

Bachelor thesis Organisation Studies



Evidence-based management

A literature review about the barriers to and facilitators
for adoption

Marloes Aarts
Anr: 365835
m.aarts@uvt.nl

Tilburg University
July 2007

1st supervisor: Prof. Dr. M.T.H. Meeus
2nd supervisor: Drs. M.M. Laboyrie

Preface

To pass the course 'Bachelor thesis Organisation Studies' I had to write this paper. In January I was able to apply for a circle with a certain topic and within that circle I could choose my own research topic and question. I signed in for the circle 'Translating theories and research findings into interventions or strategies'. The circle was about the lack of the utilization of research evidence within management practices.

The research topic I have chosen is 'evidence-based management', it is about managing an organization by using research findings. In this research, I will look at factors that influence the adoption of this management practice by management consultants.

I could not have done this without the help of others; therefore I like to thank some people. First of all, Prof. Dr. M.T.H. Meeus, for giving feedback and for his assistance during the process. Furthermore, I like to thank Drs. M.M. Laboyrie as second supervisor for giving feedback and the students who joined in the circle for reading my pieces and giving feedback, but above all for their support. Finally, I want to thank Leonique Korlaar and Pieter van de Weijer for reading some pieces in their spare time.

Marloes Aarts

July 2007

Table of contents

| | |
|--|-----------|
| Preface | 2 |
| Chapter 1. Introduction | 4 |
| 1.1. Research problem | 4 |
| 1.2. Research goal and question | 4 |
| 1.3. Relevance of the research | 5 |
| 1.4. Structure of the paper | 5 |
| Chapter 2. Theoretical Framework | 6 |
| 2.1. Evidence-based management..... | 6 |
| 2.2. Management consultancy..... | 7 |
| 2.2.1. <i>Development of management consulting</i> | 7 |
| 2.3. Diffusion of innovations | 8 |
| Chapter 3. Research design | 10 |
| 3.1. The research | 10 |
| 3.2. Operationalisation of key concepts | 10 |
| 3.3. Conceptual model | 11 |
| Chapter 4. Data analysis | 12 |
| 4.1. Data collection | 12 |
| 4.2. Data analysis | 12 |
| 4.3. Quality indicators..... | 13 |
| Chapter 5. Results | 14 |
| 5.1. Barriers to the adoption of evidence-based practices | 14 |
| 5.1.1. <i>Authority</i> | 14 |
| 5.1.2. <i>Research</i> | 14 |
| 5.1.3. <i>Skills</i> | 14 |
| 5.1.4. <i>Attitudes</i> | 15 |
| 5.1.5. <i>Client</i> | 15 |
| 5.1.6. <i>Support</i> | 15 |
| 5.1.7. <i>Time</i> | 15 |
| 5.1.8. <i>Resources</i> | 15 |
| 5.1.9. <i>Re-organization</i> | 15 |
| 5.2. Facilitators for the adoption of evidence-based practices..... | 16 |
| 5.2.1. <i>Support/involvement</i> | 16 |
| 5.2.2. <i>Skills</i> | 16 |
| 5.2.3. <i>Attitudes</i> | 16 |
| 5.2.4. <i>Research</i> | 16 |
| 5.2.5. <i>Resources</i> | 17 |
| 5.2.6. <i>Time</i> | 17 |
| 5.2.7. <i>Organization within the firm</i> | 17 |
| 5.2.8. <i>Communication</i> | 17 |
| 5.3. Overall findings | 17 |
| Chapter 6. Discussion | 19 |
| 6.1. Barriers to and facilitators for the adoption of evidence-based practices | 19 |
| 6.3. Overall findings | 22 |
| 6.4. Are the findings of this research applicable to EBM and management consulting?..... | 23 |
| 6.5. Limitations..... | 24 |
| Chapter 7. Conclusion | 25 |
| 7.1. Conclusion | 25 |
| 7.2. Recommendations for further research | 26 |
| References | 27 |
| Appendix | 32 |

Chapter 1. Introduction

In this chapter the subject of this paper, the adoption of evidence-based management by management consultants, is introduced. The research problem, goal and question are explicated, the relevance of the research is described and finally, the structure of the paper is given.

1.1. Research problem

Amidon Rogers (1996) states that the stage is set for a more integrative role of research. Mohrman, Gibson & Mohrman (2001) and Rynes, Bartunek & Daft (2001) as well recognize the need for useful research. However, much is written about a gap between organizational research and findings and management practices (Bushman & Fowler, 1993; Duncan, 1974; Gagliardi, 1999; Mohrman et al., 2001; Priem & Rosenstein, Rynes et al., 2001). Practitioners do not turn to academics or scientific literature when developing management strategies and practices (Priem & Rosenstein, 2000; Rynes et al., 2001). Similarly, researchers do not use information that managers possess for, for example, interpreting their results or setting a research question (Rynes et al., 2001).

According to proponents of evidence-based management (Molier, 2001; Pfeffer & Sutton, 2006a; Rousseau, 2006) evidence-based management could be a solution for the research-practice gap. "Evidence-based management...derives principles from research evidence and translates them into practices that solve organizational problems" (Rousseau, 2006, p.256). Due to evidence-based management, managers are more capable of justifying the usually important interventions and it also could help to find an answer for the information problems managers are confronted with. For instance, managers have to deal with a lot of information, but the information they need is more difficult to find (Molier, 2001). However, evidence-based management today is only hypothetical; managers make limited use of research findings to support their decisions (Pfeffer & Sutton, 2006a; Rousseau, 2006).

1.2. Research goal and question

Most managers justify their interventions by their own experience or by the experience of someone else (Pfeffer & Sutton, 2006a). They have no valid evidence for the important decisions they take. According to Pfeffer and Sutton (2006a) managers do have valid evidence when practicing evidence-based management. However, as mentioned in the former paragraph, managers make limited use of research evidence to support their decisions. This research wants to investigate when managers are willing to practice evidence-based management and what hinders them to adopt this management practice.

Furthermore, it will focus on management consultants. Management consultants usually take very important decisions for other companies, therefore it could be helpful when they can justify these decisions towards these companies and towards their principals. Moreover, when evidence-based management proves to be useful for management consultants, it can be a good advertisement for other firms and consultants are earlier inclined to suggest evidence-based management as a solution for their clients.

In order to find out when management consultants are willing to adopt evidence-based management, this research will investigate which factors cause a shift in management practice and which factors are barriers to a shift in management practice. The following research question can be derived from this goal:

Which factors facilitate and which factors hinder, according to the literature, the adoption of evidence-based management by management consultants?

1.3. Relevance of the research

This research explicates the factors that influence the adoption of a new way of founding interventions by management consultants. This new way of founding interventions is founding by research findings, named evidence-based management. Therefore, this paper gives more insight in the concept of evidence-based management. This will be the scientific relevance of this paper. Furthermore, Rousseau (2006) thinks that evidence-based management is a solution for the existing research-practice gap. Thus, this paper will not only give more insight in the concept of evidence-based management, but it gives also more insight in the research-practice gap.

The paper has a practical relevance too. This research gives some factors that indicate when managers will adopt another management practice and some factors that hinder this adoption of another management practice, which is evidence-based management. So, this paper could be useful for organizations that want to change their way of founding interventions. At the same time these factors are instructions for closing the research-practice gap.

1.4. Structure of the paper

This paper starts with an overview of the existing literature on evidence-based management, management consulting and the diffusion of innovations. Then, in chapter 3 the research design of this research is explicated; which variables are used, how are these variables operationalized and how does measurement occurs. In chapter 4 is told how data is collected and analysed. In chapter 5 the measurement findings are presented, in chapter 6 these measurement findings are discussed and in chapter 7 a conclusion of this research is given.

Chapter 2. Theoretical Framework

This chapter gives an overview of the literature relevant to the topic of this paper, adoption of evidence-based management by management consultants. Therefore, the chapter begins with an explanation of evidence-based management (EBM). Then, the sector management consultancy is discussed and finally, the diffusion of innovations.

2.1. Evidence-based management

“Evidence-based management...derives principles from research evidence and translates them into practices that solve organizational problems” (Rousseau, 2006, p.256). EBM stems from the assumption that using better, deeper logic and applying facts to the extent possible permits leaders to do their jobs better. It is based on the belief that dealing with the hard facts about what works and what does not work, understanding the half-truths about management, and rejecting the total nonsense that passes will help organizations to perform better (Pfeffer & Sutton, 2006a).

When practicing EBM one needs an attitude that embraces the following components: willingness to hear and act on the facts, and an unfailing solidarity to gather facts and information necessary to make more informed decisions and to keep pace with new evidence and using these new facts to update practices (Pfeffer & Sutton, 2006b).

Proponents of EBM believe that EBM has numerous advantages, it will lead to competitive advantage (Pfeffer & Sutton, 2006b), valid learning and continuous improvement, and it gives the organization legitimacy because of the relevant founding organizations have for their interventions when practicing EBM (Molier, 2001; Rousseau, 2006). However, as mentioned in chapter 1, EBM today is only hypothetical. This could be due to the fact that managers do not know the evidence and the consultants who advise them do not know the evidence either (Rousseau, 2006). However, when managers and their advisors do know the evidence, another problem arises. There is too much information to consume for a single person and it is very difficult to judge the quality of what is advised by different books and articles (Pfeffer & Sutton, 2006a).

Furthermore, within management there is little understanding of scientific method because of the diverse backgrounds and education of managers. Practicing managers do not have a body of shared knowledge (Rousseau, 2006).

Also, EBM can threaten managers' freedom to run their organization as they want to. It changes power dynamics, reputation, intuition and it replaces formal authority. After all, when decisions are made by using the facts, power relations do not play a part and are not a source of influence (Pfeffer & Sutton, 2006a; Rousseau, 2006).

Finally, within management a culture of truth telling barely exists. Most people often do not want to hear the truth when it is bad news and therefore, people only like to deliver good news. Yet, to practice EBM one has to know the whole truth (Pfeffer & Sutton, 2006a).

2.2. Management consultancy

Management consultants are “those who provide general management advice within a strategic, organizational, or operational context, and who are institutionally organized in firms” (Canback, 1998, p.3). The five major practices management consultants are employed at are information technology consulting, strategy and organization consulting, marketing consulting, operations management consulting and finally, human resource consulting (Greiner & Poulfelt, 2005).

Furthermore, management consulting can be practiced in the private sector as well as in the public sector (Greiner & Poulfelt, 2005). Even in the public sector management consulting is limited influenced by public policy pressures (Rousseau, 2006).

2.2.1. Development of management consulting

The first consulting firm was Arthur D. Little (ADL). In the beginning, like most consulting firms before 1950, ADL focused on efficiency and technical issues in manufacturing. Later on management consulting accounted for a majority of its revenues (Greiner & Poulfelt, 2005).

In the first half of the 20th century most of the consulting firms started with specific customer opportunities or with a specific functional specialization. Then, till 1960, the focus of management consulting turned to designing, improving, and systematizing the internal functioning of organizations and the marketing of products. In the 1960s client companies were growing rapidly and these organizations asked consultants for help on strategic questions. This meant for consulting firms a shift in the scope and complexity of management consulting (Greiner & Poulfelt, 2005).

From 1960-1980 the credibility of consulting firms as developers of intellectual capital increased. Also, nontraditional players began to enter the consulting industry, like the big eight accounting firms that all launched management consulting services (Greiner & Poulfelt, 2005).

In the 1980s en 1990s consulting firms grew by developing new practices and by mergers and acquisitions. Also, accounting firms and other nontraditional players made many mergers and acquisitions in order to enter this industry or to create scale and leverage in their consulting practices. By far the largest growth occurred among the information system providers, these firms helped clients to formulate an information strategy and then designed and installed the appropriate IT infrastructure for them (Greiner & Poulfelt, 2005).

In this current period management consultancy faces three emergent issues with which one has to deal (Harris, 1999): development of a defined approach to professional management consulting, identification of a preferred curriculum and training to develop consultants, and finally dealing with the certification of professional management consultants. If the management consultancy really wants to be a profession, one has to deal with these issues. Professionalism "is about dependable, reliable, consistent behavior" (Greiner & Poulfelt, 2005, p.34) and by seeking out these issues one is able to monitor management consultants about their dependable, reliable and consistent behavior.

2.3. Diffusion of innovations

An innovation is "an idea, practice, or object perceived as new by an individual or other unit of adoption" (Rogers in Nutley & Davies, 2000, p.35). EBM can be seen as a new management practice and therefore, as an innovation. Diffusion is defined as "the process by which an innovation is communicated to and adopted (or rejected) by members of a social system" (Nutley & Davies, 2000).

Rogers formalized in 1962 the 'diffusion of innovations theory'. The classical diffusion model is a relatively centralized one, but Rogers recognized that the process of diffusion can vary from highly centralized to highly decentralized (Nutley & Davies, 2000). In a highly centralized system there is central control of decisions, a top down diffusion from experts to users, and a low degree of local adaptation when adopted by users. In a highly decentralized system there is a wide sharing of power and control, peer diffusion through horizontal networks, and a high degree of local adaptation among adopters (Nutley & Davies, 2000).

It seems that the decentralized system is less likely to come across on user resistance and, as said above, is more likely to result in a greater level of adaptation. However, the potential for users to run their own diffusion system, thus the decentralized approach, is greatest when the users are educated and technically competent practitioners (Nutley & Davies, 2000).

Besides the kind of approach, there are several other factors that affect the likelihood that a particular innovation will be adopted. First, characteristics of the adopter is one of the factors that affect the likelihood that a particular innovation will be adopted, adopters can be categorized according to their tendencies to adopt and each group uses a different diffusion strategy. The social network to which adopters belong has also an affect, choices whether to adopt or not can relate to the existence of fads and fashions that play a part within the social network. The third factor is innovation attributes, there are different key attributes of an innovation which influence the adoption of that innovation.

Key attributes can be relative advantage and complexity. Then, environmental characteristics is as well a factor that influence the adoption of an innovation, for example low environmental uncertainty increases the tendency of organizations to remain stable or avoid change. Finally, the characteristics of those promoting the innovation affect the adoption of an innovation, characteristics are the relation a change agent has with adopters, the credibility of a change agent and being a member of the target social system (Nutley & Davies, 2000).

Finally, innovations are adopted as follows (Rogers in Nutley & Davies, 2000, p.37):

1. *Knowledge*; a potential adopter knows that an innovation exists and obtains some understanding of its potential.
2. *Persuasion*; a favorable or unfavorable attitude towards an innovation is formed.
3. *Decision*; activities are undertaken that lead to the adoption or the rejection.
4. *Implementation*.
5. *Confirmation*; there is reinforcement for an adoption that has been made.

Chapter 3. Research design

In this chapter the characteristics of this research and the operationalisations of evidence-based management, management consultants and the diffusion of innovations are mentioned and explained. Then, in the last section of this chapter the conceptual model is showed and it is explained how this model is researched.

3.1. The research

As described in the introduction (see chapter 1), the research analyzes the literature on factors that hinder and factors that facilitate the adoption of evidence-based management (EBM) by management consultants. Therefore, this paper can be characterized as a literature review, the existing literature about the topic is analyzed (Hart, 2001). According to the model of Wallace (Baker, 1999), this research covers the deductive part of the circle. Since the aim of this paper is not to develop a theory, but to search in empirical articles when management consultants would adopt or would not adopt EBM. Furthermore, this research is an exploratory research, because the purpose of the research is to find the barriers to and facilitators of the adoption of EBM. So, one could have a better understanding of EBM and the utilization of this concept.

3.2. Operationalisation of key concepts

The most important concepts of this research are evidence-based management (EBM), management consultants and diffusion of innovations. In the previous chapter, these concepts are extensively discussed, so in this section only the operationalisation of the concepts and the reasons for choosing the following operationalisations are given.

EBM is operationalised as follows: "Evidence-based management...derives principles from research evidence and translates them into practices that solve organizational problems" (Rousseau, 2006, p.256). As this definition clarifies, the principles of evidence-based practice are applied on the practice of management itself (Hewison, 2004).

Management consultants are according to Canback (1998) "those who provide general management advice within a strategic, organizational, or operational context, and who are institutionally organized in firms" (p.3). This definition highlights exactly what this research means with the term management consultant and is therefore chosen as operationalisation.

Finally, the concept diffusion of innovations is also an important concept within this research. For the operationalisation of this concept, the concept is split into two concepts; innovation and diffusion. In this research innovation is operationalised as "an idea, practice, or object perceived as new by an individual or other unit of adoption" (Rogers in Nutley & Davies, 2000, p.35). By means of this definition EBM can be seen as

a new management practice, and therefore this definition is chosen. Diffusion is “the process by which an innovation is communicated to and adopted (or rejected) by members of a social system” (Nutley & Davies, 2000, p.36).

3.3. Conceptual model

The schematic representation of the research is mentioned below (figure 1.).

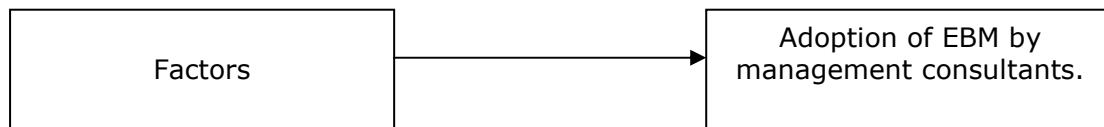


Figure 1. Conceptual model

The purpose of this research is the adoption of EBM by management consultants, but therefore one has to know which factors, barriers and facilitators, have an influence on the shift from the state of affairs to practicing EBM. One has to know which factors cause a shift in management practice and which factors hinder this shift. Therefore, the arrow in the conceptual model between ‘factors’ and ‘adoption of EBM by management consultants’ can be either positive or negative.

Due to the lack of articles about barriers to and facilitators for the adoption of EBM by management consultants and managers of organizations in the private sector in general, there is searched for articles in which barriers to and facilitators for the adoption of evidence-based practices in any sector and any function are described. Also, due to the lack of empirical articles about this particular research topic, the operationalisation of EBM is only followed in a small number of articles. Empirical articles about willing and resistance to change were not sufficient, since EBM is a special kind of management practice aimed at using research as foundation. Empirical literature about evidence-based practices was sufficient, because this kind of practice is also based on research evidence. In spite of the lack of appropriate empirical literature, the research is continued to get a notion of factors that could possibly hinder or facilitate the adoption of EBM by management consultants. In the discussion section (chapter 6) is explained whether the findings of this research are as well barriers to and facilitators for the adoption of EBM by management consultants.

Chapter 4. Data analysis

This chapter focuses on the way the data for the research has been collected and it is told how this data was analysed and why this particular manner of data analysis was chosen. Also, the quality indicators of this research are described.

4.1. Data collection

The research is a literature review about the barriers to and facilitators for the adoption of EBM, therefore existing documents about this topic were used. These documents were empirical articles.

Data collection was done in several search tools of Tilburg University. The following search tools were examined for relevant empirical articles: ABI/inform, Catalogus UvT, JSTOR, Online Contents Tijdschriftartikelen UvT, Online Contents Landelijk, PsycINFO, Social Services Abstracts, Sociological Abstracts and PubMed. Furthermore, Google scholar and ISI Web of Knowledge were used to collect additional data.

Keywords that were used to find the empirical articles that are useful for this research were: evidence-based management, evidence-based practice, research utilization, evidence-based decision making, evidence-based medicine, education, managers, management, barriers, facilitators, diffusion of, adoption of, spread of.

4.2. Data analysis

The data that has been gathered was analysed by using feature maps, because in this manner the formulation of an answer on the research question was easier. "Feature maps are a method by which the content of many articles can be systematically analysed and recorded in a standardized format" (Hart, 2001, p.145). Because of the large amount of empirical articles collected, feature maps helped to schematize these data and to get a clear overview of the possible barriers to and facilitators of the adoption of evidence-based practices. The first matrix (see appendix A) consists of the key concepts, the key variables, the key findings, the population and finally, the sample size of the empirical articles that were gathered. In this manner, the most important characteristics of the empirical researches used for this research were ordered in a systematized way. The barriers and facilitators were key findings of the empirical articles. The key findings of each research were systematized within the main matrix and could therefore easily be isolated and be placed within a separate matrix (see appendix B and C). These matrices describe either the barriers or the facilitators that exist with respect to the adoption of evidence-based practices with regard to any sector and function. In all three matrices, the texts that are in *Italic* refer to the barriers to and facilitators for the adoption of evidence-based practices that managers reported. The rest are barriers and facilitators

that were reported, mainly, by nurses. Furthermore, the barriers and facilitators were divided in categories. In this manner, the distinction between the different barriers and facilitators was more clearly and the barriers and facilitators could be presented orderly in a matrix.

This distinction between managers and nurses, in matrices B and C, was made because this research originally focused on management consultants and thus, on managing. In this way, it was possible to see if certain categories overlapped between managers and nurses.

4.3. Quality indicators

The reliability and the validity of this research were certainly taken into account. The reliability was tried to be guaranteed by describing precisely how the research was done and by adding every source that was used to the references. In this way, when this research would be repeated, the same results would emerge. The internal validity was taken into account by searching data in several data bases and by using feature maps it was tried to model the data. The external validity is limited, because this research only focused on one sector and therefore, the results are not generalizable.

Chapter 5. Results

In this chapter the results of this research are presented. In the first paragraph the barriers to adoption of evidence-based practices that are found in the empirical articles are presented. The facilitators for the adoption of evidence-based practices are presented in the second paragraph and finally, in the third paragraph, some overall findings are reported.

5.1. Barriers to the adoption of evidence-based practices

Using the keywords that are mentioned in chapter 4, thirty articles were found that could be used for this research. Barriers to the adoption of evidence-based practices were found in 26 of the thirty empirical researches. Out of these 26 articles, in only seven articles managers were the population being questioned.

Nine categories are identified that hinder the adoption of evidence-based practices: authority, research, skills, attitudes, client, support, time, resources, re-organization (see appendix B). Except the category 'client', all categories form a hindrance for both managers and nurses.

5.1.1. Authority

The category 'authority' consists of the barriers that are about lack of authority and the dominance of another group within the organization. Nurses reported mainly their lack of authority to change or implement (new) practices. Managers as well reported lack of authority to implement new practices, but were also concerned about the dominance of other groups, like medical staff.

5.1.2. Research

The category 'research' is about the state of the research. Barriers that are about difficulties with awareness, availability, relevance, understandability, access and credibility of research are put in this category. Nurses and managers reported the same barriers.

5.1.3. Skills

The third category this research has identified as a barrier is 'skills'. This category is concerned with the lack of education or training and not enough education or training with respect to research and critical appraisal of it. Also, this category is about not enough training in using computers and internet, and the content and the organization of education or training. The barriers within this category differed for managers and nurses. Managers are concerned with the content and the organization of the education/training and nurses with not having had a training or education.

5.1.4. Attitudes

Attitudes form, according to the research results, also a barrier to the adoption of evidence-based practices. This category consists of attitudes towards the research activity, lack of motivation, low morale, resistance to change, fear, and reactions and responses by others. The barrier within this category for managers is the way they see research. Nurses are mainly concerned with the fear of giving up what is traditional and are resistant to change.

5.1.5. Client

Only nurses reported barriers that are related to clients and their needs. A lack of personalized care for patients, rarely working long-term with consumers and patient compliance cause that nurses are not willing to adopt evidence-based practices. Managers do not recognize this category as a barrier to the adoption of evidence-based practices.

5.1.6. Support

Both managers and nurses feel that a lack of support from other parties within the organization hinder the adoption of evidence-based practices. Parties that are named are medical staff, nursing colleagues, senior staff and the organization itself.

5.1.7. Time

Another barrier to the adoption of evidence-based practices is lack of time. Managers and nurses have their concerns around the time needed for evidence-based practices and both expect a lack of time for reading and implementing research findings and new ideas.

5.1.8. Resources

Also, a lack of resources is seen by managers and nurses as a factor that hinders the adoption of evidence-based practices. Barriers that are part of this category are staff shortage and inadequacy of the facilities. Managers reported as well that a critical mass of research minded staff is needed for evidence-based practices.

5.1.9. Re-organization

Managers and nurses both recognize that a change in structure and culture is needed before one is able to practice evidence-based. So, an organization first has to adapt to the characteristics of evidence-based practices before even dealing with it.

5.2. Facilitators for the adoption of evidence-based practices

From the thirty empirical articles that were found on the basis of the keywords mentioned in chapter 4, eighteen articles reported facilitators for the adoption of evidence-based practices. Out of these eighteen articles six empirical articles reported facilitators perceived by managers.

Eight categories are identified that facilitate the adoption of evidence-based practices: support/involvement, skills, attitudes, research, resources, time, organization within the firm and communication (see appendix C). These categories are facilitators for as well managers as nurses.

5.2.1. Support/involvement

This category is about support and encouragement of other parties within the organization and from the organization itself. Support and encouragement from enthusiastic, open, positive and interested managers, physicians and other staff, support from colleagues and collaboration on the part of all staff members facilitates the adoption of evidence-based practices by managers and nurses.

5.2.2. Skills

The category 'skills' is concerned with education or training about the way people within an organization can deal with research. This category is also concerned with the organization of education or training. Nurses are interested in education in scientific methods, help in developing skills in searching for appropriate literature and guidance from knowledgeable colleagues. Managers are also interested in consultation and guidance to locate useful research, but are as well interested in the organization of education or training. For instance, setting up a research centre and nursing development units are mentioned by managers as facilitators.

5.2.3. Attitudes

According to the research results, there are certain attitudes that facilitate the adoption of evidence-based practices. Research seen as beneficial to patient care, recognition of importance of research by individuals, sympathetic attitude to research and nurses' interest in are attitudes that facilitate the adoption of evidence-based practices, recognized by managers and nurses. Nurses see willingness to carry out changes, positive attitudes and abilities of nurses and professional pride as well as facilitators.

5.2.4. Research

The category 'research' is about the way research is presented. Facilitators that were mentioned by managers and nurses are access to research, results of research presented

in an understandable way, research that is readily available, robustness of the intervention and finally, awareness of research.

5.2.5. Resources

Having the appropriate resources, like money and staff, facilitates the adoption of evidence-practices. Appropriate resources are having research-aware staff, money for studying on a full salary and for the development of nursing care, provision of funding to initiate the application of research knowledge, increased resources for education and more staff. These facilitators are mentioned by managers and by nurses.

5.2.6. Time

According to managers and nurses scheduled study-time, scheduled time for visits to the library, time for reading and discussions with colleagues, time for implementing change and time for retrieval and evaluation of research findings facilitates the adoption of evidence-based practices.

5.2.7. Organization within the firm

Both managers and nurses agree the firm needs to change, as well the culture as the structure of a firm, before one can adopt evidence-based practices. Nurses think of developing a research tradition and implementing certain standards. Managers are more precise and think of strategies that could change the characteristics of a firm.

5.2.8. Communication

Managers and nurses both reported communication as a facilitator for the adoption of evidence-based practices. Nurses are concerned with communication to all stakeholder groups, evaluation of outcomes and more active practitioner process management. Managers belief strategies should focus on facilitating communication networks, partnerships and links between researchers and practitioners.

5.3. Overall findings

Besides the findings that belong specific to the barriers to or the facilitators for the adoption of evidence-based practices, there are some overall findings.

About the topic of this research mainly empirical articles concerning health care were found, and some articles concerning education. Moreover, there were no empirical articles about EBM. And only ten out of the thirty articles questioned managers.

Furthermore, the researches were more frequently done in western countries. One empirical article out of the thirty articles that are used for this research investigated barriers to research utilization and needed assistance in Taiwan, a developing country

(Tsai, 2000). The barriers to and facilitators for the adoption of evidence-based practices were comparable to the findings within western countries.

Another finding of this research is that the authors of the empirical articles used often the BARRIERS-scale, a scale introduced in an article written by Funk, Champagne, Wiese and Tornquist in 1991. The BARRIERS questionnaire has 28 items and four barrier subgroups: characteristics of the 'nurse', of the 'setting', of the 'research' and finally, characteristics of the 'presentation' (Mckenna, Ashton & Keeney, 2004).

The lack of explanatory research within the empirical articles used for this research is also stood out. Not one of the researches used for this research investigated why certain factors are barriers to or facilitators for evidence-based practices.

Finally, this research found that the categories for the barriers and the facilitators identified within the research almost overlap. For instance, the category 'support'; a lack of support hinders the adoption of evidence-based practices and being supported by others facilitates this adoption. This example goes for all categories this research found in the literature, except for the categories 'client' and 'communication'.

Chapter 6. Discussion

In this chapter the results of the research are being discussed. What are the barriers to and facilitators for the adoption of evidence-based practices found in this research and is there an overlap between these barriers and facilitators and the literature about EBM and the diffusion of innovations? In addition, the overall findings are discussed and it is explained whether the findings of this research are generalizable to management consultants. Finally, some limitations of this research are indicated.

6.1. Barriers to and facilitators for the adoption of evidence-based practices

As mentioned in the previous chapter this research found an overlap between the categories of the barriers to and the facilitators for the adoption of evidence-based practices. As a consequence, there are ten categories that have an influence, either negative or positive, on evidence-based practices: authority, support/involvement, skills, attitudes, client, communication, resources, time, re-organization/organization within the firm and research.

In the literature about EBM the categories 'research', 'skills' and 'attitudes' are as well mentioned as having an influence on the adoption of EBM. Pfeffer and Sutton (2006a) and Rousseau (2006), proponents of EBM, describe that managers and consultants, who advise these managers often, do not know the evidence. In addition, when knowing the evidence it is too much information to consume and it is also difficult to judge the quality of the evidence. Therefore, according to the above mentioned authors, EBM is only hypothetical. These difficulties with respect to research findings were also reported within the data. One sees these difficulties as a barrier to adopt evidence-based practices. Participants also reported that the category 'research' could be a facilitator for the adoption of evidence-based practices when there is access to findings, more realistic and relevant research, and when articles are readily available et cetera (see appendix C). Furthermore, Rousseau (2006) remarks that within management there is little understanding of scientific method. This research as well found that a lack of skills and education with regard to the understanding of research is a barrier to adopt evidence-based practices. And also for this category goes that it could be a facilitator for the adoption of evidence-based practices when there is training in scientific methods and/or searching for appropriate literature. The category 'attitudes' corresponds as well to the literature about EBM, although in the literature about EBM the factor attitude is dealt with in a slightly different way. According to Pfeffer and Sutton (2006b), when practicing EBM one needs an attitude that contains two critical components. These components are already discussed in chapter 2. In summary, the components cause that one keeps ones loyalty with respect to using research evidence when making decisions. The category

'attitude' implies also an attitude in relation to research. The difference is that the literature about EBM is more concerned with using research evidence and this research found that one is more concerned with the position employees take regarding research evidence.

Concerning the literature about the diffusion of innovations there are also some categories found within this research that correspond. Nutley and Davies (2000) have mentioned a number of factors that affect the likelihood that a particular innovation will be adopted. EBM is seen as an innovation in this research, so it is important to consider the literature about the diffusion of innovations. The factors that are mentioned by Nutley and Davies (2000) are 'characteristics of the adopter', 'the social network to which adopters belong', 'innovation attributes', 'environmental characteristics' and 'the characteristics of those promoting the innovation'.

The categories 'skills', 'attitudes', 'support/involvement', 'resources' and 'communication' settle with the beforementioned factors. The categories 'skills' and 'attitudes' are 'characteristics of the adopter', but also the category 'resources' belongs to the characteristics of the adopter. 'Resources' is an organizational factor and therefore it seems odd that it is a characteristic of the adopter, but adopters can be individuals and organizations (Nutley & Davies, 2000).

The category 'support/involvement' corresponds to the factor 'social network to which adopters belong' (Nutley & Davies, 2000). When a certain idea does not exist within a social network it becomes harder to receive some support.

The category 'communication' settles with 'those promoting the innovation' (Nutley & Davies). The better the communication of the implementation of an innovation from change agents to adopters, the better the relation between these two groups is. Furthermore, findings of this research reported that good communication facilitates the adoption of evidence-based practices, so when the ones promoting the innovation clearly communicate their intentions, the bigger the possibility that the innovation will be adopted.

The categories 'authority', 'time', 're-organization/organization within the firm' and 'client', in the way these categories are reported within the data, are not mentioned within the literature about EBM and the diffusion of innovations. While 'time' is a barrier that is reported a lot.

Factors concerning the category 'client' are only reported by nurses and the literature about EBM is about management and managers, therefore it is not very unexpected that this category is not corresponding to the literature.

Authority is mentioned in the literature about EBM, but in a different context than the category 'authority'. The content of the category concerns lack of authority to change practices. In the literature about EBM one writes about the replacing of formal authority when adopting EBM. The category 're-organization/organization within the firm' is mentioned in a different context too. In the literature about the diffusion of innovations one writes about systems that are used to change the organization. The effects that are reported and are classified into the category 're-organization/organization within the firm' are about first changing the organization in a way it can deal with evidence-based practices. When looking at these categories separately ('re-organization' and 'organization within the firm') within the results section (chapter 5) and within the matrices (appendices B and C), it stands out that the categories are described in exactly the same way. An explanation could be that when an organization adapts to the characteristics of evidence-based practices it makes it easier to adopt these practices. And seen from a barrier perspective, first an organization has to go through a re-organization before even thinking of adopting evidence-based practices. So, from this perspective it is seen as an additional barrier.

In the literature about the diffusion of innovations the system that is used to implement an innovation is seen as an influence on the adoption of innovations, but the data did not reported the organization structure as a facilitator or barrier.

In the literature about EBM it is said that EBM could be a threat to managers' freedom. This research has not found this result in the empirical articles that are used. However, it could possibly be an explanation for a lack of support from different parties that is often reported as a barrier to the adoption of evidence-based practices. Another reason Pfeffer and Sutton (2006a) give for the fact that EBM is not practiced yet, and which is not supported by this research, is that within management a culture of truth-telling hardly exists and to practice EBM one has to know the whole truth.

The results of this research and the literature about EBM and the diffusion of innovations are somewhat comparable. Besides that, this research found that seven of the ten categories with factors that have an influence on the adoption of evidence-based practices are different for managers and nurses. It concerns the categories 'authority', 'skills', 'attitudes', 'client', 'resources', 're-organization/organization within the firm' and 'communication'. As already mentioned, the category 'client' is not even reported by managers. This points out that it is really of importance that the barriers to and the facilitators for the adoption of evidence-based practices are investigated and determined separately for both groups. With concern to EBM it is even more of importance to use

data of managers instead of data of people with another function, because it is a management practice.

6.3. Overall findings

As mentioned in chapter 5 no empirical articles were found about the adoption of EBM, only about evidence-based practices within health care and some articles about evidence-based practices within education. This could be due to the fact that EBM is still hypothetical (Rousseau, 2006). Evidence-based practices are upcoming within the health care and within education and therefore empirical articles are already written about barriers to and facilitators for the adoption of evidence-based practices concerning these sectors. A reason that EBM is not practiced yet in management consultancy could be the lack of a shared knowledge base. Within management consultancy there is almost no relevant, testable or reliable literature and no base of publications concerning interventions and change management. Within health care there is a shared knowledge base, the same problem is solved in the same way by different medicians. Within management it depends often on the management consultant in what way a problem is solved (Molier, 2001).

Furthermore, it is not surprising that the empirical articles that were found about evidence-based practices were not explanatory, because this field of research is, as mentioned above, still upcoming. The oldest research that was found by using the keywords mentioned in chapter 4 is from 1997.

Then, most of the empirical articles that were examined for this research have used the BARRIERS-scale. In this way the authors were able to compare the findings between the different countries. The countries that were compared were all western countries. There is one research that is conducted in a developing country (Tsai, 2000), but the author did not use the BARRIERS-scale. Tsai (2000) recognizes that little is known about research utilization and participation in the developing world, but gives no explanation of this. An explanation could be that the health care in western countries is more developed than in developing countries and because of that western countries are already more concerned about regulations and procedures.

Finally, the categories of the barriers and facilitators show an overlap. All categories, except the categories 'client' and 'communication', occur in both the categories concerning the barriers to the adoption of evidence-based practices and in the categories concerning the facilitators for the adoption of evidence-based practices. So, the barriers to and the facilitators for the adoption of evidence-based practices are not strictly separated.

6.4. Are the findings of this research applicable to EBM and management consulting?

There are ten categories, wherein several facilitators for and barriers to the adoption of evidence-based practices are divided, that have an influence on the adoption of evidence-based practices. While there is no research found that investigated the adoption of EBM and that conducted the research within a population of management consultants, the results are not a direct answer on the research question of this research.

"Evidence-based management...derives principles from research evidence and translates them into practices that solve organizational problems" (Rousseau, 2006, p.256). Evidence-based practice is "the use of best evidence for clinical practice" (McKenna, Ashton & Keeney, 2004, p.179). When looking at the two definitions a difference stands out: EBM solves organizational problems and evidence-based practice is mainly used for (clinical) practice. Still, the execution of both techniques is based on evidence and therefore somewhat comparable. In contrast to EBM and evidence-based practice, the health care and management consultancy are two totally different sectors. The only thing these two sectors have in common is that both sectors cure, respectively human beings and organizations (Molier, 2001). One difference is that management consultancy faces at the moment three emergent issues (chapter 2) that are already solved and processed by the health care (Harris, 1999; Molier, 2001). The health care is already seen as a profession and management-consultancy is still becoming one, there is not yet a body of shared knowledge within management consultancy (Rousseau, 2006). Another big difference is that the health care is to a larger extent influenced by the government than management consultancy is. According to Rousseau (2006) businesses are characterized by the belief that the particulars of the organization, its practices and its problems are special and unique and these beliefs can interfere with the transfer of research findings across settings. After all, researchers strive for research findings that are generalizable to preferably all organizations. Organizations that are influenced by public policy pressures are mostly forced by the government to change practices and do not have other options. This could be an explanation for the fact that within management consultancy EBM is not practiced. Management consultants do not have to deal with public policy pressures and do not (yet) feel the need to change practices. When profit is still gained and clients do not ask of management consultants to found their interventions by empirical evidence there is no need to change practices. The government has some extended responsibility in relation to its "clients", the citizens of a country, and especially with respect to health care. As a consequence, the government is more concerned with the way decisions and actions can be easily and consistently justified towards its citizens.

Another reason why the results of this research cannot be compared with EBM and management consultancy is the use of the reporting of nurses. Especially, for EBM the

reportages of managers are needed, because EBM is a management practice. This research has some reportings of managers, but most reportings are from nurses. This is also due to the fact that evidence-based practice is not about decision making and management problems but mainly about solving problems with respect to practices that are no management practices.

Most researches used for this research are conducted within the health care, the health care and management consultancy are very different sectors and the data contains mainly reportings of nurses, therefore it is hard to compare the results. However, the categories 'skills', 'attitudes', 'support/involvement', 'resources', 'communication' and 'research' correspond to the literature about EBM and the diffusion of innovations and are also reported by managers. So, these categories can be possible influences on the adoption of EBM by management consultants.

6.5. Limitations

This research has some limitations that are being discussed within this paragraph. The first limitation and at the same time the main limitation of the research, is the fact that there was no appropriate data to investigate the research question. As a consequence, this research investigated the barriers to and facilitators for the adoption of evidence-based practices within the health care, instead of the barriers to and facilitators for the adoption of EBM within management consultancy. Therefore, the results had to be compared with the existing literature. Also, the research question could not be answered and some definitions could not be followed. This could not be prevented due to the lack of suitable literature for this research.

Furthermore, most participants of the researches that were used for this research were nurses, while this research wanted to focus on managers of an organization. However, all categories, except the category 'client', were also supported by managers. Sometimes, there was a discrepancy between the factors that nurses reported and the factors that managers reported. In chapter 5, the results section, these discrepancies are described.

Another limitation of this research is that the sectors management consultancy and health care are hard to compare. The categories that are identified can be compared with the literature about EBM and the diffusion of innovations, because evidence-based practice can, like EBM, be seen as an innovation and EBM and evidence-based practice are somewhat comparable. However, the data is conducted from people that are employed at the health care and this research searches for data from management consultants. Although, the sectors the health care and management consultancy are hard to compare, the results of this research were still compared with the literature about EBM and the diffusion of innovations because evidence-based practice and EBM were comparable.

Chapter 7. Conclusion

In this chapter a short summary of the research is given and as well an answer on the research question as stated in the introduction of this paper. Finally, some recommendations for further research are indicated.

7.1. Conclusion

This research has investigated which factors have a positive influence and which factors have a negative influence on the shift to a new management practice, which is evidence-based management. This research has tried to answer the following research question:

Which factors facilitate and which factors hinder, according to the literature, the adoption of evidence-based management by management consultants?

After searching for empirical articles about the barriers to and facilitators for the adoption of EBM by management consultants, it was concluded that there is no empirical literature about this topic. However, empirical literature about the adoption of evidence-based practices was available and somewhat comparable with the topic of this research. The barriers and facilitators, which were derived from the data, were divided in several categories. Due to an overlap between the categories of the barriers to the adoption of evidence-based practices and the facilitators, ten categories remained. However, these categories were distracted from the literature about evidence-based practices within, especially, the health care and as mentioned in the discussion section, the sector management consultancy and the health care are hard to compare. Therefore, the ten categories were compared with the literature about EBM and the diffusion of innovations. The following categories corresponded to the beforementioned literature and are also reported by managers and not only by nurses: 'skills', 'attitudes', 'support/involvement', 'resources', 'communication' and 'research'.

In summary, the answer on the research question is that the categories 'skills', 'attitudes', 'support/involvement', 'resources', 'communication' and 'research' contain factors that possibly could have an influence on the adoption of EBM by management consultants. The categories 'skills', 'attitudes', 'support/involvement', 'resources' and 'research' are as well facilitators for as barriers to the adoption of EBM and are having a positive as well as a negative influence on the adoption of EBM. The category 'communication' is only seen as a facilitator and has, according to this research, a positive influence on the adoption of EBM. These categories were derived from empirical literature about the adoption of evidence-based practices within the health care, therefore these categories are possible factors that influence the adoption of EBM by

management consultants. So, whether these are categories that have an influence on the adoption of EBM has to be investigated in future research.

7.2. Recommendations for further research

Evidence-based practice is an upcoming practice within health care and it also seems to be an appropriate practice for this sector. Proponents of EBM see an overlap between the health care and management consultancy and therefore believe that an evidence-based practice will as well suit for management. A recommendation for further research with concern to this will be to investigate whether EBM is a suitable management practice. The proposition that an evidence-based practice is an appropriate practice for management, because it is said that management is comparable to the health care (Molier, 2001), is not tested yet. As a consequence it still has to be investigated.

Furthermore, besides the fact that it is not even investigated whether EBM is a suitable management practice, more empirical research is needed about the adoption and implementation of EBM in general and the adoption and implementation of EBM by management consultants, as well research to the barriers and facilitators is needed since EBM is not practiced yet. As mentioned in the former paragraph, research is especially required for the categories that were identified within this research and that corresponded to the literature about EBM and the diffusion of innovations. These categories are derived from empirical literature concerning evidence-based practices within health care, but were comparable to the relevant literature. So, these categories could possibly contain factors that influence the adoption of EBM by management consultants. Above all, it is important that one investigates what kind of influence the different categories have, more than just knowing whether their influence is positive or negative, and why a particular category does have an influence on the adoption of EBM. In this way one can find out why EBM is still hypothetical.

References

- Aarons, G.A. (2004). Mental health provider attitudes toward adoption of evidence-based practice: the evidence-based practice attitude scale (EBPAS). *Mental health services research, 6*(2), 61-73.
- Baernholdt, M. & Lang, N.M. (2007). Government chief nursing officers' perceptions of barriers to using research on staffing. *International council of nurses, 49-55*.
- Bagchi, S., Kanungo, S. & Dasgupta, S. (2003). Modeling use of enterprise resource planning systems: a path analytic study. *European journal of information systems, 12*, 142-158.
- Baker, T.L.(1999). *Doing social research*. Boston: McGraw-Hill.
- Bryar, R.M., Closs, S.J., Baum, G., Cooke, J., Griffiths, J., Hostick, T., Kelly, S., Knight, S., Marshall, K. & Thompson, D.R. (2003). The Yorkshire BARRIERS project: diagnostic analysis of barriers to research utilisation. *International journal of nursing studies, 40*, 73-84.
- Bushardt, S.C., & Fowler A.R.(1993). Differences in management theory and practice: Are authors and journals contributing factors? *The Mid-Atlantic journal of business, 29*(1), 133-143.
- Caine, C. & Kenrick, M. (1997). The role of clinical directorate managers in facilitating evidence-based practice: a report of an exploratory study. *Journal of nursing management, 5*, 157-165.
- Canback, S. (1998). The logic of management consulting, part 1. *Journal of management consulting, 10* (2), 3-11.
- Deane, F.P., Crowe, T.P., King, R., Kavanagh, D.J. & Oades, L.G. (2006). Challenges in implementing evidence-based practice into mental health services. *Australian health review, 30*(3), 305-309.
- Duncan, W.J.(1974). Transferring management theory to practice. *Academy of management journal, 17*, 724-738.

- Dunn, V., Crichton, N., Roe, B., Seers, K. & Williams, K. (1998). Using research for practice: a UK experience of the BARRIERS scale. *Journal of advanced nursing*, 26, 1203-1210.
- Deshpande, N., Publicover, M., Gee, H. & Khan, K.S. (2003). Incorporating the views of obstetric clinicians in implementing evidence-supported labour and delivery suite ward rounds: a case study. *Health information and libraries journal*, 20, 86-94.
- Forsetlund, L., Bradley, P., Forsen, L., Nordhein, L., Jamtvedt, G. & Bjorndal, A. (2003). Randomised controlled trial of a theoretically grounded tailored intervention to diffuse evidence-based public health practice. *BMC medical education*, 3, 1-12.
- Gagliardi, P. (1999). Theories empowering for action. *Journal of management inquiry*, 8(2), 143- 47.
- Glacken, M. & Chaney, D. (2004). Perceived barriers and facilitators to implementing research findings in the Irish practice setting. *Journal of clinical nursing*, 13, 731-740.
- Greiner, L. & Poulfelt, F. (2005). *The contemporary consultant: handbook of management consulting*. Canada: Thomson south western.
- Harris, M.E. (1999). Emergent issues in a developing profession: management consulting. *Organization development journal*, 17 (4), 95-102.
- Hart, C. (2001). *Doing a literature review*. London: Sage.
- Hemsley-Brown, J. (2005). Using research to support management decision making within the field of education. *Management decision*, 43(5), 691-705.
- Hemsley-Brown, J. & Oplatka, I. (2005). Bridging the research-practice gap: barriers and facilitators to research use among school principals from England and Israel. *International journal of public sector management*, 18(5), 424-446.
- Henderson, A.J., Davies, J. & Willet, M.R. (2006). The experience of Australian project leaders in encouraging practitioners to adopt research evidence in their clinical practice. *Australian health review*, 30(4), 474-484.

- Hewison, A. (2004). Evidence-based management in the NHS: is it possible? *Journal of health organization and management*, 18 (5), 336-348.
- Hutchinson, A.M. & Johnston, L. (2004). Bridging the divide: a survey of nurses' opinions regarding barriers to, and facilitators of, research utilization in the practice setting. *Journal of clinical nursing*, 13, 304-315.
- Kajermo, K.N., Nordstrom, G., Krusebrant, A. & Bjorvell, H. (1998). Barriers to and facilitators of research utilization, as perceived by a group of registered nurses in Sweden. *Journal of advanced nursing*, 27, 798-807.
- Kajermo, K.N., Nordstrom, G., Krusebrant, A. & Bjorvell, H. (2000). Perceptions of research utilization: comparisons between health care professionals, nursing students and a reference group of nurse clinicians. *Journal of advanced nursing*, 31(1), 99-109.
- Kajermo, K.N., Nordstrom, G., Krusebrant, A. & Lutzen, K. (2001). Nurses' experience of research utilization within the framework of an educational programme. *Journal of clinical nursing*, 10, 671-681.
- Karkos, B. & Peters, K. (2006). A magnet community hospital: fewer barriers to nursing research utilization. *The journal of nursing administration*, 36(7/8), 377-382.
- May, le A., Mulhall, A. & Alexander C. (1998). Bridging the research-practice gap: exploring the research cultures of practitioners and managers. *Journal of advanced nursing*, 28(2), 428-437.
- McCaughan, D., Thompson, C., Cullum, N., Sheldon, T.A. & Thompson, D.R. (2002). Acute care nurses' perceptions of barriers to using research information in clinical decision-making. *Journal of advanced nursing*, 39(1), 46-60.
- McCleary, L. & Brown, G.T. (2003). Barriers to paediatric nurses' research utilization. *Journal of advanced nursing*, 42(4), 364-372.
- McKenna, H.P., Ashton, S. & Keeney, S. (2004). Barriers to evidence-based practice in primary care. *Journal of advanced nursing*, 45(2), 178-189.

- Milner, F.M., Estabrooks, C.A. & Humphrey, C. (2005). Clinical nurse educators as agents for change: increasing research utilization. *International journal of nursing studies*, 42, 899-914.
- Mohrman, S.A., Gibson, C.B., & Mohrman A.M. jr.(2001). Doing research that is useful to practice: A model and empirical exploration. *Academy of management journal*, 44(2), 357-375.
- Molier, E.G. (2001). Evidence-based management. *Holland management review*, 79, 67-73.
- Niedzwiedzka, B.M. (2003). Barriers to evidence-based decision making among Polish health care managers. *Health services management research*, 16, 106-115.
- Nutley, S. & Davies, H.T.O. (2000). Making a reality of evidence-based practice: some lessons from the diffusion of innovations. *Public money & management*, October-December, 35-42.
- Oranta, O., Routasalo, P. & Hupli, M. (2002). Barriers to and facilitators of research utilization among Finnish registered nurses. *Journal of clinical nursing*, 11, 205-213.
- Parahoo, K. (2000). Barriers to, and facilitators of, research utilization among nurses in Northern Ireland. *Journal of advanced nursing*, 31(1), 89-98.
- Parahoo, K. & McCaughan, E.M. (2001). Research utilization among medical and surgical nurses: a comparison of their self reports and perceptions of barriers and facilitators. *Journal of nursing management*, 9, 21-30.
- Pfeffer, J., & Sutton R.I. (2006a). Management half-truths and nonsense: How to practice evidence based management. *California management review*, 48 (3), 77-100.
- Pfeffer, J. & Sutton, R.I. (2006b). Profiting from evidence-based management. *Strategy & leadership*, 34 (2), 35-42.
- Priem, R.L., & Rosenstein J.(2000). Is organization theory obvious to practitioners? A test of one established theory. *Organization science*, 11(5), 509-524.

- Rousseau, N., McColl, E., Newton, J., Grimshaw, J. & Eccles, M. (2003). Practice based, longitudinal, qualitative interview study of computerised evidence based guidelines in primary care. *BMJ*, 326, 1-8.
- Rousseau, D.M. (2006). 2005 presidential address - Is there such a thing as "evidence based management"? *Academy of management review*, 31 (2), 256-269.
- Rynes, S.L., Bartunek, J.M., & Daft, R.L.(2001). Across the great divide: Knowledge creation and transfer between practitioners and academics. *Academy of management journal*, 44(2), 340-355.
- Thompson, C., McCaughan, D., Cullum, N., Sheldon, T. & Raynor, P. (2005). Barriers to evidence-based practice in primary care nursing – why viewing decision-making as context is helpful. *Journal of advanced nursing*, 52(4), 432-444.
- Tsai, S. (2000). Nurses' participation and utilization of research in the Republic of China. *International journal of nursing studies*, 37, 435-444.
- Veeramah, V. (2004). Utilization of research findings by graduate nurses and midwives. *Journal of advanced nursing*, 47(2), 183-191.

Appendix