of organizational change in public healthcare is defined and the process of change is analyzed. The article is also a practical guide for public healthcare managers who lead change initiatives.
33	Ward, 2010	Theoretical Analysis	Technological innovation	The adoption of innovation	The article suggests that organizational and personal factors should be taken into account in the adoption of technological innovation within the plethora of factors described by the various models.
34	Doebbeling & Flanagan, 2011	Theoretical Analysis	Transformational change (redesign)	-	This paper offers an overview of recent strategies in healthcare to deal with transformational change. The concept of complex adaptive systems, the role of organizational context, the evaluation of organizational performance using tools of measurement, the construction of a learning organization and the incorporation of information, technology, and communication into practice are ideas that evolve the field of research in healthcare .
35	Abraham & Junglas, 2011	Case Study	Organizational Transformation	The implementation of study	The implementation of business process change model (BPCM) at Sentara Healthcare concerning the introduction of an information technology-enabled transformation is described. In this study, the role of health care professionals in the change process is highlighted. The endeavor of organizational transformations seems to be facilitated with the incorporation of change into strategic goals, the emphasis on stakeholders' culture and organizational learning.
36	Barnett et al., 2011	Qualitative Analysis	Healthcare Service Innovation (process-oriented innovation)	The implementation and diffusion of innovation	The experience of people who achieved successful healthcare service innovation is a new source of information concerning the determinants of innovation. In this article, qualitative analysis reveals that the availability of quantitative evidence, the building of trustworthy partnerships, the support from human resources and the existence of a favorable inner and outer context are factors that set the foundation for successful innovation..

37	Eljiz et al., 2011	Qualitative Analysis	Healthcare Service Innovation (process-oriented innovation)	The implementation of innovation	The main contribution of this study is the development of an innovation assessment checklist based on individual, group and organizational factors as a tool to evaluate innovation implementation. As there is a tendency in healthcare to adopt improvement techniques from other industries, the checklist is adapted to healthcare organizations.
38	Halm, 2011	Theoretical Analysis	Organizational Transformation	-	The outcome of organizational transformation in healthcare depends highly on employee engagement. Human capital management plays an important in organizational performance. The key point in this procedure is the mobilization of healthcare workforce with the help of organizational culture. Practical guidelines for the approach of organizational culture are included in the article analysis.
39	Hopkins et al., 2011	Case Study	Organizational Innovation	-	The challenge of physician leadership in Cleveland Clinic is described with the introduction of an innovative leadership development program. In this case, the goal is to strengthen physicians relationships in line with modern leadership development. Based on the experience of Cleveland Clinic, the special features of healthcare leadership are illustrated. The adoption of this leadership style seems to promote innovative behavior .
40	Macfarlane et al., 2011	Qualitative Analysis	Innovation (Whole-scale transformation)	The implementation of innovation	The contribution of strategic human resource management in healthcare innovation is presented in this article. The data from the analysis lead to empirical findings that the deterministic model of change could be replaced by the organic model of change based on the principles of human resources management.
41	Molfenter et al., 2011	Qualitative Analysis	Organizational Innovation	The sustainability of innovation	The article suggests a nine factor model to predict innovation sustainability in healthcare. The models' originality appears in its potential to explain variance in sustainability outcomes.
42	Pellegrin & Currey, 2011	Quantitative Analysis	Major Change Management initiative	-	Based on empirical findings from a "change management initiative" in MUSC-MC, the concept of organizational culture is analyzed. The methodology used to capture the dimension of organizational culture is presented. It seems that the dimension of communication is related to organizational culture and employee satisfaction.
43	Adams et al., 2011	Qualitative Analysis	Challenging/ Under-cover/ Readily-adopted innovations	The adoption of innovation	In this article, a new framework of analysis is presented based on innovation attributes in healthcare. In this way, the heterogeneous nature of innovation is evaluated in accordance with the context in which it takes place. The dimension of context explains the variance in innovators' perceptions and the reluctance to adopt an innovation .
44	Birken et al., 2012	Theoretical Analysis	Innovation	The implementation of innovation	Based on empirical findings, implementation effectiveness in healthcare depends on the engagement of middle managers in innovation implementation. Future innovation research should be directed in this field, as the mediating role of middle managers between top managers and frontline employees increases their impact on information diffusion and synthesis promoting innovation implementation.

45	Carlström & Ekman, 2012	Quantitative Analysis	Change Project	The implementation of change	The outcome of organizational change in lower hierarchical level such as the wards of a clinic depends on wards' specific culture. In this case, the introduction of a patient-focused model of care in wards of a clinic in a Swedish hospital is studied. The article tries to uncover the correlation between organizational culture and resistance to change using two instruments to decode the dimensions of two concepts. It seems that a culture of human relations decreases change resistance.
46	Chreim et al., 2012	Qualitative Analysis	Change Project	The implementation of change	A provider-centered model of care is replaced by a patient-centered model in a community of Canada during a period of four years. The implementation of this change project reveals the mechanisms involved in change process. It seems that change process is mainly an emergent and non-linear process. It depends on the interaction of different mechanisms, the quality of leadership in different levels, the collaboration of different groups and the alignment of organizational elements between the two models of care.
47	Martin et al, 2012	Qualitative Analysis	Organizational Innovation	The sustainability of change	The article elaborates on the sustainability process of meso-scale organizational change in four cases of organizational innovation in healthcare. Sustainability process is linked to the wider context of change, the nature of innovation, the utility of strategies used and the power of service leaders. The article suggests that the development of a supportive network within organization, the incorporation into the network of clinical care as well as a flexible and active stance towards change are strategies that promote sustainability. However, due to the lack of an evidence-based approach towards sustainability, alternative approaches of value are suggested for future research.
48	Øvretveit et al., 2012	Case Study	Organization and Management Innovation	The implementation of innovation	Based on the empirical findings of twelve case studies in Swedish healthcare, organization and management innovation is analyzed from a change management perspective. The process, the content, the context and the outcome of change is described during the implementation of change in each case. It seems that the engagement of clinical leaders, the adaptation of implementation process to the innovation type and the emphasis on internal organizational factors promote successful change.
49	Salmela et al., 2012	Qualitative Study	Restructuring	-	In this article, a new model of nursing leadership is identified through the analysis of experience of nurse leaders during a change process in Finland. The new leadership style is based on patient care and demands leading relationships, processes and culture during change process.
50	Thakur et al., 2012	Qualitative Analysis	Innovation	Multiple stages of innovation	The main contribution of this article is the introduction of a practical model of decision-making process concerning the development and execution of innovative ideas in healthcare based on findings from semi-structured interviews of 21 C-level healthcare executives in 15 healthcare units in Louisiana. It seems that the evolution of IT, the emphasis on evidence-based medical practice and healthcare reforms drive the changes in healthcare services. The alignment of decision-making strategy with the mission of the organization, the use of a bottom-up

					approach and the emphasis on IT innovation are the factors that could promote the successful management of innovation
51	Adams et al, 2013	Qualitative Analysis	Challenging/ Under-cover/ Readily-adopted innovations	The adoption of innovation	Based on a qualitative analysis of nine innovations, the article suggests that innovation types can be distinguished on the basis of innovation process characteristics. Attention to innovation process means that the adoption of an innovation is possible despite attributes with negative impact on the adoption. In this study, the suggested taxonomy of innovations is the result of a previous research in which 13 innovation attributes were identified.
52	Birken et al., 2013	Mixed Method	Innovation	The implementation of innovation	In this article, the contribution of middle managers in innovation implementation in healthcare is presented. It seems that middle managers' proactivity enables implementation effectiveness. However, additional research needs to clarify middle managers' role in healthcare innovation implementation.
53	Erskin et al., 2013	Qualitative Analysis	Transformational Change	The implementation of transformational change	The central role of senior leaders during the implementation of NETS is identified in this paper. It seems that transformational change is accomplished with the contribution of senior leaders at all levels of the organization.
54	Merono-Cerdan & Lopez-Nicolas, 2013	Quantitative Analysis	Organizational Innovation	The adoption of innovation	The relationship between organizational innovations objectives and organizational innovation adoption is analyzed in this study in order to define innovative behavior of 240 Spanish healthcare businesses. The research model follows the Oslo Manual. Based on the quantitative analysis, it seems that: 1)the majority of healthcare organizations implemented an organizational innovation from 2007 to 2009, 2) innovation skills and knowledge sharing influence the adoption of innovation more than the cost, the time and the quality 3) organizational innovation promotes product and process innovation in these organizations. Thus, in healthcare sector organizational methods should be adopted in order to improve the quality and efficiency of healthcare services improving the other types of innovation.
55	Siverbo et al., 2013	Qualitative Analysis	Change Project	The implantation of improvement engine process	The implementation of an improvement engine for change is described through the analysis of experience of participants at Sahlgrenska University Hospital. The article suggests that the key point for change is the adoption of a bottom-up approach with everyone's engagement.

56	Steinke et al., 2013	Quantitative analysis	Restructuring	The implementation of restructuring	Organizational fitness for change is examined in this study through a quantitative analysis conducted in health regions of Alberta. The aim is to uncover the strategies that can improve organizational fitness for change based on Theory E, O and EO. Theory E focuses on financial performance of an organization. Theory O focuses on internal dynamics and capabilities of an organization. Theory EO is a combination of these two. It seems that although in Alberta Theory E is the dominant, Theory O and EO are also estimated. The main contribution of this research is that the adoption of Theory EO leads to more effective change.
57	Teo et al., 2013	Quantitative analysis	Organizational Change	-	This quantitative study conducted in Australian public healthcare sector reveals that active participation in organizational change and distribution of information about change can reduce non-nursing stressors. It seems also that these strategies can also alleviate the role stress of nursing work during change.
58	Ugurluoglu et al., 2013	Quantitative analysis	Innovation	-	The relationship between learning organization dimensions and innovation is examined in this quantitative study conducted in Turkish public healthcare sector. Hospital managers' perceptions indicate that variance for innovation depends on specific dimensions of learning organizations such as team learning, embedded systems, systems connections and providing leadership.
59	Kash et al., 2013	Qualitative analysis	Strategic Change	Multiple stages of change process	Based on the experience of health care administrators', this study insists that strategic change initiatives can be analyzed from an absorptive capacity perspective. It seems that in healthcare the dimensions of absorptive capacity can reveal organization's ability to implement strategic change and are related to the ranking of strategic initiative, time consumption and number of key personnel.
60	Lee et al., 2013	Literature Review	Transformational change	The implementation of transformational change	In this study, an evidence-based approach is adopted to analyze organizational transformation in healthcare and other fields of interest through a systematic review of empirical research emphasizing on antecedents, processes and outcomes of change. It seems that: 1) Organizational transformation is a new field of research 2) Studies included focus mainly on successful transformational changes 3) Studies included select mainly short time frames 4) Future research should be directed to the process of organizational transformation, executive leadership and capacity for transformation.
61	Ljungquist, 2014	Qualitative Analysis	Innovative technology adoption	The implementation of change	The study outlines the effects of unbalanced dynamic capabilities (sensing, seizing, and transforming) on the progress of implementation of strategic change process. Based on two case studies of successful technological implementation in healthcare sector, organizational management roles (top management, local management, and ad hoc (project) management) are analyzed from a dynamic capability perspective. It seems that the autonomy of subunits due to unbalanced dynamic capabilities as well as the separation of content from process due to contradictory goals of flexibility and consistency block organizational change.

62	Anders & Cassidy, 2014	Literature review	Organizational change	Multiple stages of change	Based on the experience of PALS in NHS a user-driven organizational change process is presented. In this case, organizational change was in line with organization's vision for patient-centered care with the active involvement of patients and staff. Different change models were used as tools to promote change process. It seems that PALS change process was influenced mainly by culture, professional resistance to change, the power of PALS' change agents and the leadership style. The management of organization's resources combined with a change management perspective facilitate successful implementation of change.
63	Carlstrom & Olsson, 2014	Quantitative Analysis	Major re-organization (Merging &The introduction of a new care model)	The preparation of change	The article tries to uncover the correlation between organizational subcultures and resistance to change in an orthopaedic clinic of a university hospital in Sweden before the introduction of a new care model. The findings show that resistance to change is related to specific types of subcultures between different working groups within the clinic. It seems that cultural difference between working groups should be analyzed prior the implementation of change process to identify employees' preparedness for change.
64	Kash et al., 2014	Theoretical Analysis	Innovation and transformation	-	The main contribution of this study is the introduction of a new framework of analysis based on absorptive capacity. The article suggests that the variance in organizational performance depends on the level of absorptive capacity. The suggested model for absorptive capacity in healthcare is based on leadership, culture and organizational technologies. The utility of the model lies in its potential to develop targeted decisions concerning the implementation of change initiatives.
65	Kash et al., 2014	Qualitative Analysis	Strategic change	The implementation of change	Based on the experience of health leaders at two health systems, success factors for strategic change in healthcare are identified. The vital role of culture, the management of business processes, the active involvement of staff within the organization, the emphasis on service quality and client satisfaction, the design of a coherent planning, the management of financial resources, the adoption of an effective leadership style, the need to keep up with external demands, the access to information as well as the emphasis on communication are the main factors that facilitate the implementation of strategic change in healthcare.
66	Osatuke et al., 2014	Qualitative Analysis	Transformational change	Multiple stages of change	The article analyzes the reasons why Freedman's realistic managed-resistance model was chosen among other models in Veterans Health Administration to manage transformational change. Based on this model and the findings from qualitative analysis change process is described taking into account employees' experience. The study reflects the vital role of employees during change process and presents a tool for leaders to evaluate employees' reactions to change.
67	Shea et al., 2014	Quantitative Analysis	Organizational Change	The implementation of change	This study highlights the need to measure organizational readiness for change in order to evaluate the implementation of change efforts. In this direction, Organizational Readiness for Implementing Change (ORIC) is examined, but further assessment is needed.

68	Kuipers et al., 2014	Literature Review	Organizational Change	The implementation of change	Based on a literature review of change management in public organizations, an agenda for future research is suggested. The findings show that: 1) Context, content, process, leadership, organizational and sectoral change should be taken into account to capture the phenomenon of change in public sector. 2) Both change management and institutional theory proved to be useful in practice 3) More empirical and longitudinal studies are needed. 4) Emphasis should be placed on analyzing the outcomes of change 5) Leadership characteristics in public sector should be analyzed 6) Comparative studies should be also conducted to identify the role of contextual factors during the implementation of change
69	Bérard et al., 2015	Qualitative Analysis	Innovation (New Financial Dashboards)	The implementation of innovation	The study notices that there is a tendency in healthcare sector to adopt management techniques from other sectors ignoring specific contextual factors. Based on mixed results from the implementation of two performance management innovations in healthcare, the article suggests that the key to successful implementation is adapting the technique to the context in which it is applied.
70	Evans et al., 2015	Theoretical Analysis	Large-Scale Change	-	In this study, psychological and social factors implicated in change process are analyzed through the prism of shared mental models (SSM). It seems that collective action in a team is promoted when cultural differences are identified and managed during organizational change.
71	Fleischer et al., 2015	Qualitative Analysis	Innovation	The sustainability of innovation	This study insists on the differentiation between successful implementation and sustainability of healthcare innovation. Based on the example of a nursing practice guideline program, it seems that the interaction between program's characteristics and innovation-related, context-related, leadership-related and process-related factors promote innovation sustainability.
72	Fleischer et al., 2015	Literature Review	Innovation	The sustainability of innovation	The main contribution of this article is the clarification of innovation sustainability and the development of a new framework of analysis based on the main attributes of sustainability. It seems that the level of innovation sustainability depends on the interaction between innovation-related, context-related, leadership-related and process-related factors and sustainability attributes such as benefits, institutionalization and development.
73	Giæver & Smollan, 2015	Qualitative Analysis	Organizational change	Multiple stages of change	Based on the experience of nurses in a Norwegian public hospital, the variance of emotional experience during the different phases of change is analyzed after the introduction of an electronic care plans program. It seems that contextual factors influence the evolution of emotions. This study reveals the vital role of emotions as change process unfolds.

74	Harvey et al., 2015	Qualitative Analysis	Quality improvement intervention	The implementation of quality improvement intervention	A new framework of analysis based on absorptive capacity is proposed in this study to uncover the role of contextual factors in the variation of organizational performance in healthcare.
75	Jacobs et al., 2015	Quantitative Analysis	Innovation	The implementation of innovation	Based on a quantitative analysis, the study confirms that effective innovation implementation depends on physicians' perceptions of implementation climate.
76	Smollan, 2015	Qualitative Analysis	Restructuring	Multiple stages of change process	Based on the experience of staff in a public healthcare organization in New Zealand, the psychological aspects of organizational change are analyzed. It seems that stress varies during the different phases of change, whereas the transition phase is the most stressful. The article suggests that the main concern of public organizations should be the development of culture and strategies to deal with the stress of organizational change.
77	Smollan, 2015	Qualitative Analysis	Restructuring	Multiple stages of change process	Based on the experience of staff in a public healthcare organization, the emotional nature of organizational change is approached. Psychological effects during the different stages of change are also analyzed. It seems that occupational stress differentiates over time, but the transition phase is the most stressful. The development of a supportive environment as well as leaders' training in stress management and emotional intelligence could overcome psychological effects of organizational change.
78	Steele Gray et al., 2015	Quantitative Analysis	Hospital Redevelopment	Multiple stages of change process	Based on a post-occupancy evaluation (POE), the article notices that hospital redevelopment involves operational and organizational changes. The findings of quantitative analysis indicate that the timing of change management activities as well as the supportive change environment encourages employee adjustment and as a result organizational readiness for change should be evaluated during the different phases of change.
79	Allen, 2016	Theoretical Analysis	Change Project	Multiple stages of change process	The study insists that in healthcare organizations the methodical planning of change process is the key to implementation effectiveness. The critical element is the preparatory stage of change process.
80	Birken et al., 2016	Qualitative Analysis	Innovation	The implementation of innovation	Based on the experience of 154 nurses managers in Cleveland Clinic, the study confirmed the theory concerning the role of middle managers in innovation implementation. It seems that information diffusion, information synthesis, mediating between strategy and daily activities, selling innovation implementation

					are the main middle managers' tasks.
81	Boyal & Hewison, 2016	Qualitative Analysis	Major Organizational Change	The implementation of change	In this study the role of senior nurses during major organizational change is analyzed. It seems that due to the emphasis on operational issues, their involvement in strategic activity is neglected. But, the development of leadership in this group could upgrade healthcare services.
82	Van Rossum et al, 2016	Quantitative Analysis	Organizational Transformation	The implementation of change	The factors that promote the incorporation of "lean tools" in healthcare are presented in this study. It seems that transformational leadership, team leadership and workforce flexibility contribute to the implementation of lean healthcare. Change competence model based on the principles of rationale, effect, focus, energy and connection is used to explain the way lean healthcare is achieved taking into account change vision and change capacity.
83	Thune & Mina, 2016	Literature Review	Innovation	Multiple stages of change process	In this paper, the role of hospitals as innovators in healthcare system is illustrated. The study reveals the heterogeneity of literature as in each case innovative activities are related to different stages or dimensions of innovation. However, three streams of innovation literature are identified: 1) The contribution of healthcare practitioners in innovation, 2) The activities of hospitals as innovative organizations, 3) Hospitals' involvement in networks of innovation connected to particular problems. Based on these findings, the need for empirical studies is underlined and a new framework of analysis is introduced as roadmap for future research.
84	Yabome, 2017	Qualitative Analysis	Transformational Change (large- scale organization development interventions (LODIS))	The implementation of transformational change	Based on the experience of 23 participants of LODIS, it seems that transformational experience depends on personal transformation, organizational transformation and contextual conditions. The interaction of these elements lead to positive transformational experience and promotes successful change process.
85	Guglielmi et al., 2017	Mixed Method	Re-organization	The implementation of re-organization	This study presents the findings of "Inside the change" intervention in an Italian hospital. It seems that workforce engagement in change process is associated with well-being symptoms. In this direction, the implementation of improved actions based on workforce engagement showed that organizational performance is enhanced. Effective human resources management promote organizational change.
86	Nelson-Brantley & Ford, 2017	Literature Review	Organizational Change	-	A model of leading change in nursing is presented in this article based on a literature review. The main attributes of leading change are described and the central role of organizational readiness identified. It seems that leading change demands interaction at all levels.

87	Smollan, 2017	Qualitative Analysis	Organizational Change	Multiple stages of change process	A model of support during the different stages of organizational change is presented based on employees' needs. The role of human resources development in developing supportive workplaces during organizational change is identified.
88	Kim & Chung, 2017	Literature Review	Innovation	The implementation of innovation	Based on a literature review, the article tries to define the factors that influence innovation implementation. It seems that innovation implementation depends on innovation characteristics, social, organizational and individual factors. The findings reveal that future research is needed to uncover the vital role of individual factors in innovation implementation, the evolving nature of innovation during implementation and the existing mechanism that helps organizations to incorporate innovation.

Table 17.

Concept Matrix Table

	Author	The features of organizational innovation in healthcare				Aspects of organizational life that need to be evaluated in healthcare			Organizations' readiness for change and their ability to assimilate innovative interventions in healthcare					The sustainability of organizational innovation in healthcare
		Innovation Research	Innovation dimensions	The determinants of innovation	Innovative behavior	Change Management Factors	Organizational Culture	Leadership	Organizational Readiness for change	Organizational Learning	Absorptive Capacity	Resistance to change	Psychological Effects	
01	Wolfe, 1994	✓												
02	Ferrara-Love, 1997						✓							
03	Mc Phail, 1997					✓								
04	O'Sullivan, 1999									✓				
05	Anson, 2000						✓							
06	Cunningham et al, 2002								✓					
07	Gustafson et al., 2003					✓								
08	Narine & Persaud, 2003						✓							
09	Bazzoli et al., 2004					✓								
10	Fleuren et al., 2004	✓		✓										

11	Bamford & Daniel, 2005					✓								
12	Buchanan et al., 2005													✓
13	Åmo, 2006				✓									
14	Brown et al., 2006												✓	
15	Golden, 2006							✓						
16	Lansisalmi et al, 2006	✓												
17	Rye & Kimberly, 2006	✓												
18	MacPhee, 2007					✓	✓	✓						
19	Landaeta et al., 2008											✓		
20	Peltokorpi et al., 2008					✓						✓		
21	Watt & Piotrowski, 2008												✓	
22	Caldwell et al., 2008							✓	✓				✓	
23	Varkey et al., 2008		✓	✓										
24	Weiner et al., 2008								✓					
25	Erwin, 2009					✓		✓						
26	Suc et al, 2009		✓			✓								
27	Weberg, 2009	✓												
28	Weiner, 2009								✓					
29	Knol & Van				✓									

	Linge, 2009													
30	Crossan & Apaydin, 2010	✓	✓	✓										
31	Bevan, 2010							✓						
32	Thompson, 2010					✓								
33	Ward, 2010			✓										
34	Doebbeling & Flanagan, 2011					✓								
35	Abraham & Junglas, 2011					✓	✓			✓				
36	Barnett et al., 2011			✓										
37	Eljiz et al., 2011			✓										
38	Halm, 2011						✓							
39	Hopkins et al., 2011				✓			✓						
40	Macfarlane et al., 2011					✓								
41	Molfenter et al., 2011													✓
42	Pellegrin & Currey, 2011						✓							
43	Adams et al., 2011		✓											
44	Birken et al., 2012	✓		✓										
45	Carlström & Ekman, 2012						✓					✓		
46	Chreim et al., 2012					✓								
47	Martin et al,													✓

	2012													
48	Øvretveit et al., 2012			✓		✓								
49	Salmela et al., 2012							✓						
50	Thakur et al., 2012			✓										
51	Adams et al., 2013		✓											
52	Birken et al., 2013	✓		✓										
53	Erskine et al., 2013							✓						
54	Merono-Cerdan & Lopez-Nicolas, 2013				✓									
55	Siverbo et al., 2013					✓								
56	Steinke et al., 2013					✓								
57	Teo et al., 2013												✓	
58	Ugurluoglu et al., 2013									✓				
59	Kash et al., 2013										✓			
60	Lee et al., 2013					✓								
61	Ljungquist, 2014					✓								
62	Anders & Cassidy, 2014					✓	✓	✓						
63	Carlstrom & Olsson, 2014						✓					✓		

64	Kash et al., 2014										✓		
65	Kash et al., 2014					✓	✓	✓					
66	Osatuke et al., 2014											✓	
67	Shea et al., 2014								✓				
68	Kuipers et al., 2014					✓						✓	
69	Bérard et al., 2015			✓									
70	Evans et al., 2015						✓						✓
71	Fleischer et al., 2015												✓
72	Fleischer et al., 2015												✓
73	Giæver & Smollan, 2015												✓
74	Harvey et al., 2015										✓		
75	Jacobs et al., 2015			✓									
76	Smollan, 2015												✓
77	Smollan, 2015												✓
78	Steele Gray et al., 2015										✓		
79	Allen, 2016					✓							
80	Birken et al., 2016			✓									
81	Boyal &								✓				

	Hewison, 2016													
82	Van Rossum et al, 2016					✓		✓						
83	Thune & Mina, 2016	✓												
84	Yabome, 2017					✓								
85	Guglielmi et al., 2017					✓								
86	Nelson-Brantley & Ford, 2017							✓	✓					
87	Smollan, 2017					✓							✓	
88	Kim & Chung, 2017	✓		✓									✓	

Appendix E

Table 18.

Analysis of Papers' Empirical Methodology

	Author	Research Method	Sample	Country	Data Analysis
01	Cunningham et al, 2002	Questionnaires	n=654 randomly selected hospital staff	Canada	Hierarchical regression equations
02	Gustafson et al., 2003	Questionnaire	n=1 staff in each improvement project	-	Logistic regression and ROC analysis
03	Fleuren et al., 2004	-	n=40 experts n= 37 experts n= 34 experts	Netherlands	Delphi method
04	Åmo, 2006	Questionnaires	n=555 nurses, auxiliary nurses and unskilled healthcare workers	Norway	Multiple regressions
05	Brown et al., 2006	Questionnaire	-n=71 nurses -n= 188 nurses -n=92 nurses	UK	MANOVA, ANOVA
06	Landaeta et al., 2008	-	-	USA	Phenomenology approach
07	Peltokorpi et al., 2008	Structured Interviews	n=1 from each stakeholder group	Finland	Equation

08	Watt & Piotrowski, 2008	Questionnaires	n=110 healthcare industry workers	USA	-
09	Caldwell et al., 2008	-Semi-structured interviews -Questionnaires	-n=38 medical departments -n=313 physicians	USA	Varimax rotation of a principal component analysis
10	Erwin, 2009	Semi-structured interviews	n=35 managers	USA	-
11	Knol & Van Linge, 2009	Questionnaires	n=519 registered nurses in 2 general hospitals	Netherlands	Descriptive statistics, bivariate and multiple regression and ANOVA
12	Barnett et al., 2011	Semi-structured interviews	n=18 organizational representatives	UK	Thematic analysis
13	Eljiz et al., 2011	Semi-structured interviews	n=11 key hospital informants	UK	Thematic analysis
14	Macfarlane et al., 2011	Interviews Ethnographic observation Documentary Analysis	n=100	UK	Cross-case analysis
15	Molfenter et al., 2011	Questionnaire	n=81 healthcare organizational change and management practitioners	-	R-square analysis

16	Pellegrin & Currey, 2011	Questionnaires	-	-	-
17	Adams et al., 2011	-Semi-structured Interviews -Repertory grid technique -Secondary sources	n=23	UK	Constant comparison
18	Carlström & Ekman, 2012	Questionnaires	n=117 nurses	Sweden	Bivariate and multiple regressions
19	Chreim et al., 2012	Semi-structured Interviews	-n=42 senior & mid-level administrator, physicians, nurses, home and community care personnel, nurse practitioner, program managers -n=22 -n=26	Canada	Coding Framework
20	Martin et al., 2012	Interviews	N=41 key stakeholders	UK	Constant comparative method
21	Salmela et al., 2012	Interviews	n=17 (nurse leaders)	Finland	Phenomenological-hermeneutical approach
22	Thakur et al., 2012	Interviews	n=21 C-level business executives	USA	-
23	Adams et al., 2013	-Semi-structured interviews -Secondary sources	n=9 lead innovators	UK	Content analysis, cluster analysis

24	Birken et al., 2013	Semistructured interviews	n=120 middle managers	-	Ordinary least squares/ Template analysis, combining content analysis with grounded theory
25	Erskine et al., 2013	Semi-structured interviews and focus group discussions	n=55 NHS staff	UK	Coding Frameworks
26	Merono- Cerdan & Lopez- Nicolas, 2013	Questionnaires	n=240 spanish healthcare businesses	Spain	Canonical analysis, logit regression analysis, MANOVA,
27	Siverbo et al., 2013	Semi-structured Interviews	n=5 participants from workshop and local project manager	Sweden	Content Analysis
28	Steinke et al., 2013	Questionnaires	n=103 staff	Canada	Factor analysis, ANOVA
29	Teo et al., 2013	Questionnaires	n=119	Australia	Partial least squares path analysis
30	Ugurluoglu et al., 2013	Questionnaires	n=243 hospital managers	Turkey	Multiple regression and correlation methods

31	Kash et al., 2013	Semi-structured Interviews	n=61 healthcare administrators	USA	Deductive qualitative content analysis
32	Ljungquist, 2014	-Interviews -archival documents	n=6 key informants, managers	-	Within-case perspective
33	Carlstrom & Olsson, 2014	Questionnaires	n=127 physicians and nurses	Sweden	Bivariate regressions and multiple regressions
34	Kash et al., 2014	Semi-structured interviews	n=61 (healthcare leaders)	-	Inductive qualitative content analysis
35	Osatuke et al., 2014	Questionnaires	-	USA	-
36	Shea et al., 2014	Questionnaires	-n=98 students enrolled in undergraduate, masters and doctoral programs in health policy and management at a university -n=140 -n=140 -n=311 non- governmental organizations staff	USA	ANOVA, Exploratory principal- axis factor analysis, confirmatory factor analysis
37	Bérard et al., 2015	Semi-structured interviews	-	France	-

38	Fleischer et al., 2015	Semi-structured Interviews, document reviews, and observations.	n=14 registered nurses with department-wide leadership positions.	Canada	Content analysis
39	Giæver & Smollan, 2015	Interviews	n=11 nurses	Norway	Thematic analysis
40	Harvey et al., 2015	Semi-structured interviews	n=22 (general and clinical managers)	UK	AC framework analysis
41	Jacobs et al., 2015	Questionnaires	n=481 CCOP physician survey respondents	USA	Structural equations modelling
42	Smollan, 2015	Semi-structured interviews	n=31 staff	New Zealand	Coding framework
43	Smollan, 2015	Semi-structured interviews	n=31 staff	New Zealand	Coding framework
44	Steele Gray et al., 2015	Questionnaires	n=125 staff n=84 staff n=187 staff n=194 staff	Canada	ANOVA

45	Birken et al., 2016	Questionnaires	n=63 middle managers	USA	Content analysis with grounded theory
46	Boyal & Hewison, 2016	Semi-structured interviews	n = 14 senior nurses	UK	Framework Method
47	Van Rossum et al, 2016	Questionnaires	n=380 (employees)	Netherlands	Correlation and regression analyses
48	Yabome, 2017	Interviews	n=23 (participants in LODIS in a complex healthcare system)	-	Classic data analysis.
49	Guglielmi et al., 2017	Questionnaires	n=88 healthcare workers	Italy	ANOVA, Student's t-test
50	Smollan, 2017	Semi-structured interviews	n=31 staff	New Zealand	Coding framework

