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## The specific nature of knowledge transfer in municipal organisations

### Abstract

*Objectives:* The main objectives of this paper are to determine the conditions of the transfer of knowledge in municipal enterprises, to identify the subprocesses of knowledge transfer along with the methods used in their implementation, and to determine the rules for knowledge transfer recommended for use in municipal enterprises.

*Research Design & Methods:* The literature studies method, the critical analysis method and a case study was used with the support of surveys and in-depth interviews.

*Findings:* It was found that in the studied organisation – Cracow Waterworks – there are favourable conditions for knowledge transfer. One takes actions aiming at shaping organisational culture based on mutual trust, focused on promotion and support of transfers, including knowledge sharing. It seems that the management, in its daily organisational behaviour and actual attitudes, meets standards and values focused on team forms of work organisation, the creation of a supportive atmosphere, respect for the rule of reciprocity, promoting altruistic attitude in sharing knowledge, and building positive the reputation of a given employee. Indisputably, these phenomena are catalysed by a sense of safety of employment and average job seniority.

*Implications / Recommendations:* Main recommendations for the surveyed organisation (Cracow Waterworks) are to focus on acquiring knowledge from outside the organisation and sharing, especially tacit knowledge. It was noticed that in the studied municipal company knowledge is shared only through direct interactions, most often through individual and direct contact, often in the form of tacit knowledge. More efforts are needed to expand the organisational level of knowledge sharing - here support can be sought via technical solutions, preserving the context of motivational system and the organisational culture. A reliable social and technical infrastructure of the knowledge environment should also be built. Another important challenge should be to construct a system of knowledge transfer that takes into account its inter-organisational dimension. It is recommended to shape an appropriate organisational culture – culture promoting knowledge – and create an appropriate context for the implementation of this process with the participation of knowledge.

*Contribution / Value Added:* Taking into account the conditions of operation of municipal enterprises, general principles and detailed guidelines have been formulated to support the effective implementation of the knowledge transfer process in these specific organisations operating in the special context of municipal management.

*Article Classification:* Research article

*Keywords:* knowledge transfer, knowledge transfer methods, knowledge sharing, municipal organisations

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## Introduction

At present, the way business activities are run is determined by, *inter alia*, the focus on intangible resources. A prominent place of the pantheon there of has been taken by knowledge (Liyanage *et al.*, 2009, p. 118), treated as a catalyst for learning or innovation (Al-Busaidi & Olfman, 2017, p. 110). The new economy, with its new rules, is defined as a knowledge-based economy, and practical and effective knowledge management has become a challenge.

So far one can identify at least three generations of knowledge management. The current one draws attention to distribution of knowledge, which fosters evolutionary development. Interdependence, context, content and level of abstraction are treated as the keys to knowledge transfer and sharing (Fic, 2012, pp. 371–383).

A company operating in the knowledge-based economy is more and more often treated as a system processing and using knowledge rather than the one transforming raw materials into finished products. Thus nowadays access to information and knowledge is key for a company to succeed in operating in the knowledge society (Skrzypek, 2013, p. 1). It must obtain new knowledge, stimulate the diffusion thereof and, ultimately, transform it into new solutions. For this reason, it is assumed that among the most beneficial strategies of knowledge management are those based on creating new knowledge and the transfer thereof.

A problem with knowledge transfer in municipal organisations fits into each generation of knowledge management. Within the third one it focuses on transferring knowledge between agents of this process in the form of municipal organisations and wider society, different aspects of learning using tacit knowledge sharing, as well as on conditions and instruments for the effective implementation of knowledge transfer anchored in the idea of democratisation of knowledge in municipal economy.

As available studies dedicated to knowledge diffusion do not include practical verification

of key issues in the implementation of knowledge transfer in the example of municipal organisations, it was decided to focus on this process by analysing knowledge in the context of operation of these particular companies.

Therefore the purpose of the study is to review the literature with regard to knowledge transfer as a subprocess of knowledge management, as well as to verify its course in the example of a municipal organisation. In addition, the following detailed objectives were set:

- determination of conditions of knowledge transfer in municipal organisations in Miejskie Przedsiębiorstwo Wodociągów i Kanalizacji S.A. (The Municipal Water Supply and Sewage Company – Cracow Waterworks);
- identification of knowledge transfer subprocesses and methods used during their implementation;
- selection of principles of knowledge transfer recommended for use in municipal organisations.

It was assumed that studies conducted in municipal organisations will make possible the specifying of conditions related to operations of companies of that type as knowledge-oriented companies. Analyses of performed explorations were to contribute to the real image of social and technical context of knowledge transfer in municipal organisations.

## The essence and conditions of knowledge transfer in organisations

Transfer of knowledge, as a process with its participation, is most often perceived as a catalyst of effective management of an organisation, (Sinell *et al.*, 2017, p. 1460), a canvas for organisational learning (Dziadkiewicz *et al.*, 2017, p. 49) and a factor that determines the level of innovation of the given company (Tworek *et al.*, 2016, p. 352; Luo *et al.* 2017, p. 2). Theory of organisational knowledge makes it possible to understand that an organisation should be perceived as a knowledge distribution system (Nogalski *et al.*, 2014, p. 168) and that knowledge diffusion is treated as a driving

force of the contemporary economy (Michalak & Zagórowski, 2017, p. 300).

The literature on the subject analyses distribution of knowledge in the form of knowledge transfer processes in a multi-faceted way. In the first place, knowledge transfer is studied as one of the key processes involving knowledge compliant with operational functions of knowledge management (Intezari *et al.*, 2017, pp. 492–515; Kumar, Ganesh, 2009, pp. 161–174). One successively considers its specific nature with regard to levels of its implementation: inter-organisational (individual and joint) (Nakauchi *et al.*, 2017, pp. 766–782; Bendkowski, 2016, p. 11–23) and inter-organisational (bi-lateral and in an inter-organisational network) (Wang *et al.*, 2017). Additionally, factors and barriers for the implementation of knowledge transfer are analysed (Ishihara & Zolkiewski, 2017, pp. 813–824; Mariano & Awazu, 2017, pp. 779–795; Joia & Lemos, 2010, pp. 410–427), model presentations of the process of its distribution are verified in practice (Štrach & Everett, 2006, pp. 55–68; Narteh, 2008, pp. 78–91; Hutzschenreuter & Horstkotte, 2010, pp. 428–448), and a focus is also put on tools supporting knowledge transfer (Kuciapski, 2017, pp. 1053–1076).

While initial discourses were dominated by theoretical deliberations, with time practical explorations of analysed problems began, applying

them to relevant economies (Dziadkiewicz *et al.*, 2017, pp. 49–61), regions (Sagan *et al.*, 2011, pp. 85–98), sectors (Kania *et al.*, 2010, pp. 22–28; Dee & Leisyte, 2017, pp. 355–365), types of companies (Ratajczak, 2006, pp. 113–120) and even organisational units of certain companies (Midor *et al.*, 2015, pp. 135–144).

Finally, it is assumed that knowledge transfer is a dynamic process which is the basis for gathering of knowledge, and its combination and use in practice. That is an important element of numerous strategies used as part of knowledge management (Skrzypek, 2013, p. 2). Nonetheless, its definition varies (tab. 1). It is frequently wrongly identified with knowledge sharing (Intezari *et al.*, 2017, p. 502), which is its subprocess (Liyanage *et al.*, 2009, p. 122). Diffusion, as a process based on knowledge, is a platform between those who produce knowledge and information and those who need it (Janczewska, 2016, p. 166). It may proceed beyond formal structures, as well as without any significant participation of managers, it is a continuous process, an inherent part of the organisation's life (Jędrych, 2016, p. 18).

Assuming that information is a tool for building knowledge, knowledge transfer can be treated as a multi-dimensional process consisting of four subprocesses: acquisition of knowledge (acquisition of knowledge from diverse sources, both external and internal), knowledge disclosure

Table 1. Review of knowledge transfer definitions

Liyanage <i>et al.</i> (2009, p. 122)	Transfer of knowledge from one place, person or form of ownership to another. Proof of the effectiveness of transfer of knowledge is its creation and application in the organisation.
Kumar & Ganesh (2009, p. 163)	The process of exchanging tacit or explicit knowledge between two agents, during which one agent intentionally receives and makes use of knowledge delivered by the other. Additionally, the role of the agent may be performed by an individual, team, organisational unit, organisation or an inter-organisational network.
Al-Salti & Hackney (2011, pp. 455-456)	All the individual or organisational actions undertaken by the recipient in order to identify and acquire potentially useful knowledge generated by the sender thereof.
Kim <i>et al.</i> (2016, p. 960)	Flow of knowledge by specific channels between units or departments, the main challenge of which is transferring knowledge of proper content, is a relevant context.
Kuciapski (2017, p. 1054)	A process in which the recipient or the addressee of knowledge, being a person, group or a department, acquires experience of the sender.

Source: Own study on the basis of literature as indicated in the table.

(knowledge transfer directed to particular persons), knowledge distribution (advanced forms of sharing of knowledge characterised by a broader sharing range aimed at the creation of generally available resources from this knowledge), as well as knowledge sharing (mutual transfer of knowledge by people in the process of communication) (Mikuła, 2011, pp. 64–65).

Additionally, under implementation of the knowledge transfer process, knowledge sharing is treated as the main ingredient thereof, which is of paramount importance insofar as other subprocesses are concerned (Arif *et al.*, 2017, p. 171). It is assumed that it is a process based on mutual transfer of personalised tacit and explicit knowledge. It may proceed through the process of communication or during mutual co-operation through dialogue, observation or acquisition of common experiences. It includes at least two-sided action in which units mutually exchange their knowledge and, at the same time, jointly generate new knowledge. It is necessary for the transformation of individual knowledge into organisational knowledge (Kozuch & Lenart-Gansiniec, 2016, p. 306).

In theory there are many types of knowledge transfer, depending on the criteria adopted. For instance, taking into account the type of distributed knowledge, one indicates tacit and explicit knowledge. When focusing on the range of knowledge flows transfer may relate to knowledge within a company and knowledge obtained from the outside. When analysing agents of knowledge one identifies transfers at the individual, group, organisational and intra-organisational levels (see Kumar & Ganesh, 2009, p. 165). There is also active and passive knowledge transfer (Bendkowski, 2016, p. 19).

When focusing on the nature of knowledge, the method of its transfer, the repeatability of circumstances in which knowledge is required and the degree of similarity of tasks for which it is required, one may identify serial, faithful (intuitive), distant (imitating), strategic and expert knowledge transfer (Kania *et al.*, 2011, p. 23).

The major groups of factors determining the effectiveness of the transfer of knowledge in an organisation include (Luo *et al.*, 2017, pp. 3–4; Dee & Leisyte, 2017, pp. 357): the organisation's capacity with regard to organisational learning; the level of dependence between the sender and the addressee of knowledge; knowledge as a special resource (viscosity, ambiguity); as well as the level of development of social and technological infrastructure of the given knowledge environment. Knowledge diffusion is thus conditional in the given organisation upon (Skrzypek, 2013, p. 3): greater awareness of the need for development, co-participation and participation; continuous learning; creativity; mutual trust; mutual goals and interests; the need for thinking; the desire to explore and discover; as well as awareness that one's place in the market is defined today by intellectual richness.

Knowledge transfer is, therefore, a dynamic process requiring time, and readiness for co-operation, which is conditional upon people, the quality of their knowledge and their openness and flexibility (Leszczyńska & Pruchnicki, 2017, p. 1199). It allows an organisation to develop competence, increase the company's value, and maintain its competitive advantage (Al-Salti & Hackney, 2011, p. 457). Its purpose is to provide knowledge to places where it is most needed (Jędrych, 2016, p. 18). It requires "Knowledge about how to transfer knowledge" (Liyanage *et al.*, 2009, p. 124), thus it also focuses on instruments improving its transfer.

Taking into account the special nature of specific types of knowledge, tools supporting the transfer of tacit and explicit knowledge should be different. With regard to improvements in the transfer of tacit knowledge it is recommended to use: managerial, relaxing, interpersonal and decision-making training sessions; as well as psychological workshops and techniques of creative thinking; creation of intellectual potential; and development of emotional intelligence. With regard to stimulating diffusion of explicit knowledge recommended instruments take the form of: a formal and in-

formal network of relationships; instruction; documentation; training; and sharing experiences during meetings (Nogalski *et al.*, 2014, p. 164).

When focusing on subprocesses of knowledge transfer one may use different methods and techniques supporting the effective implementation of each of them (see Mikula, 2011, p. 66), as a result of which the organisation has an opportunity to retain at least a part of knowledge possessed by employees who leave it.

### **Bases of functioning of municipal companies**

Municipal organisations are peculiar economic organisms with typical characteristics resulting from the combination of social interests with economic effectiveness and function in the context of the municipal economy. This economy is characterised by specific qualities in the form of: commonness and availability of services; coincidence of production, supply and consumption; a high degree of non-flexibility of demand in respect of price; high maintenance costs; organisational-managerial complexity and diversity; focus on satisfaction of the collective needs of residents; significant diversity of demand over time; as well as high capital intensity of the investment cycle (Kozłowski, 2015, p. 11).

A characteristic feature of municipal organisations is also the fact that they operate on the free market, competing with the private sector or creating natural monopolies. Their formation results from the lack of physical possibilities to create parallel technical infrastructural systems (e.g. water or sewage works). For this reason, due to the technical and economic conditions in which municipal companies operate it is economically unjustified to compete with them (Kołos-Trębaczkiwicz & Osuch-Pajdzińska, 2015, p. 12). At the same time, these units, due to their subjection to public procurement law, have a limited choice of entities with which they can co-operate.

Conditions for natural monopoly are fulfilled to the greatest extent by water and sewage management

companies, heat distribution companies and some of public transport companies, since they have both attributes related to economies of scale (one manufacturer produces a given production at total costs lower than most competitors can), economies of scope (consumption of services generated at a distance from the place of consumption) and economies of rationalisation (copying of devices is irrational) (Grzymała, 2010, pp. 39–40).

Due to the presented characteristics of the municipal economy, as well as the conditions for organisations operating in it, one of challenges that faces managers of these entities is the application of modern technologies, as well as innovative organisation and management methods. Another task is the development and modernisation of a subjective area, which requires high capital outlays with simultaneous social pressure on maintaining high quality services and lowering the prices of municipal services.

Requirements with regard to survival and development rooted in the economic dimension of the functioning of these organisations force them to focus on knowledge, especially the transfer thereof, for example in the form of technology transfer or good management practices. After all, municipal companies must care about increasing value, improving competitiveness, providing services of the highest quality and constructing key competences. Knowledge transfer focuses on such actions, both in the inter- and intra-organisational dimensions.

### **The Municipal Water and Sewage Company – Cracow Waterworks as an object of the study**

Empirical explorations were conducted in the autumn 2017 in The Municipal Water and Sewage Company – Cracow Waterworks, a municipal company which is part of Krakowski Holding Komunalny S.A. Enquiries were based on a survey questionnaire consisting of 31 questions concerning both the organisation as well as the attitudes and actions of employees and their superiors focused

on knowledge transfer. The questionnaire was subsequently supplemented with in-depth interviews.

The respondents in the studies conducted at The Municipal Water Supply and Sewage Company were persons performing managerial functions at middle management level. The selection of the sample was purposeful and the chosen persons were employees who have experience (job seniority), have risen in rank by a few levels or positions on their career path and are intermediaries in the transfer of knowledge and information between employees at the strategic level of management and the operational level.

On the basis of answers supplied via the questionnaire by 76 persons meeting all of the above-mentioned criteria the profile of the studied group was developed. The profile consists of elements such as age, job seniority, gender, type of position, and education. The most numerous group are persons aged 41 to 60 years (66% of those surveyed); with 18% being no older than 40 and 16% being at least 61 years old. The length of service (job seniority) of the examined persons in the organisation is, on average, 19 years, while the average job seniority taking into account the course of the entire professional career is 27 years. For 30% of the examined persons the organisation in which they work is their first job, for the remaining 70% it is a second or further job. 24% of the studied group are women and 76% are men. 60% of those surveyed are persons holding managerial positions, while 40% are specialists with managerial competences. Almost half the group (49%) have a Magister degree and all of those persons were employed under contracts of employment.

At the initial stage of the study an attempt was made to diagnose how the organisation is perceived by the employees and what the managers' attitude towards knowledge transfer is.

The main part of empirical exploration was devoted to identification of the scope of the implemented process of knowledge transfer, with a breakdown into its subprocesses and tools supporting their progress. According to

the proposed treatment of knowledge transfer as one of operational functions of knowledge management, namely one of processes involving knowledge which may assume the form of knowledge acquisition, distribution of knowledge and knowledge sharing, a separate analysis covered the instruments used when implementing each of these subprocesses. Focus was also put on verification of the conditions of the implementation of their course.

### **Knowledge transfer in The Municipal Water and Sewage Company – Cracow Waterworks**

30% of those surveyed felt that the organisation is focused on results and reliable performance of tasks. The second position with regard to the number of answers (26%) is occupied by an indication that the organisation is a place to exchange knowledge, learn and improve. The next most frequent answer was given by 24% of the respondents and indicated the validity of hierarchy, control and dominant formal dependencies. 21% of answers stated that the organisation is a place of co-operation and creativity. 36% of respondents felt that the management supports and encourages staff to share knowledge, 32% stated that the management gives freedom in organising the work, 29% said that managers prefer independent execution of tasks and clear scope of responsibilities and only 3% indicated rivalry as a method supported by the management. At the same time, 33% of those surveyed said that managers play an active part in the processes of sharing knowledge; 28% said managers create conditions to share knowledge; and 19% said managers encourage staff and inspire them to act. 20% of the respondents felt that their managers are focused on results rather than on how those results are achieved (Figure 1).

The image of the examined organisation is completed by the conclusion of 5% of the respondents that the primary goal of the organisation is to create good working conditions. According to 21% of the respondents the most important

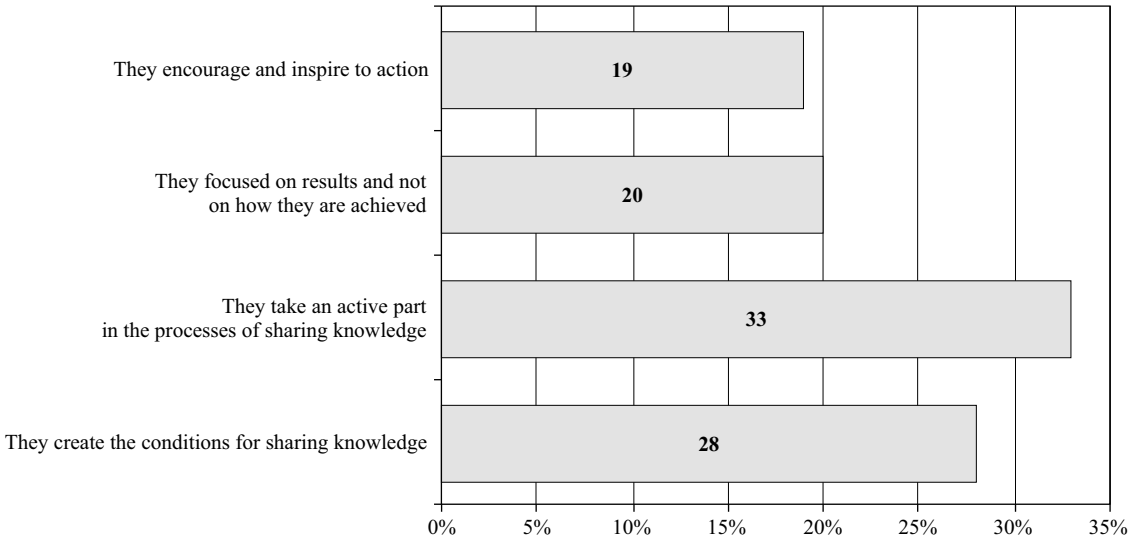


Figure 1. Managers and knowledge transfer

Source: prepared by the authors.



Figure 2. Advantages of the organisation in the opinion of its employees

Source: prepared by the authors.

advantages of the organisation are good atmosphere in work and friendly relations (Figure 2).

In the opinion of the respondents most often applied method of knowledge acquisition is instruction at work, receiving 30% of the responses (Figure 3), whereas the least frequently used instruments are: marketing research, 1%; coaching, 1%; e-learning, 1%; analysis of complaints, 2%; analysis of the register of transactions, 2%; and benchmarking, 2%.

In the case of knowledge sharing methods respondents indicated only: instruction at work (40% of answers); meetings and briefings (30%); operation manuals of products (18% of selections); and sharing of technical documentation (8%). Only 4% of answers indicated training.

Dissemination of knowledge in The Municipal Water and Sewage Company – Cracow Waterworks

is conducted with the use of the instruments shown in Figure 4.

In the case of the examined municipal company knowledge is shared primarily by way of meetings and briefings (46% of responses), as well as on seminars, symposiums and conferences (23%). Indications of other knowledge sharing methods do not exceed 10% (see Figure 5).

The most popular solution facilitating knowledge transfer is training (58% of selections), followed by bases of information and knowledge (16%), and e-mail (11%). Other solutions did not receive more than 10% of responses, they include common problem solving, direct contact of employees with an authority in the field, contact, thematic publications and the Internet.

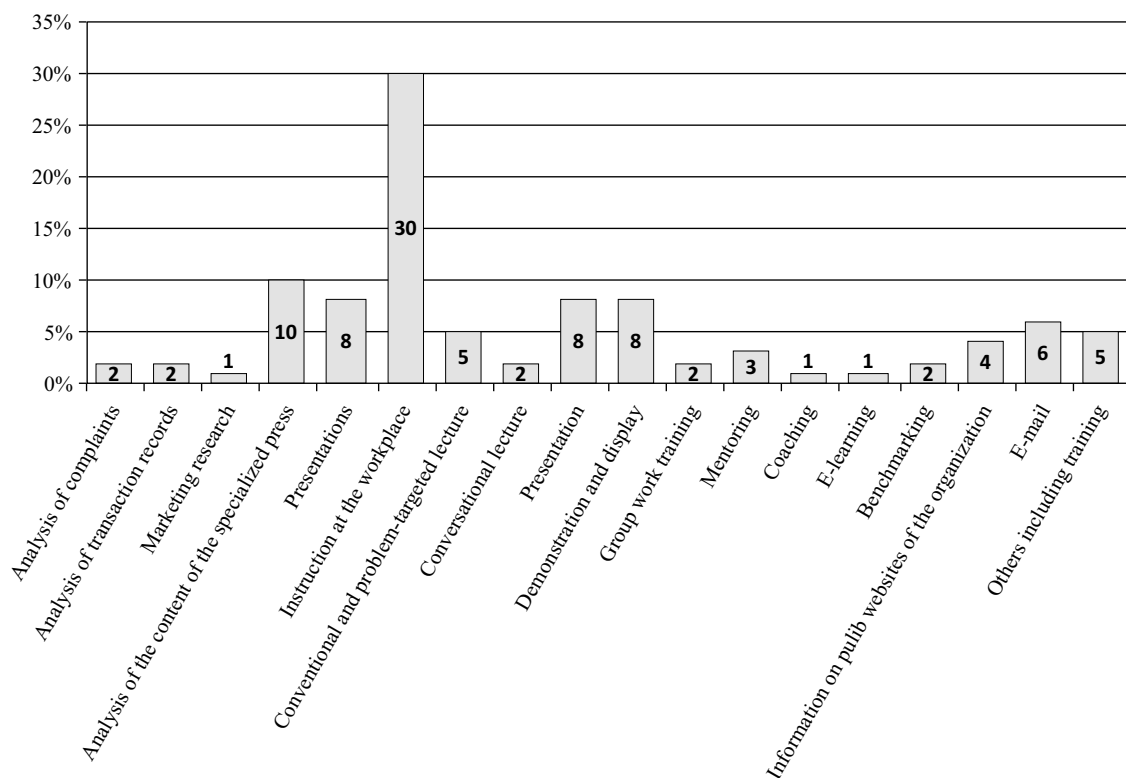


Figure 3. Methods/techniques of knowledge acquisition in the examined municipal company

Source: prepared by the authors.



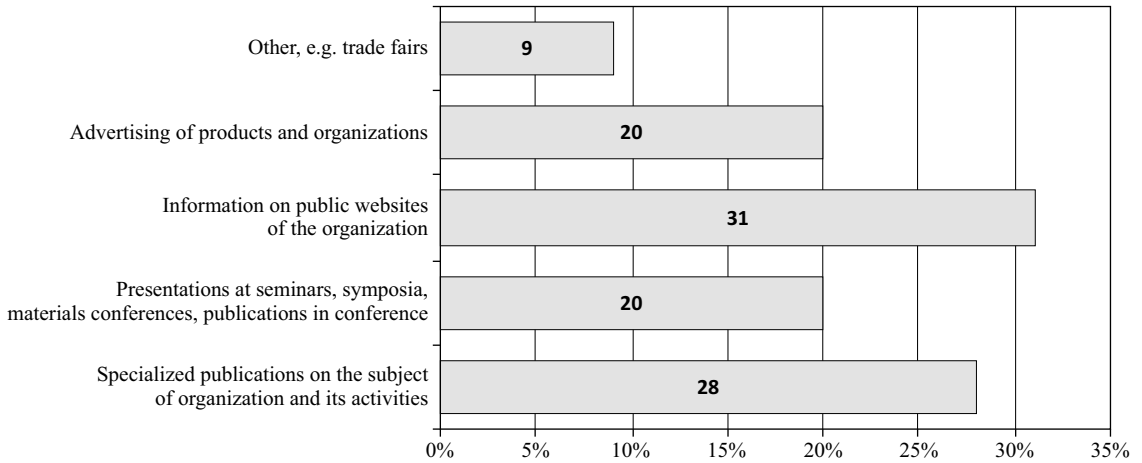


Figure 4. Methods of knowledge dissemination used in The Municipal Water and Sewage Company – Cracow Waterworks

Source: prepared by the authors.

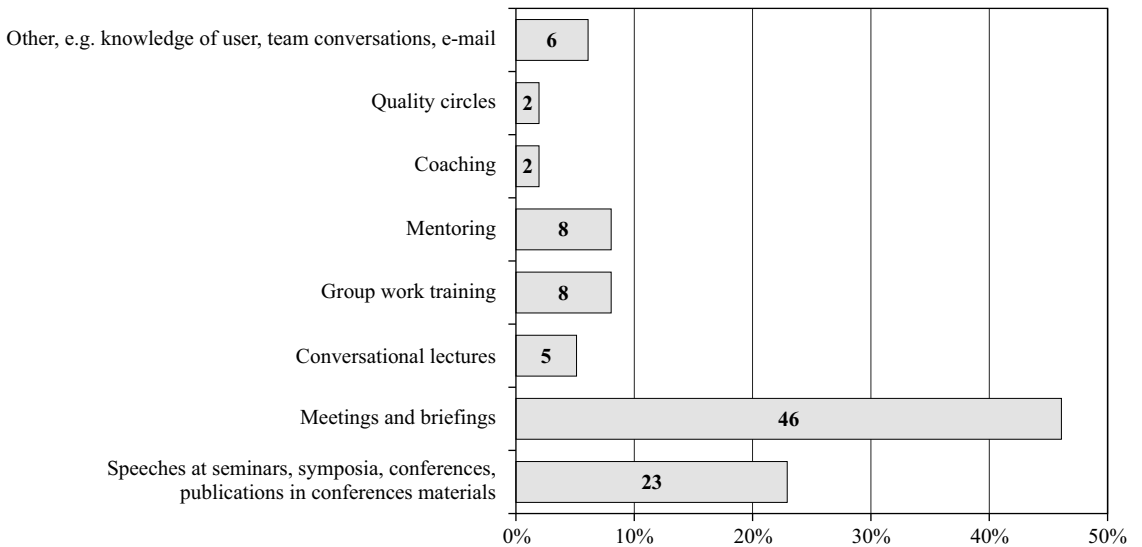


Figure 5. Knowledge sharing methods identified in the examined municipal company

Source: prepared by the authors.

**Conclusions from conducted empirical studies: restrictions, practical guidelines, challenges**

The general conclusion from answers received describing the special nature of the examined

organisation is that the management supports team working or gives freedom in this respect and encourages the sharing of knowledge. The most highly evaluated factors (i.e. good relationships with managers; good atmosphere at work; friendly relations; and sharing possessed information and

knowledge by employees offering assistance) are a good foundation on which to build an organisation based on knowledge, especially tacit knowledge, that is developed in its sharing sub-process, which is particularly important owing to the retirement of employees and the requirement for the management to focus on acquiring this knowledge and keeping it within the organisation.

With respect to conditions for the implementation of knowledge transfer in the examined organisation it may be concluded that circumstances are favourable. One takes actions aiming at shaping organisational culture based on mutual trust, focused on promotion and support of transfers, including knowledge sharing. It seems that the management, in its daily organisational behaviour and actual attitudes, meets standards and values focused on team forms of work organisation, the creation of a supportive atmosphere, respect for the rule of reciprocity, promoting altruistic attitude in sharing knowledge, and building positive the reputation of a given employee. Indisputably, these phenomena are catalysed by a sense of safety of employment and average job seniority.

The answers suggest a limited focus on acquisition of knowledge, including tacit knowledge, and a small determination in searching for it, especially beyond the organisation. They present the company as hermetic, strongly embedded in the specific nature of its own operations, limited solely to the organisation's interior, which is contradictory to the idea of knowledge democratisation and close co-operation with local communities. It is worth considering whether intensification of application of specified methods could be justified in some areas of knowledge acquisition. For instance, analysis of complaints may constitute an important source of information about errors and may help to eliminate them, thereby increasing effectiveness, obtaining instructions concerning the preferences of customers and tightening co-operation with the local community. Another example is seeking benchmarks or sharing experiences with others.

It was noticed that in the studied municipal company knowledge is shared only through direct

interactions, which seems to be understandable, due to a greater resource knowledge which may be provided, but is confusing as well. Nonetheless, the respondents clearly confirmed the intensive implementation of this knowledge transfer sub-process, emphasising the frequent use of different methods. On the other hand, the sharing of knowledge, especially tacit knowledge, using technological support is less than satisfactory.

During in-depth interviews respondents confirmed that there is an explicit difficulty regarding access to knowledge concerning, for example, interpretation of dynamically changing legal acts and their executive detailed regulations. Most often such knowledge is shared through individual and direct contacts, often in the form of tacit knowledge.

The dominant medium used for knowledge dissemination is the Internet. The places below that are occupied by specialist publications, advertisements of products and speeches during seminars, symposiums or conferences. Trade fairs, mutual contacts, discussions, corporate journal are answers classified into the category of "other instruments".

In the case of knowledge sharing the results received suggest a need for taking new decisive actions to support the implementation of the examined sub-process, especially as conditions are favourable and determination to acquire the tacit knowledge of retiring employees is high, which is proven by a practice used in the organisation consisting of the establishing of what is called a "shadow cabinet". A few months before an employee leaves another employee is appointed who is supposed to take his/her place and prepares to do so by observing and participation in his/her work. An additional method used in order to maintain the biggest resource of knowledge possessed by retiring employees is their part-time employment for the purpose of helping their successors become familiar with new responsibilities.

What is characteristic is that, in accordance with the theory of knowledge sharing, it is a process embedded in direct, often informal, contacts, essentially focused on tacit knowledge. It may

be concluded that the individual level deserves additional development: the greater the planned scope of tacit knowledge sharing the more extensive it should be. Therefore efforts should be focused on building trust and altruistic attitudes, setting actions in a properly designed motivational system.

More efforts are required to expand the organisational level of knowledge sharing; here support can be sought via technical solutions, of course preserving the context of motivational system and the organisational culture. It was noticed that knowledge sharing is often not formalised. This may result in valuable and more stimulating sharing of tacit knowledge. On the other hand, a need is clearly emerging for greater use of IT support for knowledge sharing. In addition, the organisation, in order to support knowledge transfer among employees, may use in its organisational conditions methods and techniques supporting knowledge transfer indicated and preferred by participants of the study.

With respect to the results of the conducted studies and suggested directions for improvement, it should be emphasised that one of the fundamental goals of knowledge management in the studied units should be development of a knowledge sharing system. Managers should be aware that in order to effectively share knowledge at the organisational level the effects which are to be achieved should be determined, which will be a starting point for the selection of desired strategies of knowledge management and appropriate attitudes and behaviours with respect to knowledge sharing. One should successively, depending on preferred actions, create conditions stimulating units to share knowledge.

A reliable social and technical infrastructure of the knowledge environment should also be built. Additionally, technological conditions stimulating knowledge sharing should be secondary to social conditions (see Prahalad & Ramaswamy, 2005, pp. 185–186).

Another important challenge should be to construct a system of transfer that takes into account its inter-organisational dimension. One should also stimulate the acquisition, sharing and

disseminations of knowledge between companies forming Krakowski Holding Komunalny, because the linkages between them suggest features of structures and dependencies typical of a network.

The companies should therefore endeavour to create and provide to employees an operating environment that stimulates knowledge diffusion. It is recommended to shape an appropriate organisational culture and create a proper context for the implementation of this process with the participation of knowledge. It is desirable that the existing organisational culture should evolve towards a culture promoting knowledge including, *inter alia*, continuous training and education of employees, informal ways of communication, evenly shared responsibility, expert power, and multi-functional teams (see Latusek, 2008, p. 180; Intezari *et al.*, 2017, p. 504) using relevant means of exerting pressure on appropriate elements of the knowledge culture (see Glišńska-Noweś, 2007, p. 256).

To sum up, when indicating directions for improvement of the knowledge transfer process in municipal organisations, one should develop a complex system for knowledge transfer as a subsystem of the knowledge management system, taking into account both the social and technological dimensions of such process that:

- allows for an analysis and diagnosis of the implementation scope of the knowledge transfer process, including examination of the degree of openness to sharing knowledge at the level of unit, group, organisation and sector;
- intensifies acquisition of knowledge, especially from outside the organisation;
- allows for tightening of co-operation with external stakeholders of an enterprise (especially wider society) and other companies forming the holding;
- allows for displaying environmentally and socially friendly operations, and shaping of the positive image of organisations as non-profit institutions;
- identifies barriers to sharing knowledge and balances them;

- shapes optimal conditions of the knowledge sharing sub-process;
- includes creation of an atmosphere fostering transfer of knowledge, especially sharing it, and, as a target, shaping of the knowledge culture.

Then it can constitute a model solution for most municipal organisations, taking into account the main values as well as general and detailed principles referring to knowledge transfer in municipal companies (tab. 2).

The analysed results should be treated only demonstratively, as they take into account clear limitations due to the size of the research sample

and levels of management represented by most respondents, as well as due to objectivity (in several questions managers assessed themselves). Studies should be perceived only as pilot considerations and can qualify for conducting proper, multi-dimensional scientific explorations concerning, for example:

- directions of the course of particular sub-processes of knowledge transfer, with identification of which subprocesses are based on internal knowledge and which on that coming from outside the organisation;

Table 2. Proposed main values, overriding and detailed principles for knowledge transfer in municipal organisations

OVERRIDING/GENERAL PRINCIPLES	Core VALUES
<ul style="list-style-type: none"> <li>• knowledge as a dominant resource</li> <li>• permanent learning at the level of individual, team, organisation and network</li> <li>• shaping of full confidence</li> <li>• creation of an organisational culture focused on knowledge</li> <li>• necessary diversity</li> <li>• preferred redundancy, especially redundancy of intangible resources</li> <li>• pursuit of negative entropy</li> <li>• clear vision of a knowledge strategy</li> <li>• system thinking<sup>1</sup></li> <li>• natural selection of leaders</li> <li>• knowledge sharing</li> <li>• seeking and releasing of constructive criticism</li> </ul>	<ul style="list-style-type: none"> <li>knowledge</li> <li>trust</li> <li>initiative</li> <li>innovations</li> </ul>
<b>Detailed principles concerning knowledge transfer</b>	
<ul style="list-style-type: none"> <li>• pursuit of an open system<sup>2</sup></li> <li>• preferred equifinality</li> <li>• knowledge sharing as a feature of a committed employee</li> <li>• development of common thinking models</li> <li>• openness</li> <li>• targeted knowledge protection<sup>3</sup></li> <li>• communication and mutual interactions</li> <li>• high level of positive personal commitment</li> <li>• leaving space for events, activities and behaviours spontaneous and informal</li> <li>• intensification of direct contacts</li> <li>• restriction of the degree of formalisation</li> </ul>	

Source: prepared by the authors.

<sup>1</sup> See: P. Senge, 2000, pp. 20-25.

<sup>2</sup> Open system, homeostasis, negative entropy, necessary diversity and equifinality are principles of analysis of organisations understood as systems proposed by G. Morgan, 1999, pp. 48-49.

<sup>3</sup> It is recognised that despite the policy of full openness, some resources of knowledge, in particular those strategically valuable, should be protected.

- roles, functions and tasks of the co-ordinator of knowledge transfer as a knowledge broker;
- indication of dimensions of the organisational knowledge culture typical of municipal companies;
- analyses of knowledge transfer in the context of exerting pressure of all stakeholders of municipal companies;
- functioning in network structures in the form of existing municipal holdings;
- preparation of a set of operating guidelines according to good practices of management of municipal organisations.

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