Knowledge-oriented Case Management: Opportunities and Constraints

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Abstract

In rapidly changing and highly competitive business environment, companies seek to increase their efficiency, and knowledge-oriented Case Management (CM) allows them to respond promptly to changes in business processes and information processing methods. This paper deals with the issues of Russian and international researches in the field of knowledge-oriented CM implementation and how it can be properly supported by contemporary information technologies. It is theoretical study based on literature review, analysis of large volumes of information, and findings of investigations in this field. The main goal of this paper is consideration of the issues of Case Management implementation, the main stages and domains or areas of applying. The objectives of this paper are features and capabilities of contemporary ICT and systems applications for supporting of knowledge-oriented Case Management. Original contribution of the work is based on consideration and evaluation of Case Management Systems (CMS) as tools for knowledge workers support.

Keywords: knowledge economy, knowledge-intensive processes, case management

1 Introduction

Information society development is characterized by a number of peculiarities, among which the most important are such as increasing the role of information and knowledge, the creation of a global information space, the development of the knowledge economy and innovative approaches to the use of modern information communication technologies (ICT).

The knowledge-driven economy launches new challenges and opportunities for society and business. Obviously, that peculiar actions, technologies and information systems are needed to support and take advantage of these processes. This evolution can be enhanced by the adoption of Case Management (CM)

that is able to reduce the cost of dissemination and gathering knowledge. Case Management is the management of collaborative processes that coordinate content, knowledge, and resources to progress a business to achieve a particular goal, where the path of execution is often unpredictable and where human judgment has significant influence for determination of how the end goal can be achieved. Now Case Management can be discussed as an effective tool for forming corporate knowledge (Serova 2015).

The research problem is focused on the Case Management applying for support knowledge-intensive processes. In other words, the problem the author works with here is: How organizations can successfully use Case Management for support of knowledge-intensive processes and forming corporate knowledge. This paper focuses on the issues of capturing, gathering and sharing knowledge within an organization with the use of CM. The research questions are:

- In what way organizations can capture, gather, and share knowledge with the use of Case Management?
- How Case Management system implementations support knowledge workers, improve quality of client care, and achieve efficiency of knowledge processes?
- And finally, what classes of information systems are more appropriate for Case Management support?

Original contribution of the work is based on consideration and evaluation of Case Management Systems (CMS) as tools for knowledge workers support, achieving efficiency of knowledge processes, and improving quality of client care.

The rest of this paper is structured as follows: Theoretical background, Literature review, Analysis of main theoretical findings and results of Russian and international researches, Practices of Case Management implementation, Conclusion.

2 Theoretical background and literature review

The theory of the Information Society considers the information and media as the primary sources of social development. It prioritizes knowledge and its ap-

plications. The term “knowledge economy” was introduced in the 1960s to describe a transition from traditional economies to ones where the production, dissemination, and use of knowledge are very significant, nowadays the term "knowledge economy" is often used (Drucker 1969; Grant 1993; Romer 2001; Snellman and Powell 2004). We have now progressed from the knowledge-based economy to the knowledge-driven economy. Moreover, it can be accumulated in a powerful system of national and international resources, paying its way many times and bringing profit. The term “innovation economy” is also used to describe a new form of economic organization that highlights a special role of knowledge and innovation, primarily scientific knowledge (Davenport, Leibold, and Voelpel 2006; Nevel et al. 2009). Andreeva, Garanina and Ryzhko (2015, p. 2) insist that the ability to manage the company's intangible assets - intellectual capital - is one of the core competencies of the company in today's economy. Such assets may generate up to 50% of the market value of the company. According to (Roos and Roos 1997, p. 415) Intellectual capital is the sum of the “hidden” assets of the company not fully captured on the balance sheet, and thus includes both what is in the heads of organizational members, and what is left in the company when they leave. Intellectual capital can be divided into three main elements: human capital, relationship capital, and organizational (structural) capital (Volkov and Garanina 2007, p. 87). Knowledge management (KM) practices can be conceptualized as the set of management activities that enable the firm to deliver value from its knowledge-based assets (Inkinen, Kianto and Vanhala 2015, p. 433). Figure 1 shows the using of knowledge management practices in Russian companies. Intellectual capital is the most important source for sustainable competitive advantages of companies. So, nowadays, the focus on supporting knowledge workers is very significant and on the first place there is a need to support the knowledge intensive processes – processes of reasonable and right decision making. These processes can be improved by implementation of Case Management that allows of reducing the cost of gathering and disseminating knowledge. The contribution of Adaptive (advanced) Case Management (ACM) to innovation has been achieved most notably by reducing transaction costs between companies and other actors, especially in areas such as information search, saving, analysis, and sharing.

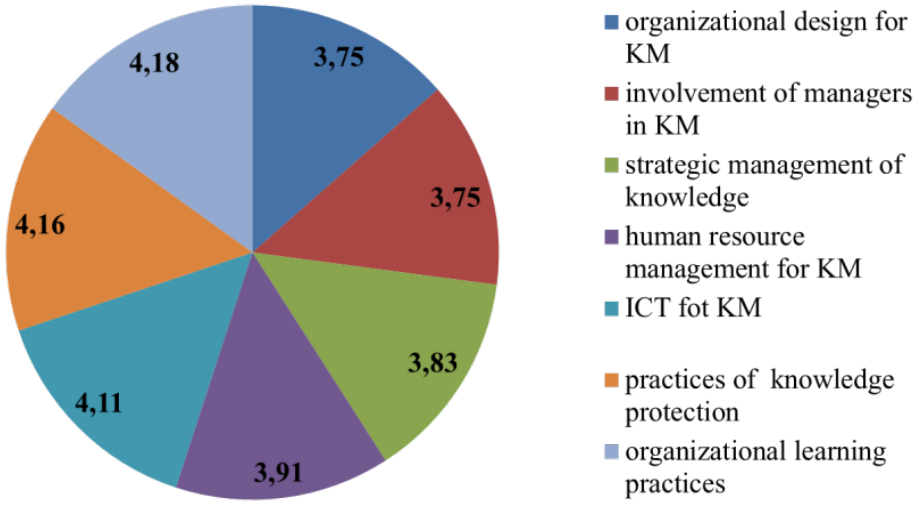

Figure 1. Knowledge management practices in Russian companies: the level of using (maximum is 5). *Source: Andreeva T., Garanina T. and Ryzhko A. 2015. Knowledge management and Intellectual Capital in Russian Industrial Companies. Results of the Research - 2015. St. Petersburg: St. Petersburg State University, Graduate School of Management.*

Case Management is the management of long-lived collaborative processes that coordinate knowledge, content, correspondence and resources to progress a case to achieve a particular goal; where the path of execution cannot be predetermined in advance of execution; where human judgment is required to determine how the end goal can be achieved; and where the state of a case can be altered by external out-of-band events (White M. 2009, p. 2). Case Management is vital to the successful work of many companies, and is considered as an important factor to supporting knowledge intensive process. Davenport (2011) and Richardson and Hope (2003) state that Case Management recognizes the importance of knowledgeable case managers for better customer service who, instead of being eliminated through process automation, are given the authority to make decisions about the progress of client cases and coordinate the service provision with other parts of the organisation. With the emergence of knowledge work, Case Management was picked up by knowledge management experts and it was seen to take on a new role – that of improving knowledge workers' productivity (Davenport 2011; Richardson and Hope 2003; Serova 2015).

Throughout the literature Case Management has been considered as a strategy (Ross, Curry and Goodwin 2011), a process (Davenport and Grover 2001; White 2009), and technology (Davenport 2011; De Man 2009; Reijers et al. 2003; Van der Aalst., Weske and Grünbauer 2005; Weber, Mutshler and Reichert 2010). The more widely used definition is provided by the Case Management Society of America (CMSA): “Case management is a collaborative process of assessment, planning, facilitation and advocacy for options and services to meet an individual’s health needs through communication and available resources to promote quality cost-effective outcomes” (CMSA 2009, p. 2). This is a standard definition used by the authors from varying business spheres (without the healthcare context), for example, technology/process management literature (De Man 2009, p. 2). Previously, custom-built Case Management solutions could be found across a number of traditional domains such as healthcare, social care, legal practices and government cases, but more recently renewed efforts have been made to apply Case Management applications in new knowledge-intensive domains and strategic areas such as project management, incident management, investigations, and audit (Janachkova and Li 2013, p. 3).

3 Russian and international research studiea: analysis of he main theoretical findings and practical results

In this stage of the study, the author uses the research method based on literature review, analysis of large volumes of information, and findings of investigations in the field of Case Management. Interest in Case Management has climbed higher and higher throughout 2009. According to Forrester Research “Dynamic Case Management — an Old Idea Catches New Fire” (Moore, Craig, Viti 2009, p. 1) CM Drivers are:

- An increased need to manage the costs and risks of servicing customer requests — like loans, claims, and benefits;
- A greater emphasis on automating and tracking inconsistent "incidents" that do not follow a well-defined process;

- New pressure on government agencies to respond to a higher number of citizen requests;
- New demands that regulators, auditors, and litigants place on businesses to respond to external regulations;
- The increased use of collaboration and social media to support unstructured business processes.

The key characteristics of Case Management are: information complexity, knowledge-intensive, and variability. CMSA (2009, p. 5) suggests that the goals of Case Management are: The Case Manager shall facilitate coordination, communication, and collaboration with consumers, providers, ancillary services, and others in order to achieve goals and maximize positive Consumer outcomes based upon individual assessments of Consumers' needs. According to Case Management Society of America (2009, p. 6) there are sixteen CM functions, the author believes that the main of them are:

- Use a Consumer-centred, strengths-based, collaborative partnership approach;
- Use a comprehensive, holistic approach;
- Practice cultural competence, with awareness and respect for diversity;
- Facilitate informed choice, consent, and decision-making;
- Pursue professional excellence and maintain competence in practice; and/or
- Use process and outcome measurement, evaluation, and management tools to improve quality performance.

Workflow Management Coalition (WfMC) proposed the term Adaptive Case Management (ACM) in 2010. Adaptive Case Management is information technology that exposes structured and unstructured business information (business data and content) and allows structured (business) and unstructured (social) organizations to execute work (routine and emergent processes) in a secure but transparent manner (WfMC 2010). Adaptive Case Management is an approach to work that supports knowledge workers to get their work done; it's a technology that allows managing the process of solving the problem, depending on the situation. One of the main characteristics of ACM is flexibility.

Production Case Management (PCM) is an approach to supporting knowledge workers, which is programmed by specially-trained technical people (programmers) to produce a Case Management application. That application is deployed for use by knowledge workers to get their work done. The application offers collections of operations that the knowledge worker can select to use or not use depending on the specific needs of the case (WfMC 2010).

Case management has evolved into a knowledge-based system, which leverages multiple technologies (such as BPM, content management, document management, collaboration tools and predictive analytics) to analyse and bring structure to knowledge-intensive processes (Forrester 2010; Davenport 2011). However, such systems are only beginning to arise and scientific researches and empirical data will be required to validate these claims and assess the effectiveness of newly emerging Case Management systems on the market. The main reasons for implementation of Case Management systems are limited data collection and data extraction capabilities. One more reason for this is poor coordination and communication between business actors, in particular uncoordinated transitions of clients between providers and duplication of business-processes across different departments because of inability to share information and work collaboratively.

The first Information Systems for Case Management supporting appeared at the end of last century, in the early 1990s. They were starting with client databases, calendar, documents, and basic reporting tools. At the last ten years IS supporting Case Management practices have developed significantly.

At present, ACM systems are at the junction of classic enterprise applications (Figure 2):

- Business Process Management (BPM);
- Enterprise Content Management (ECM);
- Customer Relationship Management (CRM);
- Project Management (PM);
- Teamwork.

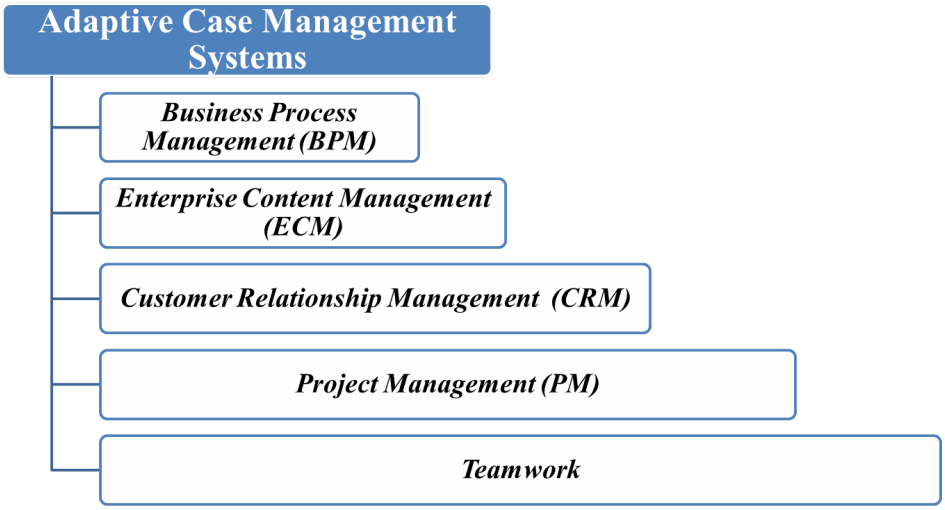

Figure 2. Adaptive Case Management Systems

However, these technologies and systems are not sufficient to address the key problems, which are mentioned above limited data collection and data extraction capabilities, poor coordination and communication between business actors, in particular uncoordinated transitions of clients between providers and also duplication of business-processes across different departments because of inability to share information and work collaboratively. At the same time, Business Process Management and Content Management Systems have the necessary functional capabilities for solving such kind of problems. BPM and ECM systems with specific support for knowledge intensive processes can be discussed as the more appropriate solutions to Case Management.

One of the key advantages of CM applications is that they enable easier integration between departments than many other systems approaches. This approach ensures smooth integration between departments whose internal processes might be drastically different.

As a rule, Case Management is implemented on client level and does not interfere with existing organisational processes and structures. The other challenge of Case Management applying is cultural. The implementation of CM systems requires consolidation of infrastructure and people to understand the impact of

modern technologies on everyday business practices and the need for data management and analysis.

4 Practices of case management implementation

Currently ACM actively are used in the following areas:

- Complex services provision in health care, jurisprudence, finance, reporting and informational support, conduct of client affairs;
- Development of complex products and conducting marketing campaigns;
- Social sphere and social initiatives, etc.

The best practices of Case Management successful implementation are related to the health care and social sphere. One of the main goals of Case Management is to provide social services by the most effective way. National Association of Social Workers (USA) has been developed the Standards for Social Work Case Management (NASW 2013). Thus, the case management - is a client support in solving its problems from the beginning to the end.

Business Process Management and Enterprise Content Management suites alone are insufficient for Dynamic Case Management, but the convergence of BPM, ECM, business analytics, and event processing will breathe new life into Case Management. Lean initiatives to improve business processes will also shine a spotlight on Case Management. These forces will push document-centric BPM suites toward packaged case management offerings (Moore, Craig, and Viti 2009, p. 11).

As a rule, implementation of CM in organizations is carried out in the following four stages:

- Statement of the task and case opening
- Research and choice of the way of solution
- Realization, monitoring, and evaluation
- Closing of the case, reporting, pattern saving, and archiving.

In the Russian market there are now the most famous case-products of the following vendors: IBM: Adaptive Case Management; SAP: RCM; EMC Documentum: xCP; Open Text: Case Management Framework. Each of the vendors implements their understanding of the concept of the Case Management, taking into account the best features of its own platform (Table 1).

Table 1

The most popular Case Management Systems in Russia

Vendor	**Soft - CMS**	**Distinctive characteristic**
IBM	Adaptive Case Management	Completeness of Case Management functionality Industrial system integration of business rules management iLog
SAP	RCM	Integration of Case Management and Record Management in a single package Unlimited mutual nesting cases and records
EMC	xCP	Integration of the system mass input Captiva Integration with industrial systems of business process management
Open Text	Case Management Framework	Built-in ad-hoc workflow management system Integration with SAP ERP and SAP RCM - for example, the ability to establish a connection between the business-object and case

Source: CNews Analytics, 2011. Will it help case management business?, Available: http://www.cnews.ru/reviews/index.shtml?2011/02/03/425818_2 [accessed 01.11. 2015]

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