Knowledge Management in Health Care Education

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Abstract

Knowledge management is a vital source of sustainable competitive advantage in all social areas, including health care. In this paper, we present insight into previous knowledge of students of health care related to the management domain and their expectations regarding what they aim to gain at the course. We collected 57 valid data entries, 42 females and 15 males, and analyzed it by using the content analysis. The average age of our respondents was 21 years. Results are presented, and key identified themes offer several educational implications. Students wish to learn organizational techniques, team management tools, and leadership development tools, mainly.

Introduction

Nowadays, knowledge is an essential strategic resource in any type of organization, whether private or public, services, or production-oriented (Arora, 2011). In addition, knowledge assets are quickly becoming invaluable to organizations (Gelard et al., 2013). Chua and Lam (2005) suggested that many organizations are engaging in knowledge management initiatives in order to improve business processes, make financial savings, generate greater revenues, enhance user acceptance, or increase competitiveness. According to the literature (i.e. Gill, 2009; Lettieri et al., 2004), public sector organizations today are becoming accustomed to constant shortages in terms of financial and human resources while at the same time the general public expects them to deliver high-quality services. Potentially, politicians and the public are becoming even more demanding and expect that the quality and efficiency of public services even improves (Franken & Braganza, 2006). Therefore, in the current state, public sector organizations are often reconsidering their key elements and functions as they seek to achieve optimal functioning despite their continuous shrinking resources. In order to achieve their end goal of organizational excellence, organizations are advised to devote significant emphasis on effectively and efficiently managing existing resources, whereas it is suggested that the role of knowledge and knowledge management is continuously gaining in importance.

In order for knowledge management to succeed in the health care environment, the positive effects of enablers must prevail in comparison with the negative impact of the barriers. Authors Sensky (2002) and Sandars (2004) proposed that the vast majority of enablers of knowledge management in health care are quite similar to those identified in other sectors. Namely, Sensky (2002) identified that knowledge management will not be successful if the leadership, culture, human resource practices, information communication technologies, and skills are not appropriate and supportive. Similarly, potential barriers of knowledge management such as the absence of a clear knowledge management strategy, absence of leadership, poorly developed culture, shortages in terms of information communication technology solutions are consistent with the findings in the literature for other sectors (Riege, 2005; Sensky, 2002). However, we must still acknowledge that there are some important differences between the public and private sectors, where Edge (2005) suggested that, for example, developing a supportive knowledge management culture is typically more challenging in the public sector. Amayah (2013) added that also organizational goals in public organizations are more difficult to measure, and have more contradictions than in the private sector as they are also directly and indirectly influenced by political decisions. The differences indicated by Edge (2005), and Amayah (2013) and other variations that go beyond the scope of this paper should be acknowledged when discussing possible knowledge management solutions in the environment of the public sector in general or more specifically in the environment of health care.

The purpose of this study is to understand what is the previous knowledge of Management in health care students and which management topics they wish to study at the elective course Management in health care. In addition, we also wanted to find out what students who selected the elective course wish to learn at the course. To achieve the aim, we interviewed 57 students who participated in the course. We performed the content analysis to analyze the qualitative data and present it in a quantitative way, next to presented context-rich proof quotations. The structure of this paper is as follows: we continue with the literature review on knowledge management in the health sector, followed by a brief methodology

section. The following section is dedicated to present the results of the study, which is followed by the discussion and conclusion.

Knowledge management in the health sector

Karamat et al. (2018) defined knowledge management as the source of creating a sustainable competitive advantage (Shih et al., 2009) due to its role in retaining, developing, organizing, and utilizing knowledge of organizations. Similarly, Alavi and Leidner (2001) defined knowledge management "*as the systematic process of acquiring, organizing, and communicating the knowledge of organizational members so that others can make use of it to be more efficient and productive.*" Prior research described four basic knowledge management process stages, namely creating, storing, transferring, and implementing knowledge (Alavi & Leidner, 2001; Hicks et al., 2006).

Ward et al. (2018) argued that knowledge creation typically relies on the organization's ability to benefit from, especially tacit knowledge that is, in most cases, highly subjective or can be described as insights, informal skills, and practice ("know-how") of individual employees. The importance of knowledge storage is emphasized in Massey and Montoya-Weiss (2006), who proposed that organizations can benefit from appropriately arranging and structuring their knowledge as it enables them easier and faster access (Baskerville & Dulipovici, 2006) and better distribution of knowledge within or between organizations. Knowledge transfer is another critical aspect of knowledge management as it allows organizations to absorb and appropriately use critical knowledge of organizations in relation to their functioning, and it follows the key goal of transforming knowledge into organizational assets and resources (Dawson, 2001). According to Bock et al. (2006), knowledge implementation is the end goal of knowledge management activities in organizations as with knowledge implementation; organizations are able to create value by making their knowledge more active and relevant in practice.

The health care sector is nowadays experiencing rapid growth and is continuously generating considerable amounts of new knowledge (Karamat et al., 2018; Kothari et al., 2011). Moreover, health care is now considered a knowledge-driven process (Shahmoradi et al., 2017). Knowledge management can help and support employees in the health sector to create, store, transfer, and implement newly gained knowledge in daily practice. Hojabri et al. (2014) and Karamitri et al. (2017) further argued that to provide better health services, knowledge management is an appropriate strategy to transform the current traditional system of knowledge sharing. Authors Kothari et al. (2011) and Nicolini et al. (2008) suggested that the health care sector has reached a stage where there are enormous opportunities to design, implement and evaluate knowledge management systems. Orr and Sankaran (2007) and Reinhardt et al. (2004) further suggested that the health care system is one of the most complex systems that our society has developed as it involves numerous stakeholders working in diverse fields that need to collaborate to deliver care services to people. El Morr and Subercaze (2010) went on to suggest that the quantity of knowledge created by all stakeholders in health care is indeed enormous and that at the same time the knowledge created by one of the numerous stakeholders is of paramount importance to all other stakeholders in the chain to deliver the best possible quality services to users. Bali and Dwivedi (2007) similarly highlighted the complexity of health care as a special challenge for the implementation of knowledge management activities and tools; however they at the same time suggested that the potential benefits of successful implementation are enormous.

While there is the need for more research to be done on how to best implement knowledge management in the environment of health care, lessons learned in the private sector could represent a useful starting point (Kothari et al., 2011). However, Massaro et al. (2015) still warned that public sector organizations must remain aware that their organizations function in a unique context, which significantly differs from the private sector and that blindly applying private sector knowledge management solutions could be dangerous and counterproductive.

Similarly to other public organizations, organizations in the health care sector are also in general exposed to shortages in terms of finances and personnel and are at the same time subject of existing pressures to function in accordance with state policies, while the private sector has the ability to respond to current internal pressing issues (Kothari et al., 2011). When health care organizations started to include knowledge management in their functioning, they primarily focused on the use of information communication technologies (Dwivedi et al., 2002; Nicolini et al., 2008). Due to the enormous amount of data and information that are available in the environment of health care, information communication technologies actually become vital as they support and facilitate the capture and distribution of clinical knowledge (Hulse et al., 2012). The literature already established important information communication technology artifacts that tend to support knowledge creation, storage, transfer, and implementation, namely data management and learning tools, knowledge repositories, databases, electronic bulletin boards, and e-mail services (Butler & Murphy, 2007). These aspects of knowledge management became integral components of knowledge management systems in health care and are vital for achieving optimal functioning. Shahmoradi et al. (2017) further suggested that dynamic changes and constant innovation of information communication technologies can be viewed as an aspect that offers significant opportunities and potential to improve the quality of services if fully and appropriately implemented in the environment of health care.

However, information communication technologies are not without disadvantages as they only offer a static approach and fail to sufficiently address the whole context of the health care sector to provide an effective clinical diagnosis. Moreover, information communication technologies lack the ability to actively promote and support knowledge development and knowledge sharing (Dwivedi et al., 2002). Another characteristic of the health care environment is the strong orientation towards practicing evidence-based medicine which emphasizes the importance of explicit knowledge (i.e., written in documents), while knowledge management, in general, promotes the transfer of both tacit and explicit knowledge, whereas more significance is given to tacit knowledge (Bate & Robert, 2002; Russell et al., 2004). Kothari et al. (2011) further suggested that in general, there is an increased acknowledgment about the importance of knowledge management in the health care sector, primarily focused on capturing, sharing, and using both explicit and tacit knowledge within the scope of daily activities of employees. Shahmoradi et al. (2017) added that it is essential that organizations in health care are able to motivate their employees to share the knowledge they have, in their opinion, especially vital is their tacit or "know-how" knowledge.

Further discussing knowledge in the health care sector, there are some crucial characteristics already established in prior research. Meijboom et al. (2004) suggested that knowledge in health care is highly fragmented, thus implying the need for more collaboration within and between different organizations. Paul (2006) added that delivering outcomes in health care is in its essence a collaborative process with explicit and tacit knowledge aspects, where various stakeholders

provide pieces of the final puzzle to achieve results that can be described as access, quality and cost of services, whereas Paul (2006) also argued that each individual stakeholder would not be able to achieve the same outcome on its own. Similarly, Aldred (2002) emphasized the difficulties of managing knowledge in the health care sector as it is present in a number of organizations, managed by a variety of people and stored in various different formats.

A characteristic of the health care sector described by El Morr and Subercaze (2010) is that globally the costs of health care are rising and are subsequently forcing governments and public administrations to find more efficient and cheaper alternatives to provide services to users. Authors El Morr and Subercaze (2010) went on to discuss the role of medical errors and their negative effect on the wellbeing of individuals and propose that appropriate implementation of knowledge management that supports decision making processes, and other important protocols would have a positive impact on the delivery of services. First, it would influence the reduction or possible elimination of medical errors that are subject of human error and second it would also affect the number of financial funds that are intended to cover up the consequences related to human errors thus positively contributing to more financial funds available for other important aspects of health care. Similarly, Guptill (2005) suggested that adequately implemented knowledge management has the potential to completely transform the health care delivery system over the next few decades, into a more cost-effective, error-averse, and accountable public resource.

Research design

This study aimed to find out what is the previous knowledge of students and which management topics they wish to study at the elective course Management in health care. Knowledge management at the course Management in health care was performed by first gaining insight into students' previous knowledge of management and organization. We also wanted to see what students who selected the elective course wish to learn at the course. The content of the course was then enriched with the most common topics that students stated in their first session.

At the beginning of the course Management in health care in the study year of 2018/19 at the Faculty of Health Sciences University of Ljubljana, the surveys were conducted. 57 students participated in our empirical study. To analyse the qualitative data, content analysis was implemented. Data is presented in a quantitative way. In addition, we also present the context-rich proof quotations about students' expectations before the start of the course, the topics that the students were most interested in as well as what students wished to be able to do after completion of the course.

Results

Our sample is composed of 57 students, thereof 42 or 73.7% females. The average age of our respondents is 21.03 years old. Regarding the course Management in health care, 64.9% of students expected they would learn about organizing, followed by 61.4% of students who anticipated to get overall comprehension regarding management. 40.4% of students expected to learn about leading, and 36.8% about the coordination of resources and processes. Only 1.8% of students expected to learn about ethics and new terminology (see Figure 1).

Regarding the areas students expected to be capable of, after completing the course, 68.4% of students expected to gain practical application of management in
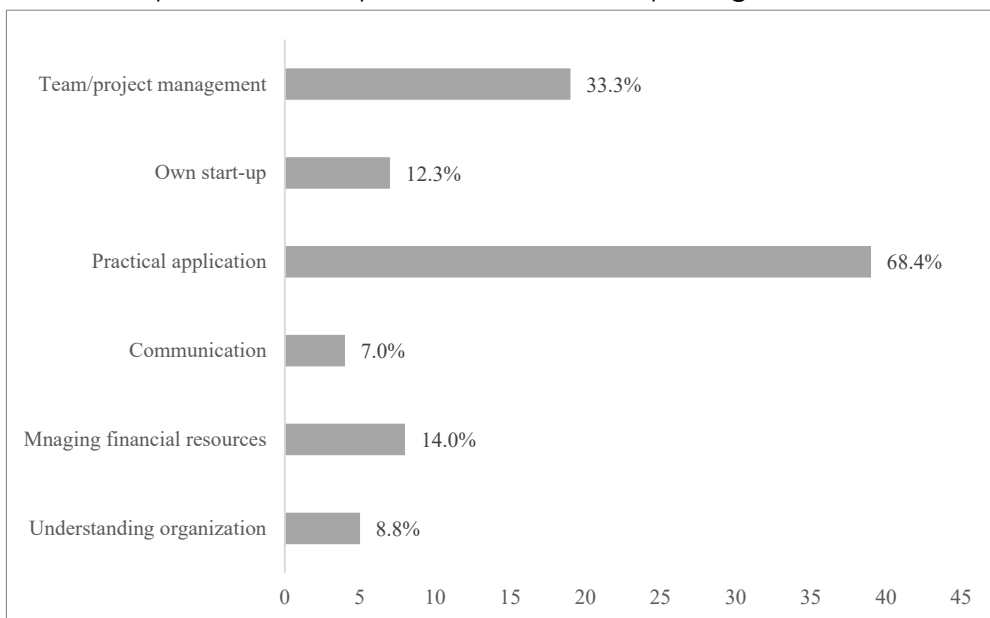
health care, followed by team/project management (33.3% of students). Only 7% of the students thought they would be able to communicate better after finishing the course (see Figure 2).

Figure 1
Students' Course Expectations
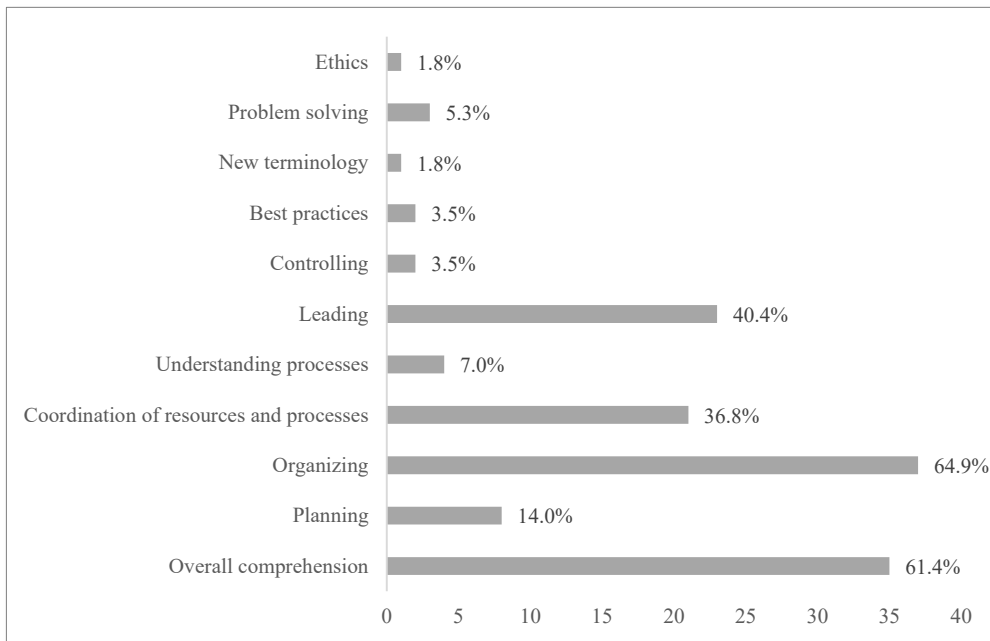
Source: Authors' research

Figure 2
Areas Students Expect To Be Capable Of, After Completing The Course

Source: Authors' research

Regarding specific fields, students are interested in, most students focused on the organization (15.8%), human resources (14.0%), and leading (1.3%). Only 1.8% of students wanted to learn about sports management and time management (see

Figure 3).

It is interesting that 49 (86%) students had no previous experience with management (see Figure 4), and 53 students (93%) did not study management before (see Figure 5).
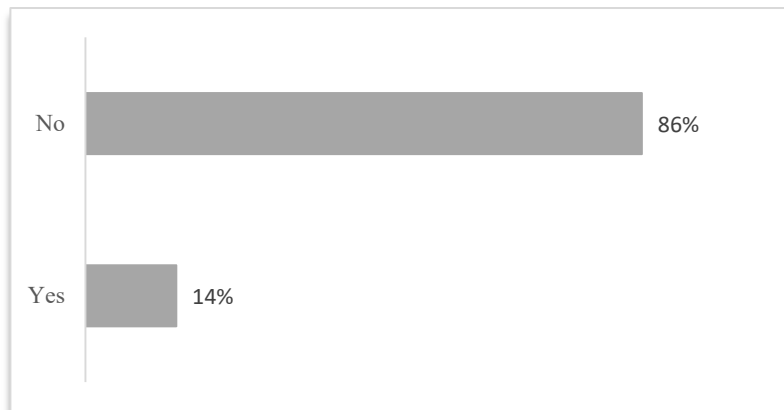
Figure 3
Specific Fields, Students Are Interested In
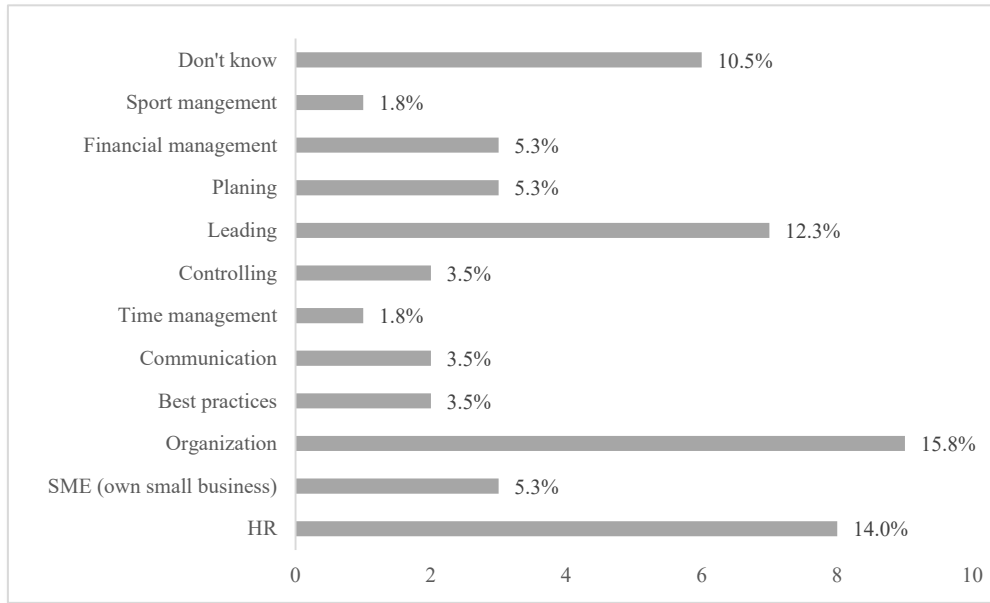
Source:
Authors' research

Figure 4
Student's Previous Practical Experiences Related To Organization And Management Field

Source: Authors' research

Figure 5
Student's Previous Study Related To Organization And Management Field

Source: Authors' research

In addition to provide a deeper insight into our data, we provide selected proof quotations about students' expectations before the start of the course, which were the following (Cx, x; stands for a quote of the student and the number of the question in the given questionnaire):

"*How are larger companies organized? How to optimally use the given resources? I wish to learn the business terminology and be able to collaborate with different profiles.*" (C1,1)

"*How to manage processes/organization?*" (C3,1)

"*How do health care organizations balance resources with processes in order to accomplish stated goals-if I ever work in private practice?*" (C4,1)

"*Organize, plan, lead, and control work in a group in an interdisciplinary team.*" (C11,1)

"*How to ethically manage a process in a certain organization?*" (C14,1)

"*Be able to apply management in my future profession and be able to organize, led projects, have good communication skills with my co-workers and solve everyday problems*" (C27,1)

"*Better organize and plan events.*" (C31,1)

"*How to lead a group, manage conflicts among members, and make the group productive?*" (C42,1)

"*How to collaborate in a team and organize work?*" (C56,1)

"*Basics of leadership, planning, organizing, and controlling a team, human resources, maybe learning some strategies on how to achieve goals.*" (C57,1)

Topics that the students were most interested in are the following, for example:

"*organization of health care departments successfully so there could be more people employed and a better outcome for the patients.*" (C22,6)

"*leading, motivating others*" (C27,6)

"*How can one person take care of a start-up?* (C41,6)

Students wished to be able to do the following after completion of the course, for example:

"*I want to be able to more actively participate in the processes in the company where I work over the weekends and during student holidays.*" (C4,3)

"*I wish to be able to understand the functioning of companies and participate better in the working community and find a niche to start my own physiotherapy private practice.*" (C5,3)

"*I wish to get new ideas about how to lead a team and manage projects.*" (C6,3)

"*Solve problems with self-confidence, know how to delegate tasks, manage time and money at home and at work.*" (C8,3)

"*I wish to be able to recognize and evaluate good and bad management practices of my superiors.*" (C15,3)

"*Organize work, successfully lead a team.*" (C29,3)

"*From limited resources that are realistically present in health care design a plan for an optimal outcome.*" (C32,3)

"*I wish to be "my own manager"* (C44,3)

"*Lead people bellow me in the hierarchical levels in a kind and correct way.*" (C46,3)

Discussion and conclusion

Our study supports previous research that knowledge implementation is the end goal of knowledge management activities (Bock et al., 2006) as with knowledge implementation organizations are able to create value by making their knowledge more active and relevant in practice. Students, most of all, wish to learn management strategies, tools, techniques, and methods that they can implement in their studies and future professional career or form their own startup. Students are well aware of the state in which the public sector is currently, are reconsidering their key elements and functions as they seek to achieve optimal functioning despite the continuous shrinking resources. Lessons learned in the private sector could represent a useful starting point (Kothari et al., 2011) for the students, as they wish to learn from cases of successful managers and best practice examples.

We agree with the previous research (Meijboom et al., 2004) that knowledge in health care is highly fragmented, as are the expectations about the course, that is

why the course Management in health care is based on four managerial functions (planning, organizing, leading and controlling) that are supported with cases from Slovene health care environment. It highlights the need for more collaboration within and between different organizations. We also found out that some students mix the terms management and leadership "leading certain organization" C.47). Therefore it is vital to teach different profiles, including health care students, the business terminology.

As emphasized by Guptill (2005), properly implemented knowledge management has the potential to completely transform the health care delivery system into a more cost-effective, error-averse, and accountable public resource. The topics within the course are very new to the health care students, and they need some time to get used to a new business framework, a new way of thinking.

Students stated in their learning goals topics, which are potential barriers of knowledge management, such as the absence of a clear knowledge management strategy, absence of leadership, poorly developed culture, shortages in terms of information communication technology solutions (Riege, 2005; Sensky, 2002). It is vital that the course enables as much time as possible to these identified topics. As the benefits are both at the micro and macro level, students are more interested in the topics that they expressed the wish to learn, and those are the topics that research shows are potential barriers to knowledge management. If we enable students to manage and overcome those barriers, they will be empowered to lead a social innovation of a more efficient and satisfactory health care system.

The key limitation of the study is the research setting, which does not allow for statistical generalization to the population. As an avenue for future research, we propose to expand this study also on the current health care practitioners and to increase the sample size. Nevertheless, knowledge management in health care is novel and crucial, which is well evident in times when it comes to essential health care issues, for example, the outbreak of the latest virus.

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